

# **ROD AND WIRE MILL INTERIM MEASURES PROGRESS REPORT – AUGUST 2018**

TRADEPOINT ATLANTIC  
SPARROWS POINT, MARYLAND

Prepared for:



**ENVIROANALYTICS GROUP**

1650 Des Peres Road, Suite 230  
Saint Louis, Missouri 63131

Prepared by:



**ARM GROUP INC.**

9175 Guilford Road  
Suite 310  
Columbia, Maryland 21046

ARM Project No. 180450M

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Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Stewart Kabis".

Stewart Kabis, G.I.T.  
Project Geologist

A handwritten signature in black ink, appearing to read "Neil Peters".

T. Neil Peters, P.E.  
Vice President

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	1
1.1.	Tradepoint Atlantic Site Background.....	1
1.2.	Site Ownership History .....	1
1.3.	Regulatory Process.....	2
2.0	Rod and Wire Mill .....	3
2.1.	Site Description .....	3
2.1.1.	Historical RWM Industrial Activities.....	3
2.1.2.	Site Geology/Hydrogeology .....	3
2.2.	Historical Interim Measures for Groundwater Conditions.....	4
2.3.	Groundwater Conditions Prior to Remediation Trench Installation .....	5
2.3.1.	Shallow Groundwater Zone .....	5
2.3.2.	Intermediate Groundwater Zone .....	6
3.0	New Interim Measures and Groundwater Conditions.....	7
3.1.	Interim Measures Remedial Approach.....	7
3.2.	Groundwater Conditions After Trench Installation .....	8
3.2.1.	Construction and Flush-Mount Conversions .....	8
3.2.2.	Shallow Groundwater Zone .....	8
3.2.3.	Intermediate Groundwater Zone .....	9
4.0	Summary and Conclusions.....	11
5.0	References.....	13

## FIGURES

Figure 1	Site Map & Parcel Boundaries .....	Following Text
Figure 2	Locations of Historical Activities .....	Following Text
Figure 3	Shallow GW Elevation Contours (Pre-Trench) .....	Following Text
Figure 4	Shallow pH (Pre-Trench).....	Following Text
Figure 5	Shallow Cadmium Concentrations (Pre-Trench).....	Following Text
Figure 6	Shallow Zinc Concentrations (Pre-Trench) .....	Following Text
Figure 7	Intermediate GW Elevation Contours (Pre-Trench) .....	Following Text
Figure 8	Intermediate pH (Pre-Trench).....	Following Text
Figure 9	Intermediate Cadmium Concentrations (Pre-Trench).....	Following Text

Figure 10	Intermediate Zinc Concentrations (Pre-Trench) .....	Following Text
Figure 11	Remediation Trench Construction Profile .....	Following Text
Figure 12	Shallow pH (August 2018) .....	Following Text
Figure 13	Shallow Cadmium Concentrations (August 2018) .....	Following Text
Figure 14	Shallow Zinc Concentrations (August 2018).....	Following Text
Figure 15	Intermediate pH (August 2018) .....	Following Text
Figure 16	Intermediate Cadmium Concentrations (August 2018) .....	Following Text
Figure 17	Intermediate Zinc Concentrations (August 2018).....	Following Text
Figure 18	Intermediate pH Comparison .....	Following Text
Figure 19	Intermediate Cadmium Comparison .....	Following Text
Figure 20	Intermediate Zinc Comparison .....	Following Text

## TABLES

Table 1	Shallow Zone Groundwater Data - (Pre-Trench).....	Following Figures
Table 2	Intermediate Zone GW Data – (Pre-Trench) .....	Following Figures
Table 3	Shallow Zone GW Data – (Post-Trench).....	Following Figures
Table 4	Intermediate Zone GW Data – (Post-Trench).....	Following Figures

## APPENDICES

Appendix A	Shallow Groundwater Time-Series Graphs .....	Following Tables
Appendix B	Intermediate Groundwater Time-Series Graphs .....	Following Tables
Appendix C	Laboratory Data from Recent Sampling .....	Following Tables

## 1.0 INTRODUCTION

This Progress Report for the Rod and Wire Mill Interim Measures at the Tradepoint Atlantic property has been prepared by ARM Group (ARM) on behalf of EnviroAnalytics Group (EAG). This report presents a brief history of the Rod and Wire Mill Area (RWM), a description of historical interim remedial measures that operated at the RWM, a description of additional remedial work that was completed in 2016 and 2017 to provide soil and groundwater treatment in the RWM area, the resulting changes observed in groundwater flow patterns and contaminant distribution, and an evaluation of the effectiveness of the remedial measures.

### 1.1. TRADEPOINT ATLANTIC SITE BACKGROUND

The Tradepoint Atlantic property is located in Baltimore County, Maryland at the southeastern corner of the Baltimore metropolitan area, approximately nine miles from the downtown area. The property encompasses approximately 3,100 acres located on a peninsula situated on the Patapsco River near its confluence with the Chesapeake Bay, physically positioned in the mouth of the heavily industrialized and urbanized Baltimore Harbor / Patapsco River region. A land connection to the northeast links the peninsula with the adjacent community of Edgemere.

From the late 1800s until 2012, the property was used for the production and manufacturing of steel. Iron and steel production operations and processes at the Site included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steelmaking operations at the facility ceased in fall 2012, and current plans for the Site include demolition and redevelopment over the next several years. Some portions of the site have already undergone remediation and/or redevelopment.

The original topography of the peninsula was flat with elevations not exceeding 15 feet based on the North American Vertical Datum 1988 (NAVD88). The peninsula has been drastically altered since the inception of the steel manufacturing activities. Creeks have been filled in and new land has been added to various areas of the Site by building up near-shore areas of the river.

### 1.2. SITE OWNERSHIP HISTORY

Bethlehem Steel Corporation operated an integrated steelmaking facility at the site from approximately 1916 through 2003. As a result of multiple market factors, Bethlehem Steel declared bankruptcy in 2001 and the facility was subsequently operated by a succession of owners, the last of which (i.e., RG Steel Sparrows Point, LLC) filed for bankruptcy in 2012. The site was subsequently purchased by Sparrows Point, LLC (SPLLC) at a bankruptcy sale on August 7, 2012. Sparrows Point Terminal, LLC (SPT) purchased the real property on September 18, 2014 subject

to the provisions of a Purchase and Sale Agreement wherein SPLLC and SPT have allocated various environmental responsibilities, liabilities, and obligations among themselves. SPT has subsequently undergone a name change and is now doing business as Tradepoint Atlantic.

### **1.3. REGULATORY PROCESS**

Environmental responses for the RWM and for the site in general are being implemented pursuant to the following:

- Multi-Media Consent Decree (Decree) between Bethlehem Steel Corporation, the United States Environmental Protection Agency, and the Maryland Department of the Environment (effective October 8, 1997); this Decree has been modified in accordance with a stipulated order entered into by Sparrows Point LLC and the respective agencies effective July 28, 2014;
- Administrative Consent Order (ACO) between Sparrows Point Terminal, LLC and the Maryland Department of the Environment (effective September 12, 2014); and,
- Settlement Agreement and Covenant Not to Sue (SA) between Sparrows Point Terminal, LLC and the United States Environmental Protection Agency (effective November 25, 2014).

The original Consent Decree for the Sparrows Point facility dealt with many issues associated with ongoing iron-making, steel-making, coking, byproduct, plating, and finishing operations. To the extent that these operations are no longer conducted, and the associated facilities no longer exist, many specific requirements of the Decree are no longer applicable and have been removed in accordance with the stipulated order implementing modifications to the Decree. The RWM is part of the acreage that remains subject to the requirements of the Decree as documented in correspondence received from EPA on September 12, 2014.

## 2.0 ROD AND WIRE MILL

### 2.1. SITE DESCRIPTION

#### 2.1.1. Historical RWM Industrial Activities

The RWM (the Site) is located in the northwestern portion of the Site. This area has also been given the designation of Parcel A3, as the Tradepoint Atlantic property as a whole has been divided into several separate parcels. These parcels, including Parcel A3 (the RWM), are shown on **Figure 1**.

The RWM is the location of the former mills that produced rods and wire products from the 1940s to the early 1980s. All manufacturing activities at the RWM ceased operation in the early 1980s with subsequent demolition of all structures between 1994 and 2000, based on historical aerial photos.

Manufacturing activities at the RWM included leaching of zinc ore and a subsequent treatment process to remove cadmium impurities. The leaching process was implemented in large tanks located inside the north end of the former RWM building. In the 1950s through the early 1970s, the acidic leach residue was stored in the Northwest Pond until about 1959 when filters were installed to dewater the residues. Dewatered sludge generated from this process was temporarily stored on the ground outside the north end of the mill in the Former Sludge Bin Storage Area. Filtrate from the dewatering process was recycled to the wire plating process. Excess filtrate was discharged to the East Pond until 1971, after which it was sent to the Humphrey Creek Wastewater Treatment Plant (HCWWTP) for treatment. These operations ended in the early 1980s when the Rod and Wire Mill was shut down. The former locations of the Northwest Pond, the Sludge Bin Storage Area, and the East Pond are shown on **Figure 2**.

#### 2.1.2. Site Geology/Hydrogeology

In general, the subsurface geology at the RWM includes slag fill materials overlying natural soils, which include fine-grained sediments (clays and silts) and coarse-grained sediments (sands). Groundwater occurrence at the Site has been segregated into three horizons identified as shallow, intermediate and deep hydrogeologic zones.

The shallow water table below the Site occurs within recent sedimentary deposits or slag fill material, and includes the unconfined water table at the Site. Monitoring wells and piezometers designated as shallow are screened within this shallow, unconfined unit. The “shallow” bottom-of-screen elevations generally range from +5 to -20 feet above mean sea level (amsl). In some areas of the Site, the slag fill is directly underlain by, and connected to, the coarser grained beds or lenses within the Talbot Formation that comprise the Upper Talbot Channel Unit. In these areas, the slag fill and Upper Talbot Channel Units form a single groundwater flow system. In much of

the investigation area, the slag fill material is underlain by finer-grained silts and clays that comprise the Talbot Clay Aquitard. In these areas, shallow groundwater flow may be separated from groundwater in any underlying coarse-grained beds or lenses.

The intermediate hydrogeologic zone is the focus of the interim pump and treat measure formerly used at the Site and is therefore also referred to as the intermediate pumping zone. The intermediate zone includes the unconfined to partially confined groundwater in the Pleistocene Upper Talbot unit. The “intermediate” bottom-of-screen elevations generally range from -20 to -50 feet amsl. The presence of clay and silt layers within the intermediate hydrogeologic zone likely retard the vertical recharge of groundwater from the upper fill material.

The lower hydrogeologic zone includes the confined groundwater in the Lower Talbot or Upper Patapsco Sand unit. The “lower” bottom-of-screen elevations generally range from -50 to -141 feet amsl. The lower hydrogeologic zone was not a primary focus in this groundwater investigation. Hydrogeologic zones at greater depth are known to exist based on a review of the regional geology; however, these deeper units are isolated from the upper three units and impacts have not been identified from former iron and steel operations.

## **2.2. HISTORICAL INTERIM MEASURES FOR GROUNDWATER CONDITIONS**

The aforementioned historical operations in the RWM resulted in releases of cadmium and zinc to soil and groundwater. In 1986, a soil and groundwater remediation program was initiated to address groundwater exhibiting elevated levels of cadmium and zinc, and residual soil contamination in the Sludge Bin Storage Area. Remediation initially consisted of a soil flushing program and associated pumping and treatment of groundwater from shallow and intermediate wells. The groundwater pumping was discontinued and the treatment plant dismantled in 1999 to support a demolition project at the Rod and Wire Mill, allowing for reassessment of the interim measures. A Work Plan to re-establish interim measures was submitted to the reviewing agencies (MDE and EPA) in July 2000, and the Work Plan was approved in November 2000. Re-establishment of the interim measures included the following:

- Institutional controls for soils were established to provide a “Restricted Work Area” to control the exposure of onsite workers to soils in the Former Sludge Bin Storage Area.
- A groundwater monitoring network was installed consisting of 31 wells for monitoring the performance of the groundwater pump and treat system. This monitoring network was used to collect water level and groundwater quality data.
- A groundwater pump and treat system was operated and maintained consisting of two intermediate zone recovery wells (RW10-PZM020 and RW15-PZM020) that operated at a rate of between 5 and 12 gallons per minute (gpm). The expected normal operating rate for the treatment plant was set at a combined rate of 8 to 12 gpm, with a maximum design flow of 25 gpm.

- Recovered groundwater was transported via a pipeline to the HCWWTP for subsequent treatment and discharge in accordance with the NPDES permit requirements for the facility.

The pumping and treatment of groundwater resumed in September 2001. This IM was discontinued in 2017 so that additional remedial work could be performed at the RWM.

## 2.3. GROUNDWATER CONDITIONS PRIOR TO ADDITIONAL REMEDIAL WORK IN 2016

### 2.3.1. Shallow Groundwater Zone

The RWM Phase II Investigation Report (ARM, 2016) characterized the shallow groundwater zone at the Site based on samples collected in late 2015. Key findings from data collected during the Phase II Investigation are as follows:

- Groundwater in the shallow zone appears to flow radially in all directions from a mounded location in the vicinity of RW10-PZM004. The groundwater elevation contours for the shallow zone during pumping conditions are shown on **Figure 3**.
- Measurements of pH varied significantly, from a maximum of 11.25 at RW09-PZM004 in the central portion of the Site to less than 4 in RW11-PZM004 to the southeast. Generally, wells in the central and southwestern areas exhibited near-neutral or basic pH, while wells to the east and northeast exhibited neutral or acidic pH. The pH of the shallow zone in December 2015 is shown on **Figure 4**.
- Based on samples collected in October and November of 2015, the maximum cadmium concentration, 102 µg/L, was measured in the northern portion of the RWM at RW-002-PZ. The next two highest concentrations were 31.3 µg/L and 20.1 µg/L at RW18-MW(S) and RW-006-PZ, respectively, moving to the southeast away from RW-002-PZ. Sampling locations in the central, western and southern areas had very low or no detectable concentrations of cadmium. Shallow zone cadmium concentrations for the previous interim measures are shown on **Figure 5**.
- Zinc concentrations in the shallow zone vary significantly, with a maximum value of 245,000 µg/L far to the east in RW-006-PZ. Another (albeit lesser) zinc hotspot of 5,520 µg/L is located at RW-002-PZ in the north. Concentrations generally decrease towards the west and south away from the two hotspots. Shallow zone zinc concentrations for the previous interim measures are shown on **Figure 6**.

Groundwater data for samples collected from shallow zone wells and piezometers in late 2015 (prior to installation of the remediation trenches) are summarized in **Table 1**.

### 2.3.2. Intermediate Groundwater Zone

The Pre-Design Investigation (PDI) Report (ARM, 2016) characterized the intermediate groundwater zone at the Site based on samples collected in late 2015. Key findings from data collected during the PDI are as follows:

- In the intermediate zone, groundwater appeared to flow from the north and east toward the recovery system pumping wells. The western half of the Site is affected by the recovery system as well, as elevations below mean sea level were reported in several wells. The intermediate groundwater elevation contour map is included as **Figure 7**.
- Measurements of pH showed the relatively acidic nature of the groundwater. Out of measurements collected from 12 locations, the highest pH value was 7.48, with the majority of the values being less than 6. The pH of the intermediate zone in December 2015 is shown on **Figure 8**.
- The former sludge bin location appears to be the primary source of cadmium in the intermediate groundwater zone. This can be seen on **Figure 9** near sample location RW-057-PZ.
- The primary source of zinc in the intermediate groundwater zone is the western portion of the east pond (just west of the existing transformer pad). This can be seen on **Figure 10** at sample location RW-067-PZ. A secondary zinc source is located further west near the former sludge bin location. This can also be seen on Figure 10 at sample location RW-057-PZ.

Groundwater data for samples collected from intermediate zone wells and piezometers in late 2015 (prior to installation of the remediation trenches) are summarized in **Table 2**.

### 3.0 NEW INTERIM MEASURES AND GROUNDWATER CONDITIONS

#### 3.1. INTERIM MEASURES REMEDIAL APPROACH

EAG contracted Advanced GeoServices (AGS) to design and install remediation trenches to serve as the new interim measures for remediating groundwater at the RWM. The full details of the remediation design are presented in the AGS Work Plan, *Interim Measure Work Plan In-Situ Groundwater Treatment* (AGS, 2016). The primary purpose of this new interim remedial measure is to reduce dissolved concentrations of metals focused primarily on groundwater in the intermediate zone and eliminate the potential for future unacceptable groundwater discharges from this zone to surface water. Groundwater in the shallow zone was noted to have a higher pH due to placement of slag fill and as a result the metals contamination in this zone has not migrated. Therefore, the intermediate zone is the primary focus of this work.

Groundwater extraction from the pumping wells was stopped in September 2016 to support the construction of the remediation trenches. The approach for addressing the elevated dissolved cadmium and zinc in the intermediate groundwater zone was to precipitate the dissolved metals in-situ by raising the groundwater pH from approximately 4 to approximately 9.5 to 10. Alkaline reagents were added into the intermediate groundwater zone at select high concentration areas. Excavated soils were replaced with alkaline charges that react with acidic groundwater to create slightly alkaline conditions within the aquifer and remove the dissolved cadmium and zinc from solution. The alkaline charges utilized a combination of fast acting TerrabondMG (40% by weight) in conjunction with limestone aggregate (60% by weight). The reagents were placed in trenches in a staggered/offset alignment that is perpendicular to the anticipated groundwater flow. A typical cross-section of a remediation trench is provided as **Figure 11**, and the approximate locations of the trenches are shown on **Figures 12-17**.

Approximately 2,392 cubic yards of contaminated soil were also removed from the RWM during construction of the trenches and disposed offsite. Construction of the trenches was completed in January 2017.

The interim groundwater treatment goals were to increase the pH above 7 to affect a > 90% reduction in dissolved concentrations of cadmium and zinc within the source areas as compared to existing conditions.

After the completion of remediation trenches, several new groundwater wells were installed in the RWM to facilitate monitoring of the groundwater conditions in the shallow and intermediate zones.

## 3.2. GROUNDWATER CONDITIONS AFTER TRENCH INSTALLATION

Groundwater samples were collected from wells on a monthly basis starting in February 2017 up to January 2018. Following the January 2018 sampling event, groundwater samples were collected on a quarterly basis. The sections below discuss the results from the Spring 2018 monitoring period, which consisted of the April 2018 and August 2018 sampling events.

### 3.2.1. Construction and Flush-Mount Conversions

Due to construction of a new warehouse in close proximity to the RWM wells, several of the wells needed to be converted from having above-ground stick-up protective steel casings to flush-mount surface protections. The primary reason for this was so a large part of the northern area of the former RWM could be paved and made into a parking lot. The flush-mount conversions were completed in March 2018. As a result of these conversions, the established surveyed top-of-casing (TOC) elevation data became invalid for the affected wells. Although depth to water measurements were collected during the April 2018 and August 2018 sampling event, they could not be used to calculate groundwater elevations without valid TOC elevation data. Wells that were converted to flush mounts will be resurveyed in the upcoming months so that groundwater elevation data can be accurately calculated and groundwater contour maps for the shallow and intermediate zones can be generated.

### 3.2.2. Shallow Groundwater Zone

Measurements of pH collected in August 2018 show that most pH values in the shallow zone are close to or above 6.5. The lowest pH was measured in well RW14-MW(S) in the central portion of the site at a value of 6.32. The highest pH was measured at RW18-MW(S) in the eastern portion of the site at 11.4. The average pH for the shallow zone had generally been trending downward from the August 2017 sampling event to the April 2018 sampling event, but then exhibited a notable increase during the August 2018 sampling event. This sampling event had the highest average pH value over the past year. Several measurements during the August 2018 sampling event were unusually high for a given well, and therefore may not actually be representative of shallow groundwater conditions. A figure depicting the pH of the shallow zone groundwater based on measurements collected during the August 2018 sampling event is included as **Figure 12**.

Cadmium results for shallow zone wells collected in April 2018 and August 2018 show that cadmium has increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole. The cadmium concentrations measured in shallow wells during the August 2018 sampling event were below 8.8 µg/L in all wells along the western border of the site adjacent to the shoreline, except for RW03-MW(S). RW03-MW(S) had a cadmium concentration of 10.8 µg/L. The highest cadmium concentration in the shallow zone during this sampling event was in the central portion of the site at well RW14-MW(S) (3,630 µg/L). This well continues to have the highest levels of

cadmium in the shallow zone and the concentration was three orders of magnitude greater than the concentration in the majority of shallow zone wells. The second highest concentration (albeit significantly lower) was nearby at RW11-MW(S) (66.3 µg/L).

Typically, a cadmium concentration greater than 200 µg/L is measured in RW18-MW(S), but it decreased significantly to 7.1 µg/L during the August 2018 sampling event. Cadmium concentrations for samples collected in August 2018 from the shallow zone are shown on **Figure 13**.

Like those for cadmium, zinc results for shallow zone wells from the April 2018 and August 2018 sampling events show that concentrations have increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole. The lowest zinc concentration was measured in well RW04-MW(S) at 7.9 µg/L. The highest zinc concentration in the shallow zone is typically detected in well RW14-MW(S); however, during the August 2018 sampling event, the highest concentration of zinc in the shallow zone was at well RW11-MW(S) with a concentration of 109,000 µg/L. Whether RW14-MW(S) or RW11-MW(S) has a higher concentration on a given date, the central portion of the Site appears to contain the highest zinc concentrations in shallow zone wells. Zinc concentrations for samples collected in August 2018 from shallow zone wells are shown on **Figure 14**.

Groundwater data for samples collected from shallow zone wells following installation of the remediation trenches (over the past year) are summarized in **Table 3**.

For ease in visualizing trends in pH, cadmium, and zinc, time-series graphs for each of these three parameters at each shallow zone monitoring well are presented in **Appendix A**.

### 3.2.3. Intermediate Groundwater Zone

Measurements of pH collected from intermediate zone wells in August 2018 show that groundwater wells RW01-MW(I), RW02-MW(I), RW05-MW(I), RW06-MW(I), and RW16-MW(I) had pH measurements greater than 7. During the April 2018 and August 2018 sampling events, the pH increased in some wells, decreased in some wells, and stayed relatively stable in some wells. Wells in the area closest to the remediation trenches have generally exhibited overall increases in pH since the beginning of post-trench monitoring in 2017 through the August 2018 sampling event. The wells in this area consist of RW11-MW(I), RW12-MW(I), RW13-MW(I), RW15-MW(I), RW16-MW(I) and RW18-MW(I). A figure depicting the pH of the intermediate zone groundwater based on measurements collected in August 2018 is included as **Figure 15**.

Cadmium results for intermediate zone wells collected in April 2018 and August 2018 show that cadmium concentrations vary significantly, with some wells displaying increases, other displaying decreases, and still others remaining relatively stable. In the area closest to the

remediation trenches, wells RW11-MW(I), RW12-MW(I), RW16-MW(I), and RW18-MW(I) all exhibited notable decreases in cadmium concentration from the beginning of post-trench monitoring in 2017 through the August 2018 sampling event. A few wells along the northern boundary of the site had no detectable level of cadmium. Cadmium concentrations for samples collected in August 2018 from the intermediate zone are shown on **Figure 16**.

Like the cadmium results, zinc results for intermediate zone wells collected during the April 2018 and August 2018 sampling events show that zinc concentrations vary significantly, with some wells displaying increases, other displaying decreases, and still others remaining relatively stable. In the area closest to the remediation trenches, wells RW11-MW(I), RW12-MW(I), RW16-MW(I), and RW18-MW(I) all exhibited notable decreases in zinc concentration from the beginning of post-trench monitoring in 2017 through the August 2018 sampling event. Zinc concentrations for all samples collected in August 2018 from intermediate zone wells are shown on **Figure 17**. Groundwater data for samples collected from intermediate zone wells are summarized in **Table 4**.

For ease in visualizing trends in pH, cadmium, and zinc, time-series graphs for each of these three parameters at each shallow zone monitoring well are presented in **Appendix B**.

## 4.0 SUMMARY AND CONCLUSIONS

The current approach for addressing the elevated dissolved cadmium and zinc in the intermediate groundwater zone is to precipitate the dissolved metals in-situ by raising the groundwater pH from approximately 4 to approximately 9.5 to 10. This approach relies on groundwater movement to distribute the reagent to increase pH and to intercept the migration of metals contaminants in the intermediate zone. Therefore, the effectiveness of the new interim measures is expected to be observed first in the intermediate zone wells closest to the trenches and, due to the relatively slow groundwater velocity, may not be apparent in downgradient wells for some time.

Results in shallow zone wells measured during the April 2018 and August 2018 sampling events over the past year indicate that pH, cadmium and zinc concentrations have increased in some wells, decreased in some wells, and stayed relatively the same in some wells, with no predominant trend in the shallow zone as a whole. Spatially, zinc concentrations continue to vary significantly across the Site.

**Figure 18** compares pre-trench (**Figure 8**) and post-trench (**Figure 15**) iso-concentration maps for pH and shows an overall increase in pH in the intermediate zone following the installation of the trenches. While the pH has fluctuated between sampling events, the pH is above 6.0 in all but the two eastern-most wells in the most recent sampling event. In well RW-16-MW(I), the pH has increased to the target range of above 10.0.

**Figure 19** compares pre-trench (**Figure 9**) and post-trench (**Figure 16**) iso-concentration maps for cadmium. These iso-concentration maps show a significant decrease in cadmium concentrations in the intermediate zone in the near-trench area, and an overall decrease over much of the site. With the exception of the new well upgradient of the trenches (RW19-MW(I)), the map shows significant decreases in the near-trench wells. The current maximum concentration (21,000 ug/L in RW13-MW(I)) is less than half the maximum concentration observed in the November 2015 data (44,500 ug/L in RW-057-PZ) within the same area of the site, near the former sludge bins.

**Figure 20** compares pre-trench (**Figure 10**) and post-trench (**Figure 17**) iso-concentration maps for zinc. This figure shows the effect the trenches on zinc concentrations to be similar to the effect seen for cadmium. The current maximum concentration (330,000 ug/L in RW18-MW(I)) is also less than half the pre-trench maximum concentration (784,000 ug/L in RW-067-PZ) in the same area, near the western portion of the former East Pond. The decrease in concentration in this first well downgradient of the first trench (RW18-MW(I)) indicates the effectiveness of the trenches at mitigating the migration of metals in the intermediate groundwater, particularly given the presence of high zinc levels in RW19-MW(I) upgradient of the first trench. The current zinc concentration in RW13-MW(I) (274,000 ug/L) also shows decreases of greater than 50%

from the pre-trench concentration of greater than 500,000 ug/L within this area near the former sludge bins.

Analytical results from the April 2018 and August 2018 sampling show noticeable progress evident in the wells closest to the remediation trenches, when compared to the pre-trench data from November 2015.

It is recommended that monitoring should continue at the Site to assess the overall performance and effectiveness of the remediation trenches.

## 5.0 REFERENCES

Advanced GeoServices Corp. (2016). *Interim Measure Work Plan In-Situ Groundwater Treatment*. Revised August 22, 2016.

ARM Group, Inc. (2016). *Phase II Investigation Work Plan Area A: Parcel A3*. Revision 0 - June 10, 2016.

ARM Group, Inc. (2016). *Pre-Design Investigation Rod and Wire Mill Area Characterization Report Area A: Parcel A3*. Revision 0 – June 10, 2016.

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## FIGURES

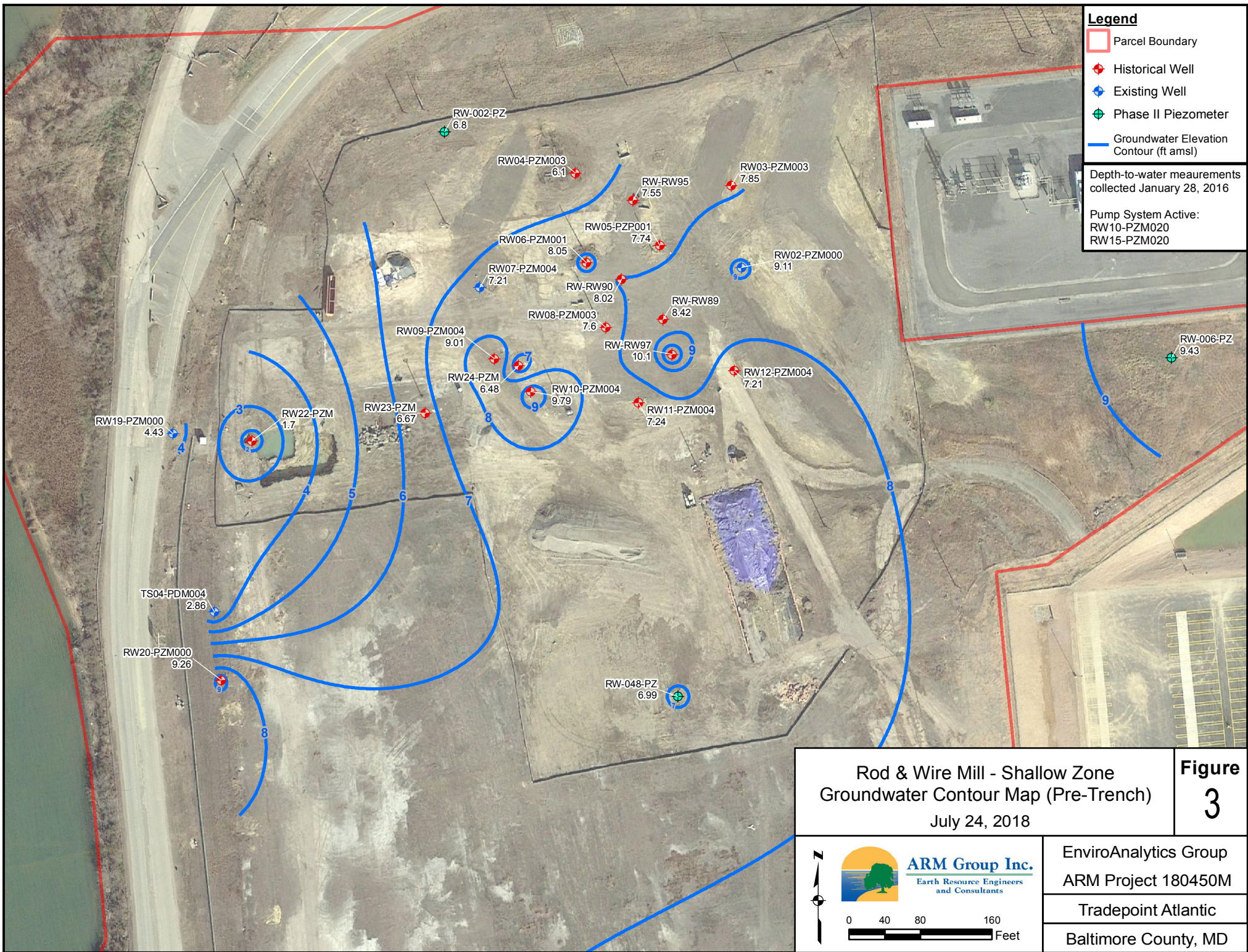
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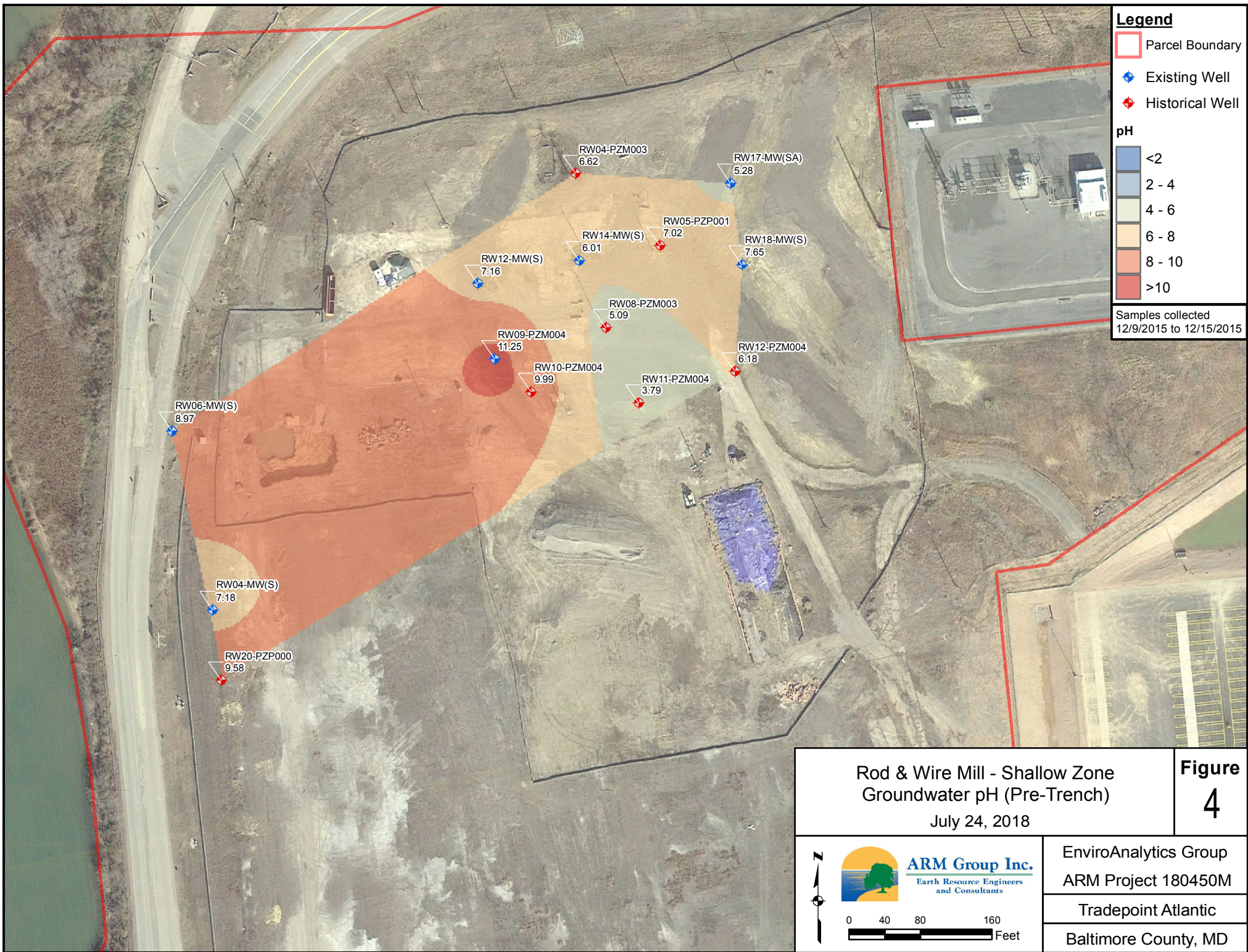
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**Figure**  
**2**





Rod & Wire Mill - Shallow Zone  
Groundwater pH (Pre-Trench)  
July 24, 2018

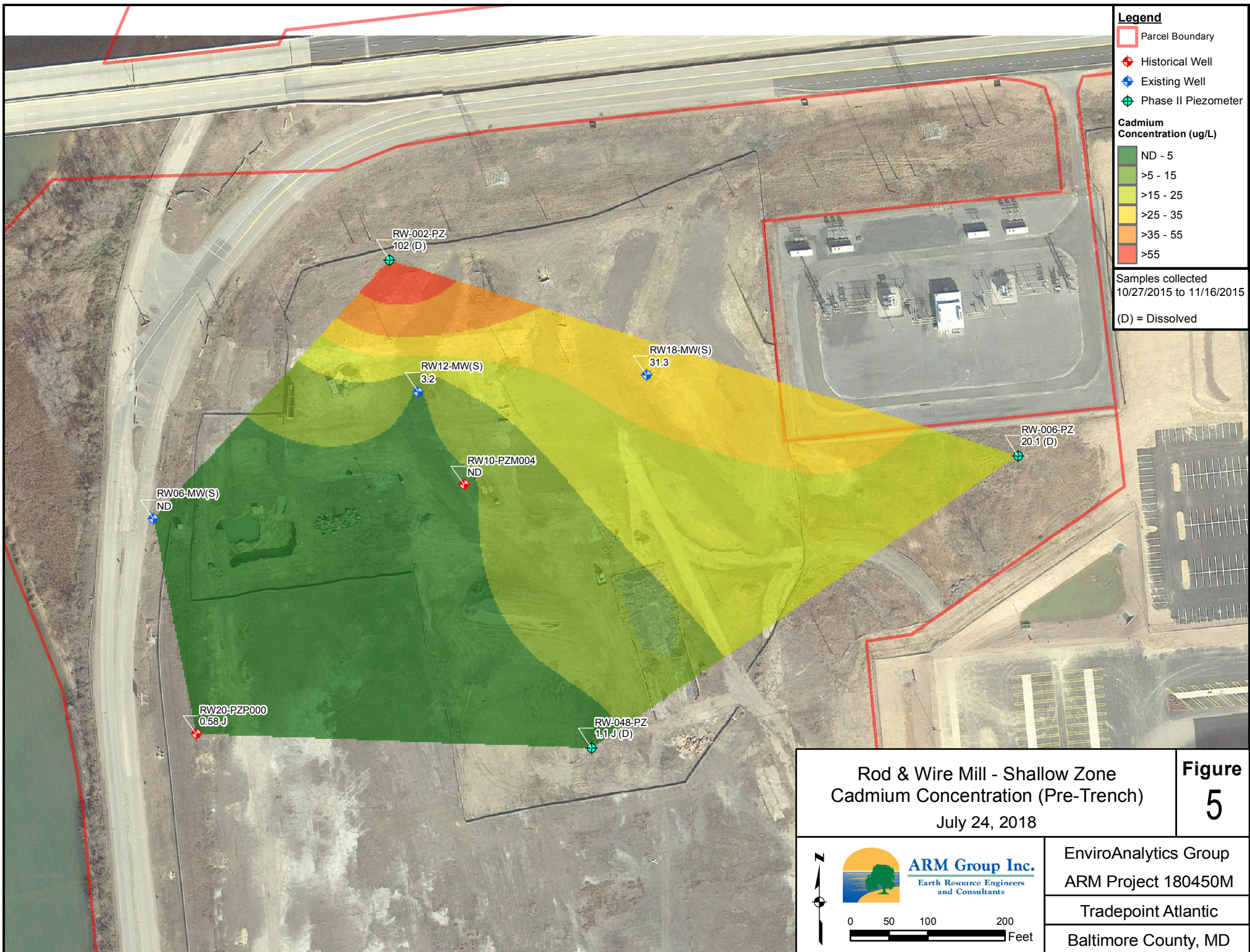
Figure  
4

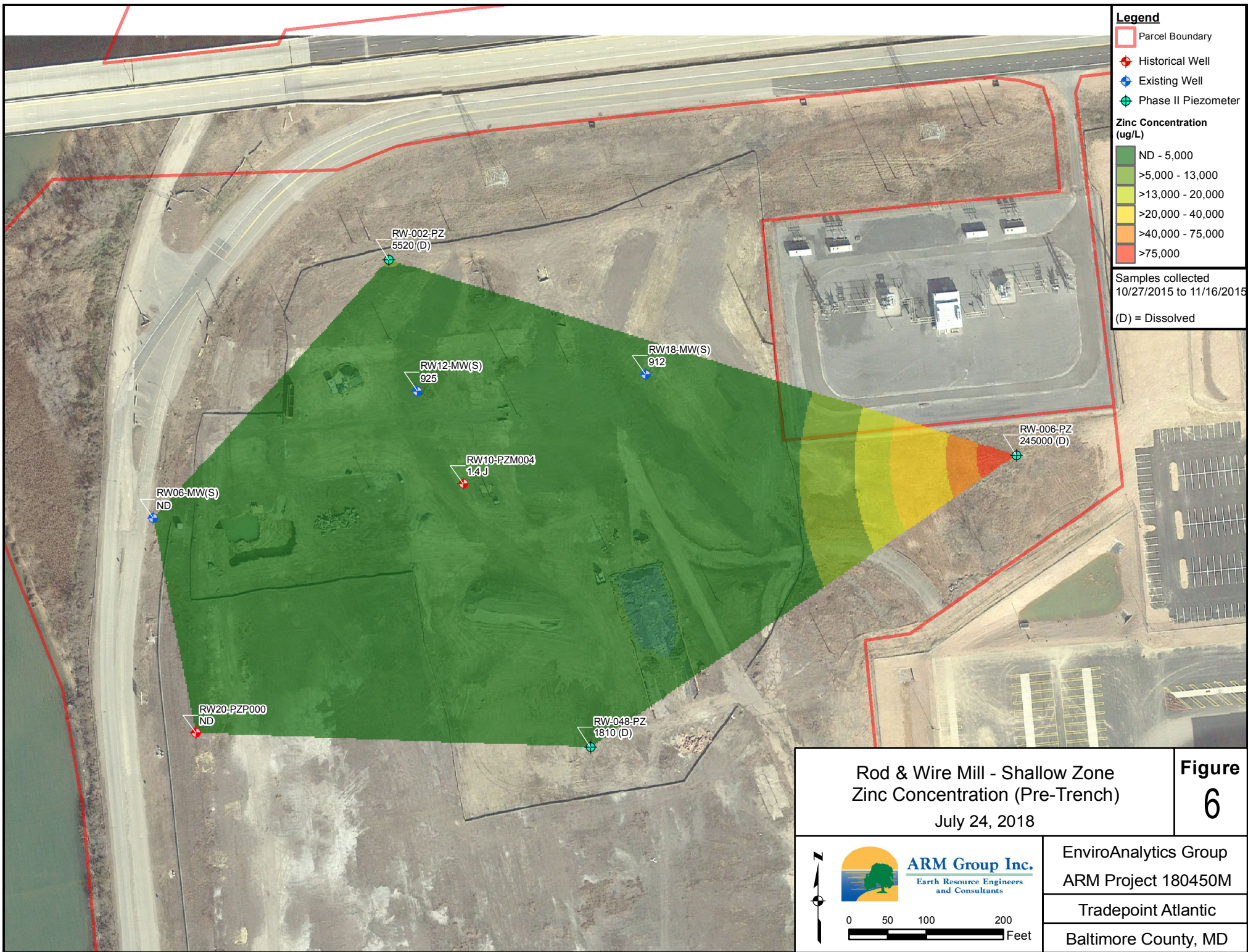


**ARM Group Inc.**  
Earth Resource Engineers  
and Consultants

0 40 80 160  
Feet

EnviroAnalytics Group  
ARM Project 180450M  
Tradeport Atlantic  
Baltimore County, MD







**Legend**

- Parcel Boundary
  - Historical Well
  - Existing Well
  - Phase II Piezometer
- Zinc Concentration (ug/L)**
- ND - 5,000
  - >5,000 - 13,000
  - >13,000 - 20,000
  - >20,000 - 40,000
  - >40,000 - 75,000
  - >75,000

Samples collected  
10/27/2015 to 11/16/2015  
(D) = Dissolved

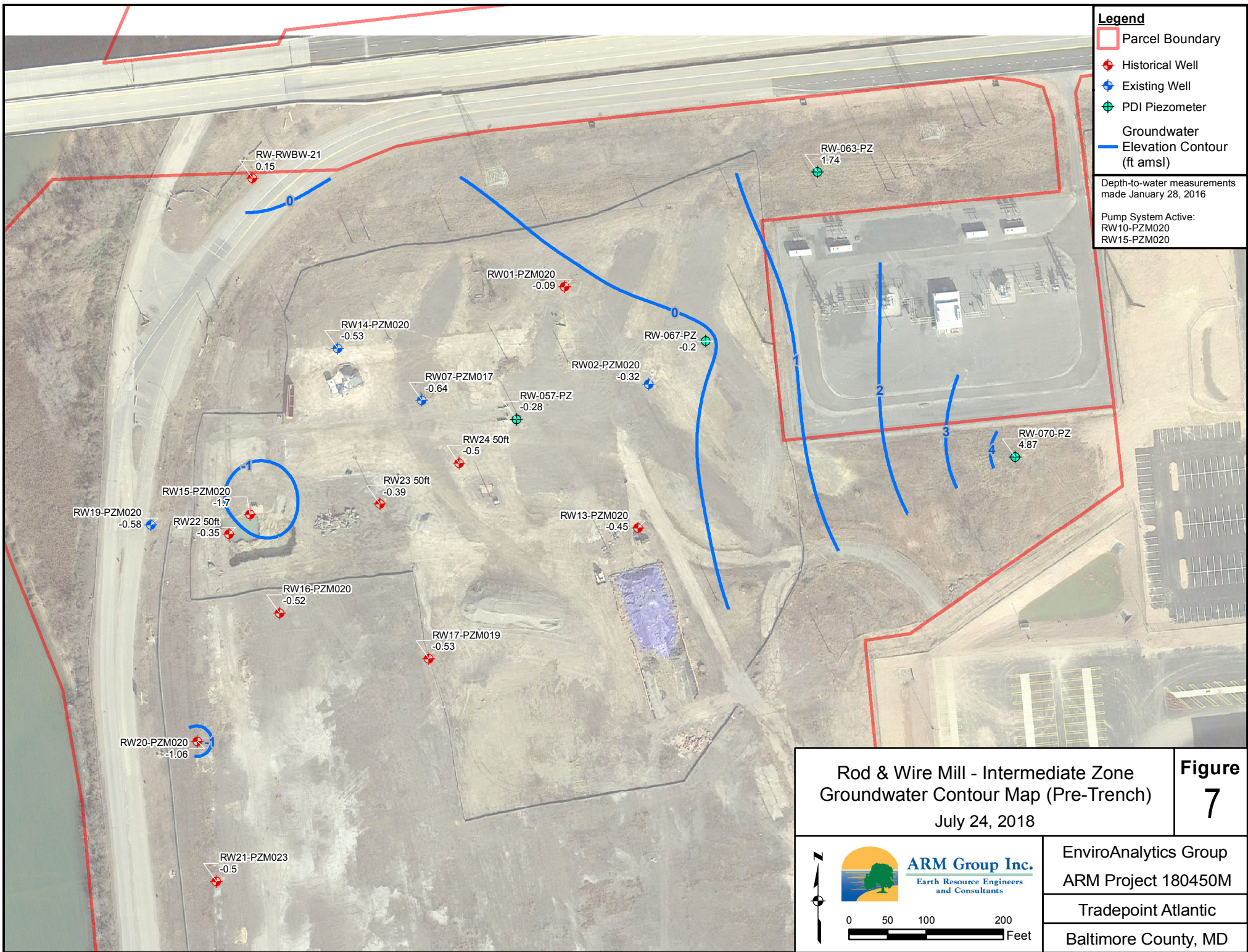
Rod & Wire Mill - Shallow Zone  
Zinc Concentration (Pre-Trench)  
July 24, 2018

**Figure**  
**6**

  **ARM Group Inc.**  
Earth Resource Engineers  
and Consultants

0 50 100 200  
Feet

EnviroAnalytics Group  
ARM Project 180450M  
Tradepoint Atlantic  
Baltimore County, MD



**Legend**

- Parcel Boundary
- Historical Well
- Existing Well
- PDI Piezometer
- Groundwater Elevation Contour (ft amsl)

Depth-to-water measurements made January 28, 2016

Pump System Active:  
RW10-PZM020  
RW15-PZM020

**Rod & Wire Mill - Intermediate Zone  
Groundwater Contour Map (Pre-Trench)**

July 24, 2018

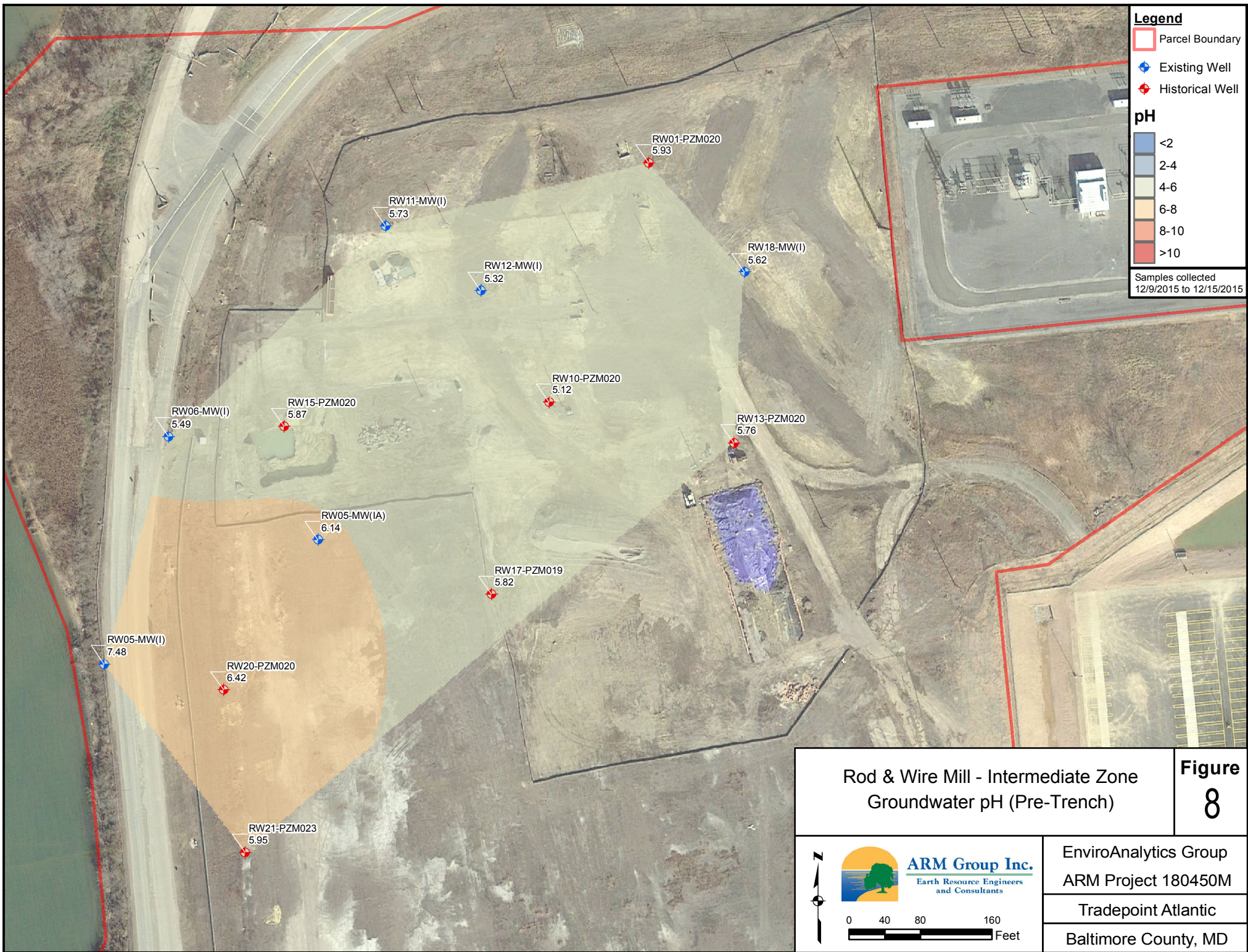
**Figure  
7**

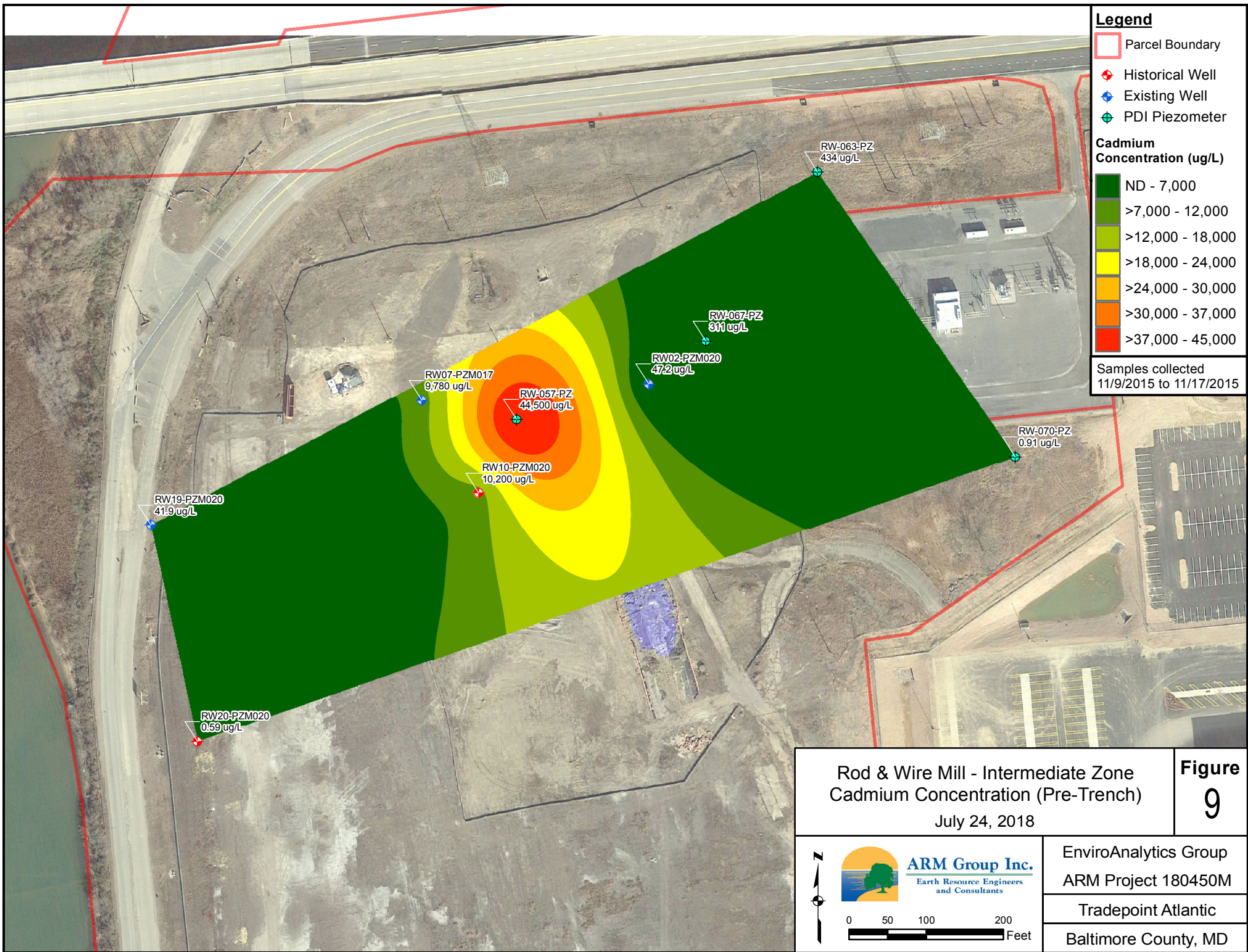


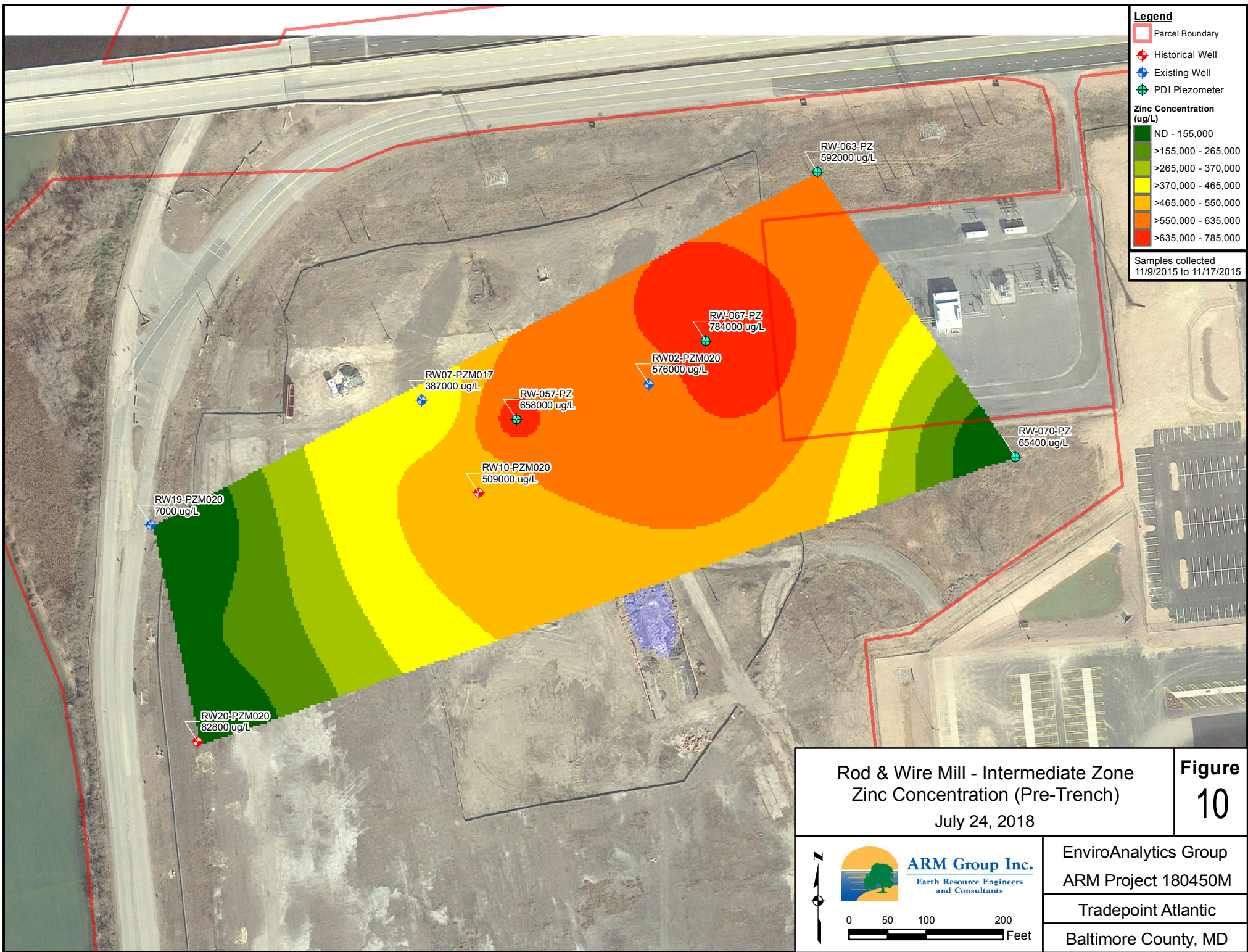
**ARM Group Inc.**  
Earth Resource Engineers  
and Consultants

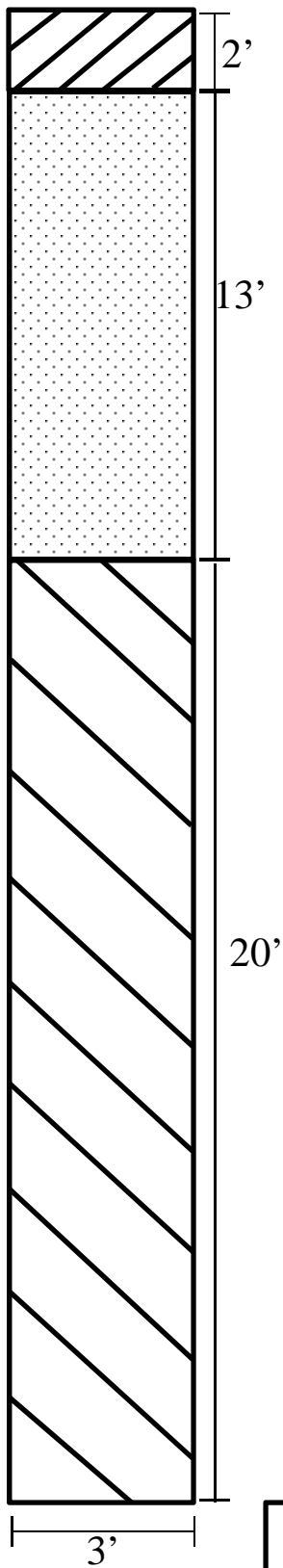
0 50 100 200  
Feet

EnviroAnalytics Group  
ARM Project 180450M  
Tradepoint Atlantic  
Baltimore County, MD


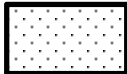





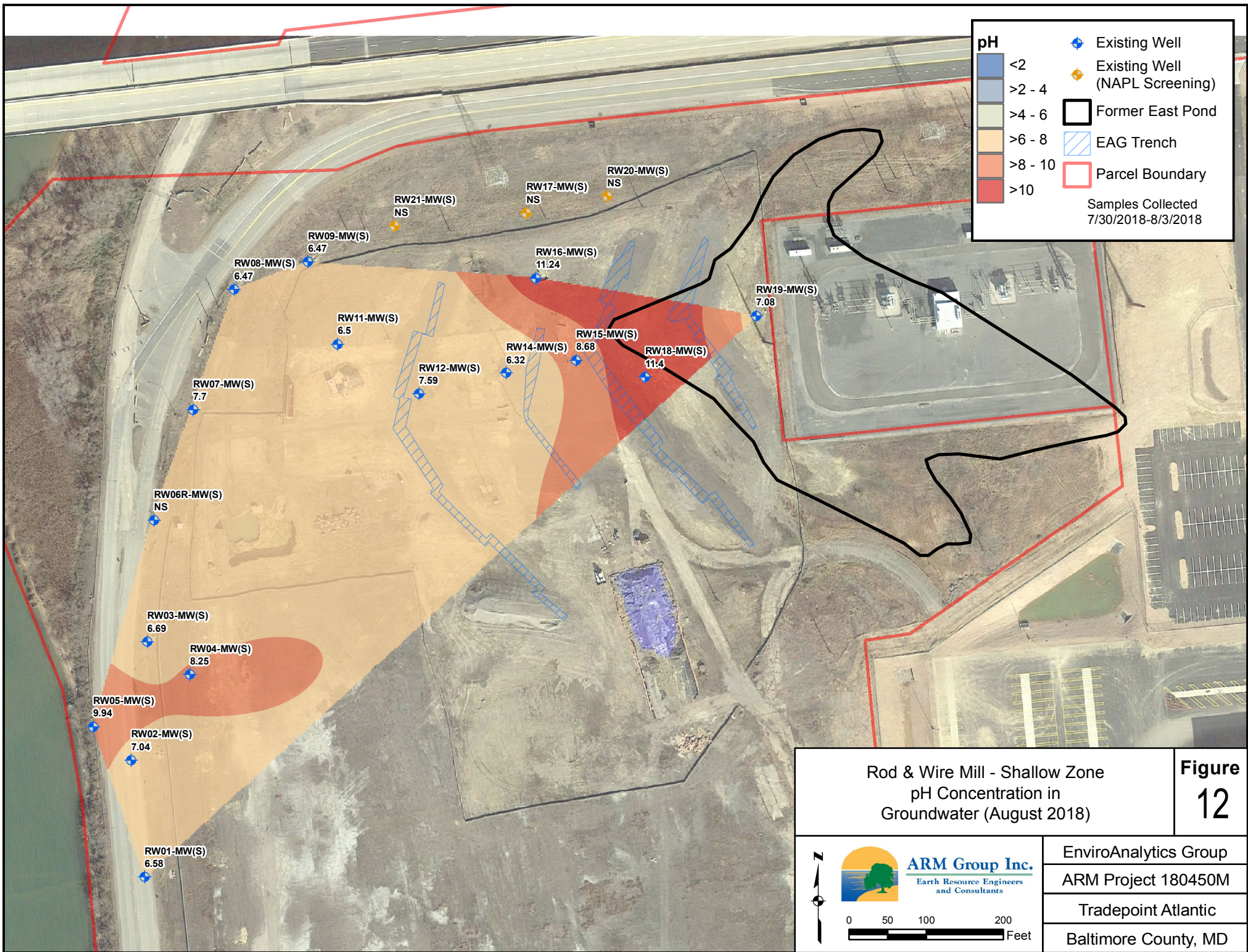


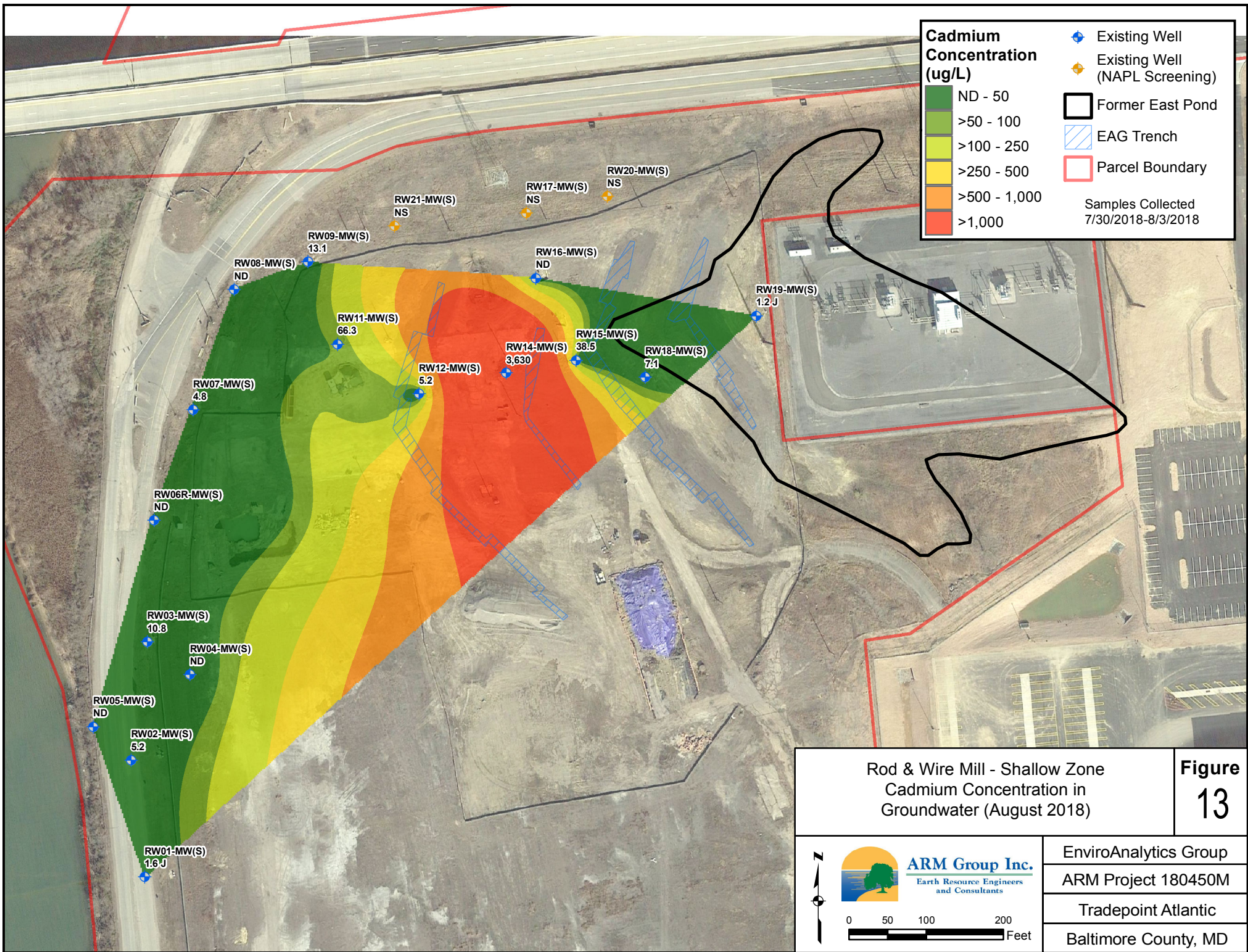


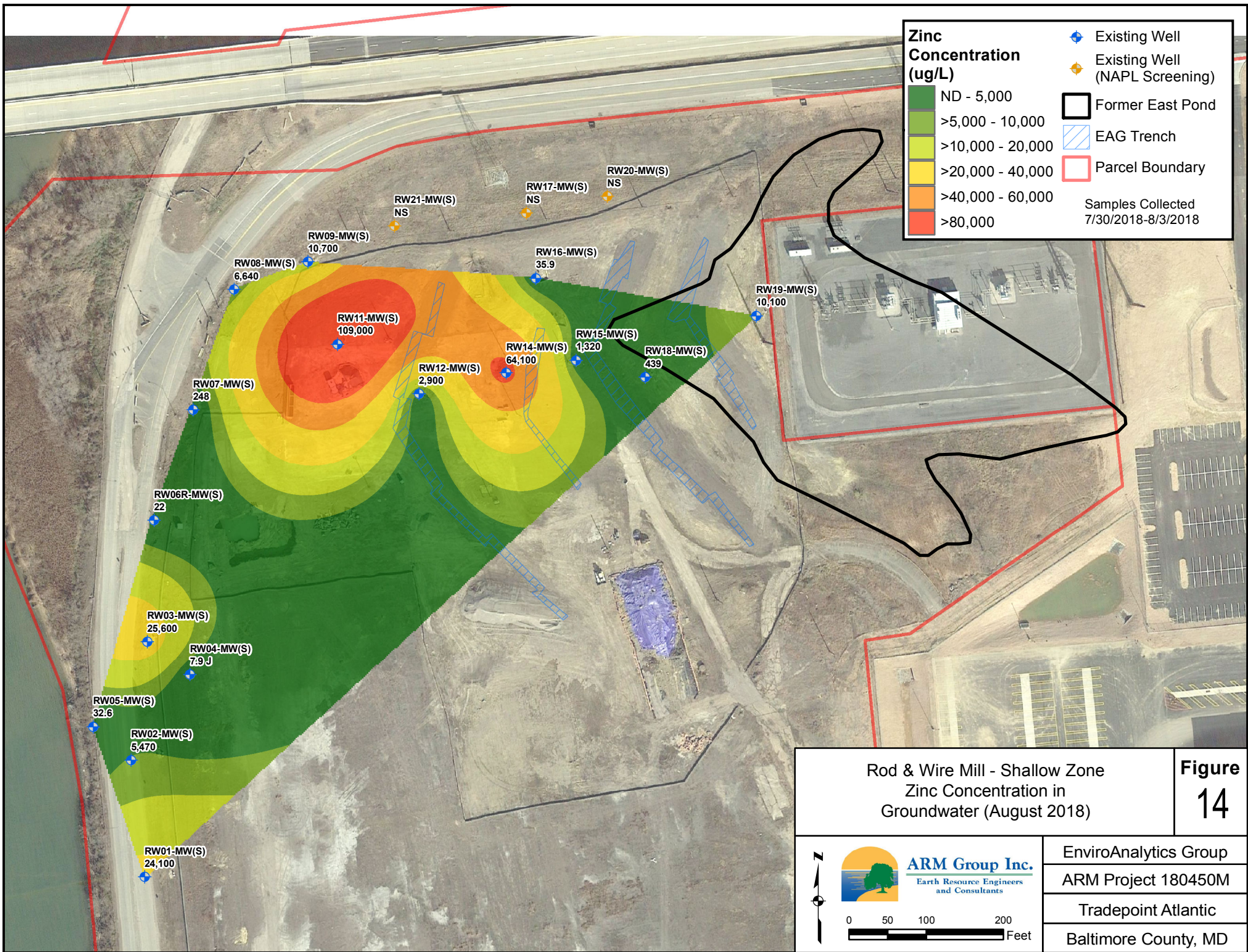
### Legend

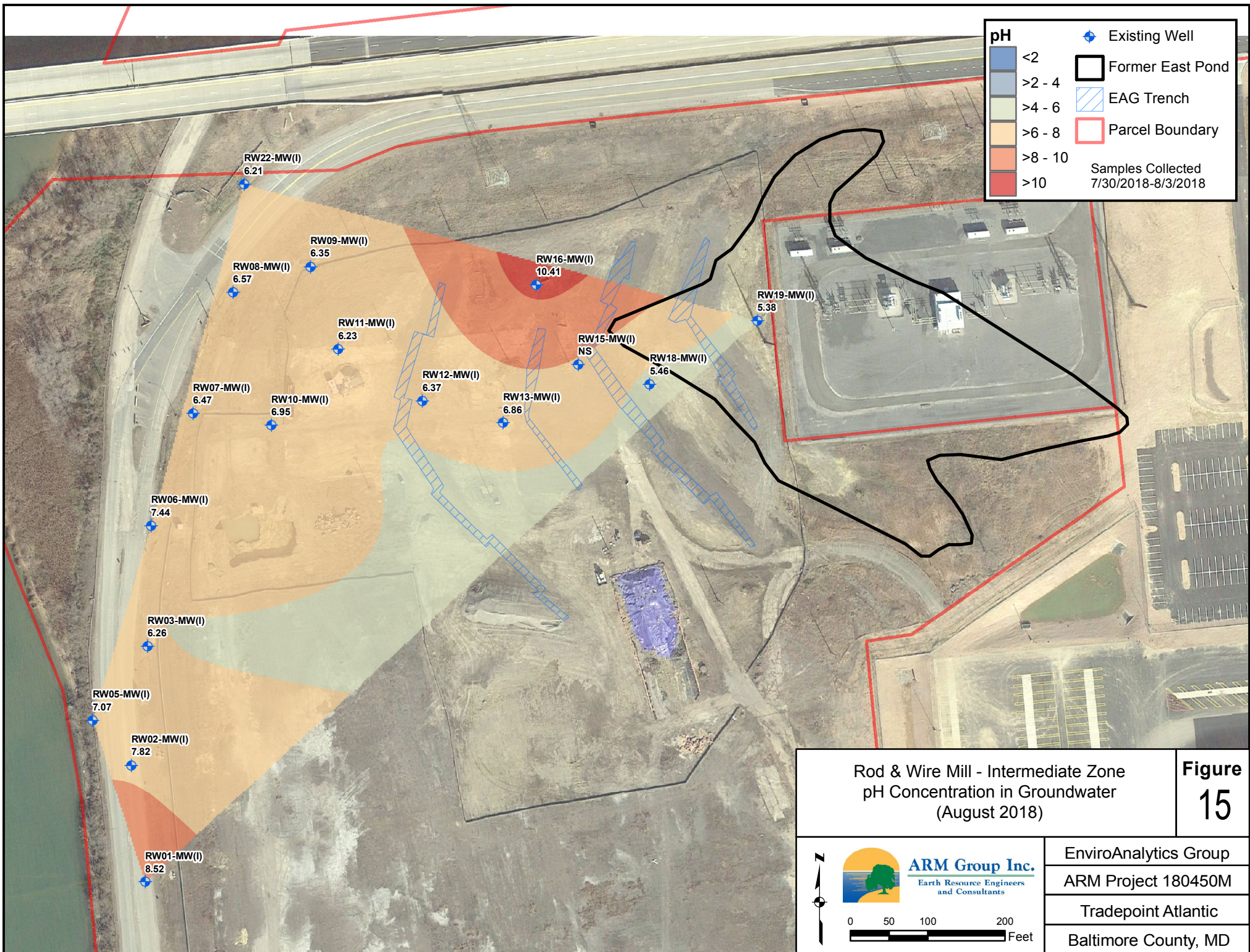
-  On-Site Clean Fill
-  Backfill Spoils
-  Alkaline Charge

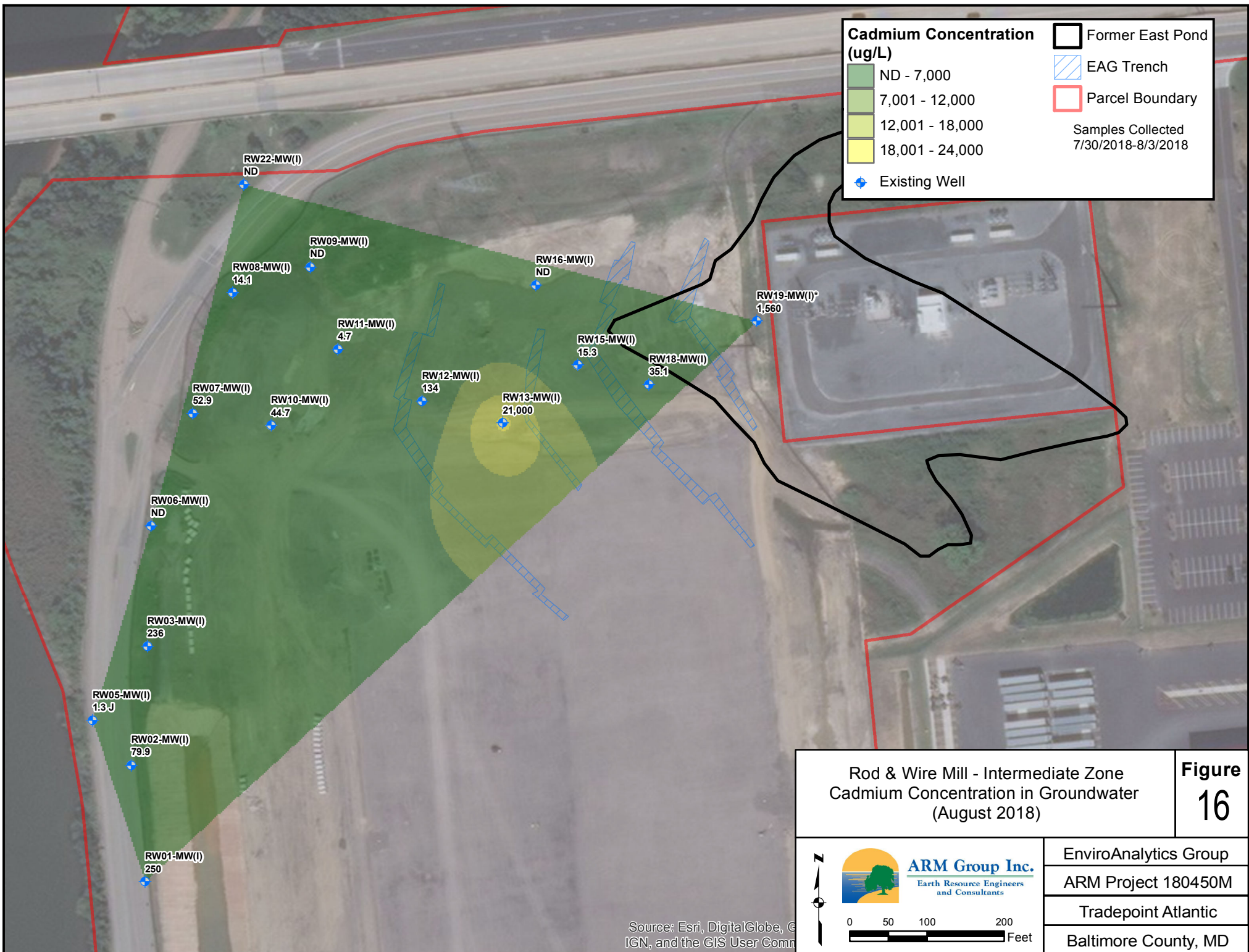
Former Rod and Wire Mill Area Sparrows Point Terminal Sparrows Point, Maryland			
Treatment Trench Cross-Section			
	<b>ADVANCED</b>  <small>Engineering for the Environment. Planning for People.™</small> 1055 Andrew Drive, Suite A West Chester, PA 19380-4293 tel 610.840.9100 fax 610.840.9190 www.advancedgeoservices.com		<b>FIGURE 11</b>
		Project No.: 2016-3421	

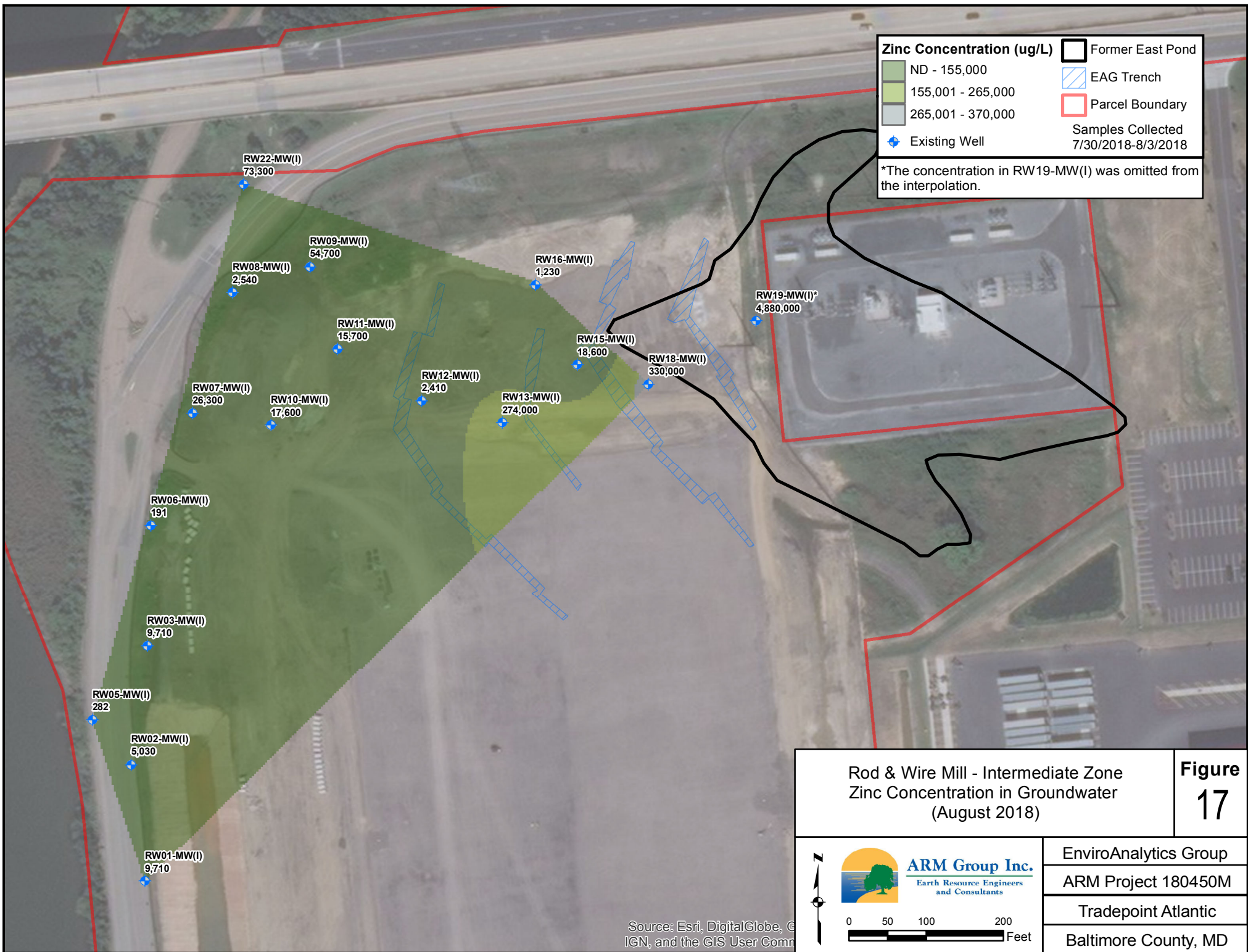


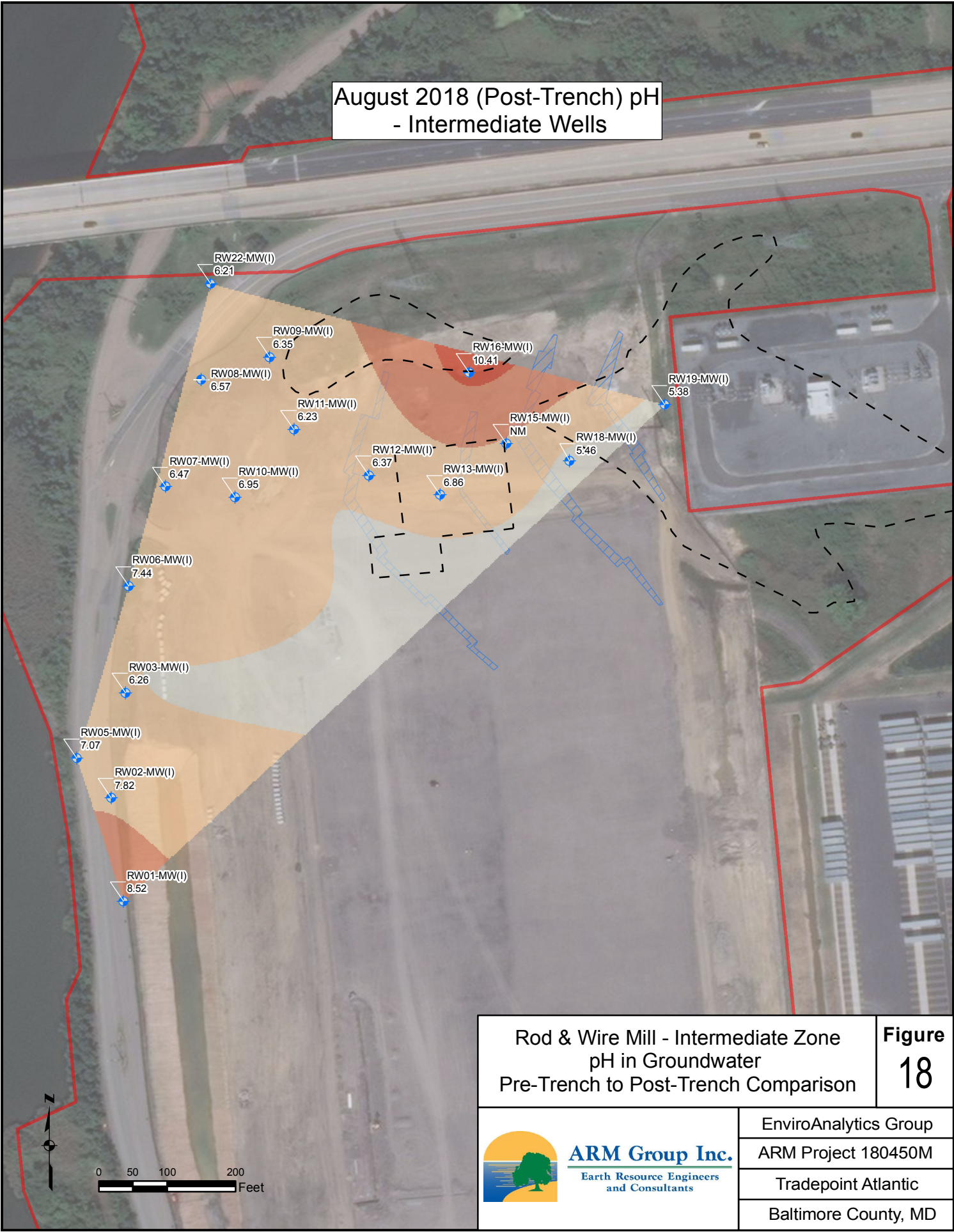










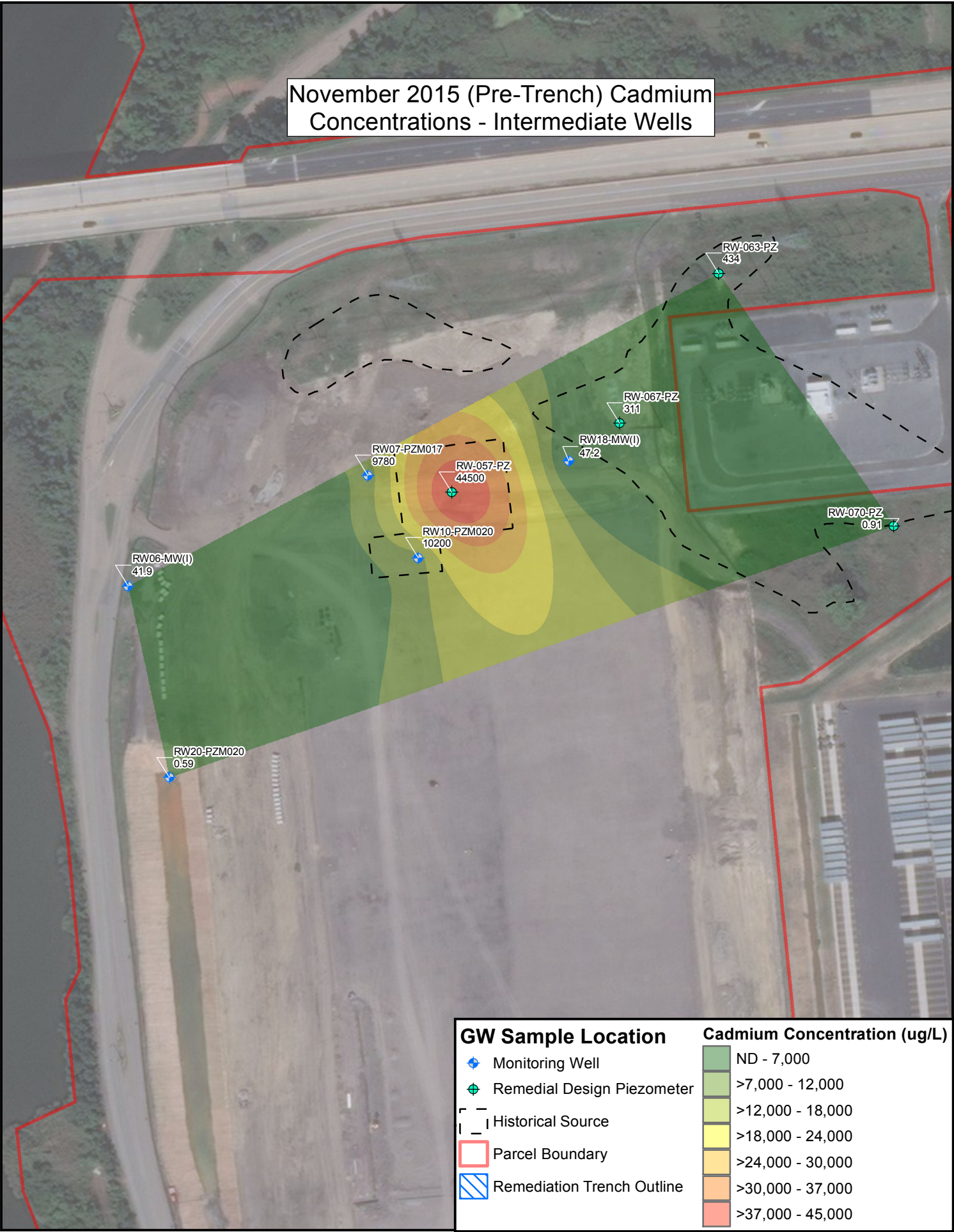


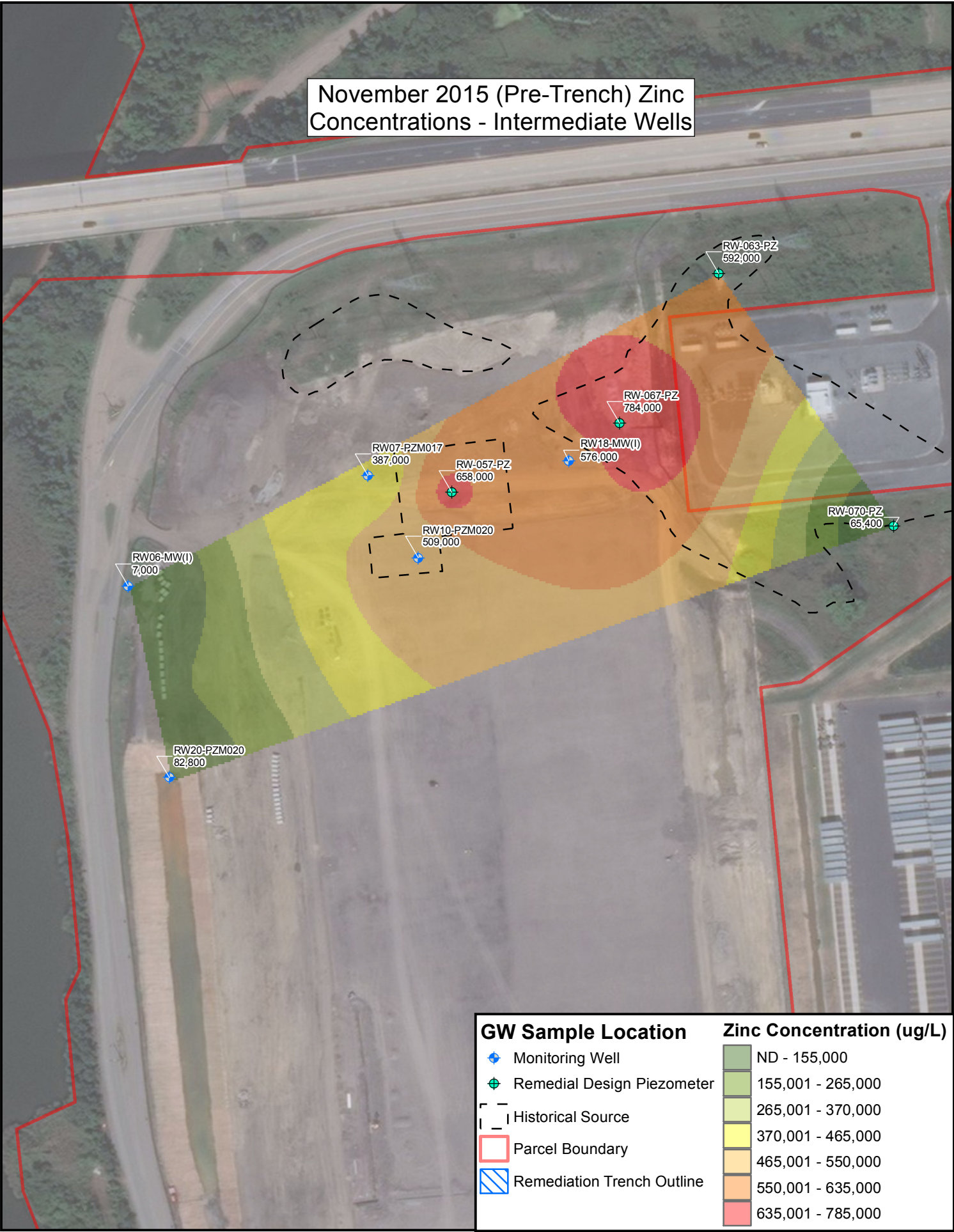
Rod & Wire Mill - Intermediate Zone  
pH in Groundwater  
Pre-Trench to Post-Trench Comparison

Figure  
18

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Baltimore County, MD

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## TABLES

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**TABLE 1**  
**Shallow Groundwater Data - Pre-Trench**  
**Rod Wire Mill Interim Measurement Progress Report**

Client Sample ID	Date Collected	Result	Flag
<b>Cadmium (µg/L)</b>			
RW-002-PZ	10/27/2015	102	
RW-006-PZ	10/27/2015	20.1	
RW-048-PZ	10/27/2015	1.1	J
RW06-MW(S)	11/12/2015	3	U
RW10-PZM004	11/12/2015	3	U
RW12-MW(S)	11/13/2015	3.2	
RW18-MW(S)	11/13/2015	31.3	
RW20-PZP000	11/16/2015	0.58	J
<b>Zinc (µg/L)</b>			
RW-002-PZ	10/27/2015	5520	
RW-006-PZ	10/27/2015	245000	
RW-048-PZ	10/27/2015	1810	
RW06-MW(S)	11/12/2015	10	U
RW10-PZM004	11/12/2015	1.4	J
RW12-MW(S)	11/13/2015	925	
RW18-MW(S)	11/13/2015	912	
RW20-PZP000	11/16/2015	10	U
<b>pH</b>			
RW04-MW(S)	12/9/2015	7.18	
RW20-PZM000	12/9/2015	9.58	
RW06-MW(S)	12/10/2015	8.97	
RW09-PZM004	12/10/2015	11.25	
RW10-PZM004	12/10/2015	9.99	
RW12-MW(S)	12/11/2015	7.16	
RW04-PZM003	12/14/2015	6.62	
RW12-PZM004	12/14/2015	6.18	
RW17-MW(SA)	12/14/2015	5.28	
RW18-MW(S)	12/14/2015	7.65	
RW05-PZP001	12/15/2015	7.02	
RW08-PZM003	12/15/2015	5.09	
RW11-PZM004	12/15/2015	3.79	
RW14-MW(S)	12/15/2015	6.01	

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

**TABLE 2**  
**Intermediate Groundwater Data - Pre-Trench**  
**Rod Wire Mill Interim Measurement Progress Report**

Client Sample ID	Date Collected	Result	Flag
<b>Cadmium (µg/L)</b>			
RW-057-PZ	11/9/2015	44,500	
RW-063-PZ	11/9/2015	434	
RW-067-PZ	11/9/2015	311	
RW-070-PZ	11/9/2015	0.91	J
RW10-PZM020	11/12/2015	10,200	
RW19-PZM020	11/12/2015	41.9	
RW02-PZM020	11/13/2015	47.2	
RW07-PZM017	11/13/2015	9,780	
RW20-PZM020	11/17/2015	0.59	J
<b>Zinc (µg/L)</b>			
RW-057-PZ	11/9/2015	658,000	J
RW-063-PZ	11/9/2015	592,000	J
RW-067-PZ	11/9/2015	784,000	J
RW-070-PZ	11/9/2015	65,400	J
RW10-PZM020	11/12/2015	509,000	
RW19-PZM020	11/12/2015	7,000	
RW02-PZM020	11/13/2015	576,000	
RW07-PZM017	11/13/2015	387,000	
RW20-PZM020	11/17/2015	82,800	
<b>pH</b>			
RW05-MW(IA)	12/9/2015	6.14	
RW20-PZM020	12/9/2015	6.42	
RW20-PZM050	12/9/2015	11.23	
RW21-PZM023	12/9/2015	5.95	
RW06-MW(I)	12/10/2015	5.49	
RW10-PZM020	12/10/2015	5.12	
RW10-PZM065	12/10/2015	7.34	
RW15-PZM020	12/10/2015	5.87	
RW17-PZM019	12/10/2015	5.82	
RW11-MW(I)	12/11/2015	5.73	
RW12-MW(I)	12/11/2015	5.32	
RW01-PZM020	12/14/2015	5.93	
RW18-MW(I)	12/14/2015	5.62	
RW05-MW(I)	12/15/2015	7.48	
RW13-PZM020	12/15/2015	5.76	
RW18-PZM047	12/15/2015	6.42	

J: The positive result reported for this analyte is a quantitative estimate

**TABLE 3**  
**Shallow Groundwater Data - August 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW01-MW(S)	RW02-MW(S)	RW03-MW(S)	RW04-MW(S)	RW05-MW(S)	RW06R-MW(S)	RW07-MW(S)	RW08-MW(S)
<b>Cadmium</b>									
2/1/2017	µg/L	NS	NS	7.9	NS	NS	NS	1.8 J	3.8
3/1/2017	µg/L	NS	NS	4.7	NS	NS	NS	1.7 J	11
4/1/2017	µg/L	NS	NS	3.2	NS	NS	NS	1.4 J	7.8
5/1/2017	µg/L	NS	NS	3.9	NS	NS	NS	1.9 J	3.2
6/1/2017	µg/L	NS	NS	4	0.7 J	NS	NS	2.3 J	1.7 J
7/1/2017	µg/L	NS	NS	4.6	1.2 J	NS	NS	2.8 J	0.74 J
8/1/2017	µg/L	1.6 J	12	5.1	3 U	4.9	NS	3.1	2.7 J
9/1/2017	µg/L	1.2 J	11.8	8.4	0.71 J	0.37 J	NS	3.6	2.5 J
10/1/2017	µg/L	1.7 J	9.1	11	3 U	1.2 J	NS	3.2	0.96 J
11/1/2017	µg/L	21.7	7.7	8.5	1.1 J	3 U	NS	5.8	3 U
12/1/2017	µg/L	98	3 U	11.4	1.1 J	8.4	NS	6	3 U
1/1/2018	µg/L	23.9	13.1	9.9	3 U	3 U	NS	4.8	3 U
4/1/2018	µg/L	7.6	16.7	11.8	3 U	3 U	NS	4.6	2.2 J
8/1/2018	µg/L	1.6 J	5.2	10.8	3 U	3 U	3 U	4.8	3 U
<b>Zinc</b>									
2/1/2017	µg/L	NS	NS	6,200	NS	NS	NS	81.6	1,080
3/1/2017	µg/L	NS	NS	6,510	NS	NS	NS	74.8	8,710
4/1/2017	µg/L	NS	NS	4,860	NS	NS	NS	86.4	9,520 MH
5/1/2017	µg/L	NS	NS	5,380	NS	NS	NS	102	2,680
6/1/2017	µg/L	NS	NS	5,500	58.2	NS	NS	107	1,870
7/1/2017	µg/L	NS	NS	8,460	179	NS	NS	114	968
8/1/2017	µg/L	12,200 MH	6,290	7,730	74.7	550	NS	127	3,190
9/1/2017	µg/L	5,730	3,220	16,300	163	184	NS	165	4,460
10/1/2017	µg/L	7,730	5,490	32,100	137	1,410	NS	144	1,950
11/1/2017	µg/L	25,200	1,460	14,100	123	503	NS	227	1,600
12/1/2017	µg/L	7,300	79.3	46,400	279	5,440	NS	216	1,770
1/1/2018	µg/L	35,200	2,210	31,500	384	35.7	NS	276	2,600
4/1/2018	µg/L	52,000	5,320	44,000	300	75.3	NS	204	13,200
8/1/2018	µg/L	24,100	5,470	25,600	7.9 J	32.6	22	248	6,640
<b>pH</b>									
2/1/2017	SU	NS	NS	5.57	NS	NS	NS	7.05	8.21
3/1/2017	SU	NS	NS	3.85	NS	NS	NS	5.68	4.66
4/1/2017	SU	NS	NS	5.65	NS	NS	NS	6.77	6.46
5/1/2017	SU	NS	NS	5.88	NS	NS	NS	7.16	7.97
6/1/2017	SU	NS	NS	5.89	6.72	NS	NS	6.95	8.83
7/1/2017	SU	NS	NS	5.9	6.56	NS	NS	6.8	6.79
8/1/2017	SU	5.73	5.99	5.26	7.05	10.12	NS	7.01	7.1
9/1/2017	SU	5.3	6.1	5.7	7.19	10.1	NS	6.46	6.94
10/1/2017	SU	5.47	6.16	5.62	6.9	7.3	NS	7.03	6.53
11/1/2017	SU	4.57	5.93	5.42	6.91	9.96	NS	6.67	6.46
12/1/2017	SU	4.86	5.03	5.28	6.73	6.83	NS	6.89	6.76
1/1/2018	SU	5.16	5.79	5.55	7.2	7.04	NS	6.99	6.57
4/1/2018	SU	4.9	4.82	5.41	6.79	6.74	NS	6.78	6.28
8/1/2018	SU	6.58	7.04	6.69	8.25	9.94	NS	7.7	6.47

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable

**TABLE 3**  
**Shallow Groundwater Data - August 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW09-MW(S)	RW11-MW(S)	RW12-MW(S)	RW14-MW(S)	RW15-MW(S)	RW16-MW(S)	RW18-MW(S)	RW19-MW(S)
<b>Cadmium</b>									
2/1/2017	µg/L	<b>22.3</b>	0.78 J	NS	NS	NS	NS	NS	<b>14.8</b>
3/1/2017	µg/L	<b>17.5</b>	1.8 J	NS	NS	NS	NS	NS	<b>6.9</b>
4/1/2017	µg/L	<b>16.6</b>	<b>5.3</b>	NS	NS	NS	NS	NS	<b>8.5</b>
5/1/2017	µg/L	<b>14.9</b>	1.8 J	NS	NS	NS	NS	NS	<b>3.6</b>
6/1/2017	µg/L	<b>13.9</b>	0.94 J	<b>29.7</b>	NS	NS	NS	<b>356</b>	2.4 J
7/1/2017	µg/L	<b>13.4</b>	0.84 J	<b>12.6</b>	NS	NS	NS	<b>240</b>	<b>9.7</b>
8/1/2017	µg/L	<b>12.5</b>	1.3 J	<b>7</b>	<b>1,780</b>	<b>12.2</b>	NS	<b>34.9</b>	<b>7.2</b>
9/1/2017	µg/L	<b>12.3</b>	0.81 J	<b>5.1</b>	<b>1,700</b>	<b>29.9</b>	3 U	<b>156</b>	2.6 J
10/1/2017	µg/L	<b>10.6</b>	3 U	<b>11.3</b>	<b>1,750</b>	<b>25.3</b>	3 U	<b>306</b>	<b>5.2</b>
11/1/2017	µg/L	<b>10.5</b>	2.1 J	<b>193</b>	<b>2,390</b>	<b>63</b>	3 U	<b>208</b>	<b>4.4</b>
12/1/2017	µg/L	<b>9.2</b>	2.9 J	<b>4.2</b>	<b>2,820</b>	<b>55</b>	3 U	<b>410</b>	<b>4.6</b>
1/1/2018	µg/L	<b>9.9</b>	2.2 J	<b>11.7</b>	<b>2,800</b>	<b>40.7</b>	3 U	<b>218</b>	<b>4.8</b>
4/1/2018	µg/L	<b>9.8</b>	<b>4.1</b>	<b>11</b>	<b>3,220</b>	<b>41.2</b>	3 U	<b>448</b>	<b>6.6</b>
8/1/2018	µg/L	<b>13.1</b>	<b>66.3</b>	<b>5.2</b>	<b>3,630</b>	<b>38.5</b>	3 U	<b>7.1</b>	1.2 J
<b>Zinc</b>									
2/1/2017	µg/L	<b>14,500</b>	<b>8,790</b>	NS	NS	NS	NS	NS	<b>10,100</b>
3/1/2017	µg/L	<b>12,400</b>	<b>10,500</b>	NS	NS	NS	NS	NS	<b>7,100</b>
4/1/2017	µg/L	<b>12,900</b>	<b>13,100</b>	NS	NS	NS	NS	NS	<b>6,260</b>
5/1/2017	µg/L	<b>11,900</b>	<b>12,500</b>	NS	NS	NS	NS	NS	<b>4,860</b>
6/1/2017	µg/L	<b>13,000</b>	<b>13,500</b>	<b>11,400</b>	NS	NS	NS	<b>25,500</b>	<b>3,720</b>
7/1/2017	µg/L	<b>11,500</b>	<b>10,900</b>	<b>9,090</b>	NS	NS	NS	<b>13,300</b>	<b>3,700</b>
8/1/2017	µg/L	<b>9,700</b>	<b>10,800</b>	<b>5,090</b>	<b>42,000</b>	<b>276</b>	NS	<b>964</b>	<b>3,360</b>
9/1/2017	µg/L	<b>8,750</b>	<b>10,600</b>	<b>3,980</b>	<b>43,500</b>	<b>1,080</b>	<b>25.6</b>	<b>6,160</b>	<b>2,990</b>
10/1/2017	µg/L	<b>8,310 ML</b>	<b>9,270</b>	<b>3,790</b>	<b>28,900</b>	<b>900</b>	<b>26.2</b>	<b>14,500</b>	<b>18,700 ML</b>
11/1/2017	µg/L	<b>9,290</b>	<b>18,300</b>	<b>235,000 ML</b>	<b>28,100</b>	<b>8,800</b>	<b>48.6</b>	<b>10,700</b>	<b>2,730</b>
12/1/2017	µg/L	<b>8,550</b>	<b>24,000</b>	<b>2,980</b>	<b>49,200</b>	<b>7,630</b>	<b>27.7</b>	<b>23,400</b>	<b>3,380</b>
1/1/2018	µg/L	<b>9,310</b>	<b>27,700</b>	<b>10,100</b>	<b>61,800</b>	<b>5,150</b>	<b>31.2</b>	<b>11,600</b>	<b>10,200</b>
4/1/2018	µg/L	<b>8,980</b>	<b>37,100</b>	<b>10,600</b>	<b>62,100</b>	<b>5,940</b>	<b>25</b>	<b>25,900</b>	<b>7,060</b>
8/1/2018	µg/L	<b>10,700</b>	<b>109,000</b>	<b>2,900</b>	<b>64,100</b>	<b>1,320</b>	<b>35.9</b>	<b>439</b>	<b>10,100</b>
<b>pH</b>									
2/1/2017	SU	<b>5.87</b>	<b>6.16</b>	NS	NS	NS	NS	<b>5.99</b>	<b>6.98</b>
3/1/2017	SU	<b>4.12</b>	<b>5.55</b>	NS	NS	NS	NS	NS	<b>6.45</b>
4/1/2017	SU	<b>5.51</b>	<b>5.58</b>	NS	NS	NS	NS	NS	<b>6.92</b>
5/1/2017	SU	<b>6.01</b>	<b>6.3</b>	NS	NS	NS	NS	NS	<b>7.04</b>
6/1/2017	SU	<b>5.77</b>	NS	<b>6.9</b>	NS	NS	NS	<b>6</b>	<b>7.35</b>
7/1/2017	SU	<b>5.72</b>	<b>5.95</b>	<b>6.42</b>	NS	NS	NS	<b>6.33</b>	<b>7.19</b>
8/1/2017	SU	<b>5.98</b>	<b>6.22</b>	<b>7.34</b>	<b>5.23</b>	<b>10.89</b>	NS	<b>7.43</b>	<b>7.31</b>
9/1/2017	SU	<b>6.62</b>	<b>5.57</b>	<b>6.2</b>	<b>4.94</b>	<b>6.56</b>	<b>11.41</b>	<b>6.69</b>	NS
10/1/2017	SU	<b>6.11</b>	<b>6.17</b>	<b>6.54</b>	<b>5.79</b>	<b>9.1</b>	<b>11.44</b>	<b>6.27</b>	<b>7.18</b>
11/1/2017	SU	<b>6.08</b>	<b>6.05</b>	<b>6.75</b>	<b>5.78</b>	<b>6.71</b>	<b>10.05</b>	<b>6.74</b>	<b>7.18</b>
12/1/2017	SU	<b>5.99</b>	<b>5.52</b>	<b>5.52</b>	<b>5.62</b>	<b>6.9</b>	<b>11.9</b>	<b>5.41</b>	<b>7.43</b>
1/1/2018	SU	<b>6.09</b>	<b>4.99</b>	<b>6.48</b>	<b>5.13</b>	<b>7.13</b>	<b>12.12</b>	<b>6.66</b>	<b>7.07</b>
4/1/2018	SU	<b>5.97</b>	<b>5.13</b>	<b>5.89</b>	<b>5.04</b>	<b>6.61</b>	<b>11.85</b>	<b>6.1</b>	<b>7.04</b>
8/1/2018	SU	<b>6.47</b>	<b>6.5</b>	<b>7.59</b>	<b>6.32</b>	<b>8.68</b>	<b>11.24</b>	<b>11.4</b>	<b>7.08</b>

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable

**TABLE 4**  
**Intermediate Groundwater Data - August 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW01-MW(I)	RW02-MW(I)	RW03-MW(I)	RW05-MW(I)	RW06-MW(I)	RW07-MW(I)	RW08-MW(I)	RW09-MW(I)
<b>Cadmium</b>									
2/1/2017	µg/L	NS	NS	189	NS	12.5	1.2 J	0.49 J	3.1
3/1/2017	µg/L	NS	NS	196	NS	9.2	4.6	0.39 J	4
4/1/2017	µg/L	NS	NS	192	NS	14	3 U	3 U	5
5/1/2017	µg/L	NS	NS	84	NS	20.4	1.1 J	1.5 J	11.1
6/1/2017	µg/L	NS	NS	37.4	1.9 J	14.3	0.91 J	0.48 J	8.1
7/1/2017	µg/L	NS	NS	138	17.5	10.2	1.2 J	1.3 J	12.9
8/1/2017	µg/L	194	511	227	19.3	10.1	1 J	0.86 J	18.5
9/1/2017	µg/L	0.51 J	3 J	214	3.7	4.5	11	0.77 J	9.1
10/1/2017	µg/L	145	2.4 J	20.2	4.2	4.2	3 U	3 U	12
11/1/2017	µg/L	3 U	3 U	25.2	4.9	5.4	5.1	0.88 J	8.8
12/1/2017	µg/L	37.5	2.3 J	154	2.7 J	7.1	1.7 J	1.8 J	7.7
1/1/2018	µg/L	2.4 J	14.5	259	2.2 J	8.4	3 U	3 U	2.1 J
4/1/2018	µg/L	16.5	3	128	2.6 J	89.2	1.3 J	6.2	1.8 J
8/1/2018	µg/L	250	79.9	236	1.3 J	3 U	52.9	14.1	3 U
<b>Zinc</b>									
2/1/2017	µg/L	NS	NS	9,740	NS	1,900	944	178	51,000
3/1/2017	µg/L	NS	NS	9,240	NS	1,680	1,210	44.6	51,900
4/1/2017	µg/L	NS	NS	7,830	NS	1,420	364	85	57,500
5/1/2017	µg/L	NS	NS	2,960	NS	999	298	188	57,200
6/1/2017	µg/L	NS	NS	2,440	374	876	432	71.9	51,900
7/1/2017	µg/L	NS	NS	8,330	1,730	1,690	45.7	153	65,600
8/1/2017	µg/L	11,600	18,200	10,900	1,730	1,340	62.7	49.8	55,500
9/1/2017	µg/L	90	203	9,340	328	508	2,840	69.4	39,400
10/1/2017	µg/L	13,700	290	1,810	349	615	23.4	16.9	49,700
11/1/2017	µg/L	29	38.6	1,750	502	909	1,650	21.5	67,900
12/1/2017	µg/L	41,000	186	6,270	205	1,360	39.8	21.4	44,500
1/1/2018	µg/L	104	573	12,700	173	1,950	70.6	108	54,700
4/1/2018	µg/L	576	452	6,920	402	27,900	756	1,050	38,400
8/1/2018	µg/L	9,710	5,030 ML	9,710	282	191	26,300	2,540	54,700
<b>pH</b>									
2/1/2017	SU	NS	NS	6.41	NS	5.85	6.25	6.06	6.23
3/1/2017	SU	NS	NS	6.04	NS	5.71	6	5.57	5.96
4/1/2017	SU	NS	NS	6.28	NS	5.94	6.05	6.21	5.84
5/1/2017	SU	NS	NS	5.97	NS	6.06	6.61	3.14	6
6/1/2017	SU	NS	NS	5.96	8.05	5.81	6.09	NS	5.8
7/1/2017	SU	NS	NS	6.21	7.97	6.08	6.18	3.88	5.67
8/1/2017	SU	6.68	6.73	6.02	8.71	5.7	6.54	6.31	5.93
9/1/2017	SU	12.3	12.2	6.34	7.2	6.11	5.65	6.78	6.57
10/1/2017	SU	8.03	12.39	5.8	8.02	6.16	6.66	6.34	6.03
11/1/2017	SU	12.07	11.95	5.67	8.9	5.84	5.89	5.99	6.01
12/1/2017	SU	6.74	11.4	5.68	8.01	6	6.6	6.21	5.96
1/1/2018	SU	13.17	12.87	6.4	8.31	5.92	7.11	6.3	5.98
4/1/2018	SU	12.42	10.02	5.82	8.41	5.68	6.18	6.27	5.64
8/1/2018	SU	8.52	7.82	6.26	7.07	7.44	6.47	6.57	6.35

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable

**TABLE 4**  
**Intermediate Groundwater Data - August 2018**  
**Rod Wire Mill Interim Measurement Progress Report**

Event Date	Units	RW10-MW(I)	RW11-MW(I)	RW12-MW(I)	RW13-MW(I)	RW15-MW(I)	RW16-MW(I)	RW18-MW(I)	RW19-MW(I)	RW22-MW(I)
<b>Cadmium</b>										
2/1/2017	µg/L	<b>455</b>	<b>1,690</b>	<b>4,740</b>	NS	NS	NS	<b>70.3</b>	<b>3,760</b>	NS
3/1/2017	µg/L	<i>3 U</i>	<b>1,490</b>	<b>3,530</b>	NS	NS	NS	<b>63.8</b>	<b>3,450</b>	NS
4/1/2017	µg/L	<b>198</b>	<b>1,800</b>	<b>2,730</b>	NS	NS	NS	<b>119</b>	<b>3,380 MH</b>	NS
5/1/2017	µg/L	<b>2.5 J</b>	<b>2,600</b>	<b>3,820</b>	NS	NS	NS	<b>92</b>	<b>2,770</b>	NS
6/1/2017	µg/L	<b>27.2</b>	<b>218</b>	<b>2,260</b>	NS	NS	NS	<b>65.1</b>	<b>2,280</b>	0.35 J
7/1/2017	µg/L	<b>16.3</b>	<b>518</b>	<b>2,730</b>	NS	NS	NS	<b>61.7</b>	<b>2,550</b>	<i>3 U</i>
8/1/2017	µg/L	<i>3 U</i>	<b>163</b>	<b>2,220</b>	<b>31,800</b>	<b>10.1</b>	NS	<b>74.4</b>	<b>1,670</b>	NS
9/1/2017	µg/L	<b>17.7</b>	<b>274</b>	<b>1,820</b>	<b>66</b>	<i>3 U</i>	<b>1.7 J</b>	<b>72.2</b>	<b>1,320</b>	<b>2.3 J</b>
10/1/2017	µg/L	<b>24.6</b>	<b>125</b>	<b>1,510</b>	<b>28,700</b>	<i>3 U</i>	<i>3 U</i>	<b>43.7</b>	<b>1,710</b>	<i>3 U</i>
11/1/2017	µg/L	<b>63.7</b>	<b>1,460</b>	<b>1,380</b>	<b>24,500</b>	<i>3 U</i>	<i>3 U</i>	<b>66.6</b>	<b>1,770</b>	<b>3.8</b>
12/1/2017	µg/L	<i>3 U</i>	<b>1,380</b>	<b>1,450</b>	<b>44.2</b>	0.97 J	1.9 J	<b>51.5</b>	<b>1,710</b>	<b>15.2</b>
1/1/2018	µg/L	<i>3 U</i>	<b>1,400</b>	<b>1,270</b>	<b>1,240</b>	1.6 J	1.2 J	<b>63.5</b>	<b>1,880</b>	<b>4.1</b>
4/1/2018	µg/L	<b>44.4</b>	<b>1,660</b>	<b>121</b>	<b>19,400</b>	<i>3 U</i>	1.1 J	<b>55.8</b>	<b>1,700</b>	<i>3 U</i>
8/1/2018	µg/L	<b>44.7</b>	<b>4.7</b>	<b>134</b>	<b>21,000</b>	<b>15.3</b>	<i>3 U</i>	<b>35.1</b>	<b>1,560</b>	<i>3 U</i>
<b>Zinc</b>										
2/1/2017	µg/L	<b>111,000</b>	<b>368,000 ML</b>	<b>249,000 MH</b>	NS	NS	<b>86,300</b>	<b>728,000</b>	<b>5,900,000</b>	NS
3/1/2017	µg/L	<b>20.4</b>	<b>301,000</b>	<b>216,000</b>	NS	NS	<b>90,300</b>	<b>592,000</b>	<b>4,650,000</b>	NS
4/1/2017	µg/L	<b>75,800</b>	<b>288,000</b>	<b>188,000</b>	NS	NS	<b>314,000</b>	<b>633,000</b>	<b>7,010,000 MH</b>	NS
5/1/2017	µg/L	<b>1,150</b>	<b>336,000</b>	<b>232,000</b>	NS	NS	<b>207,000</b>	<b>246,000</b>	<b>5,370,000 ML</b>	NS
6/1/2017	µg/L	<b>34,600</b>	<b>201,000</b>	<b>226,000</b>	NS	NS	NS	<b>694,000</b>	<b>6,720,000</b>	<b>303</b>
7/1/2017	µg/L	<b>25,900</b>	<b>192,000</b>	<b>219,000</b>	NS	NS	NS	<b>575,000</b>	<b>5,330,000</b>	<b>103</b>
8/1/2017	µg/L	<b>79.7</b>	<b>147,000</b>	<b>156,000</b>	<b>308,000</b>	<b>3,210</b>	NS	<b>290,000</b>	<b>3,360,000</b>	NS
9/1/2017	µg/L	<b>8,220</b>	<b>134,000</b>	<b>156,000</b>	<b>1,160</b>	<b>71.1</b>	<b>20,200</b>	<b>382,000 MHML</b>	<b>2,500,000</b>	<b>43,000</b>
10/1/2017	µg/L	<b>31,000</b>	<b>111,000</b>	<b>150,000 ML</b>	<b>204,000</b>	<b>295</b>	<b>2,000</b>	<b>393,000</b>	<b>3,670,000</b>	<b>16,100</b>
11/1/2017	µg/L	<b>39,000</b>	<b>207,000</b>	<b>140,000</b>	<b>172,000</b>	<b>825</b>	<b>441</b>	<b>323,000</b>	<b>3,400,000</b>	<b>3,700</b>
12/1/2017	µg/L	<b>158</b>	<b>197,000</b>	<b>157,000 ML</b>	<b>237</b>	<b>1,070</b>	<b>19,200</b>	<b>369,000</b>	<b>3,970,000</b>	<b>19,500</b>
1/1/2018	µg/L	<b>26.5</b>	<b>225,000 ML</b>	<b>117,000</b>	<b>8,600</b>	<b>5,540</b>	<b>16,200</b>	<b>370,000</b>	<b>3,840,000 ML</b>	<b>27,200</b>
4/1/2018	µg/L	<b>13,500</b>	<b>215,000</b>	<b>103,000</b>	<b>201,000</b>	<b>252</b>	<b>11,200</b>	<b>396,000</b>	<b>4,190,000</b>	<b>44,700 ML</b>
8/1/2018	µg/L	<b>17,600 MH</b>	<b>15,700</b>	<b>2,410</b>	<b>274,000</b>	<b>18,600</b>	<b>1,230</b>	<b>330,000</b>	<b>4,880,000</b>	<b>73,300</b>
<b>pH</b>										
2/1/2017	SU	<b>6.86</b>	<b>6.05</b>	<b>5.27</b>	NS	NS	NS	<b>5.64</b>	<b>5.5</b>	NS
3/1/2017	SU	<b>9.93</b>	<b>5.93</b>	<b>5.26</b>	NS	NS	NS	<b>5.33</b>	<b>5.35</b>	NS
4/1/2017	SU	<b>7.03</b>	<b>5.35</b>	<b>5.34</b>	NS	NS	NS	<b>5.39</b>	<b>5.28</b>	NS
5/1/2017	SU	<b>8.7</b>	<b>6.11</b>	<b>4.18</b>	NS	NS	NS	<b>3.43</b>	<b>5.41</b>	NS
6/1/2017	SU	<b>7.15</b>	<b>5.5</b>	<b>5.39</b>	NS	NS	NS	<b>5.38</b>	<b>5.32</b>	<b>12.97</b>
7/1/2017	SU	<b>6.58</b>	<b>5.66</b>	<b>4.2</b>	NS	NS	NS	<b>5.25</b>	<b>5.15</b>	<b>12.75</b>
8/1/2017	SU	<b>10.92</b>	<b>5.81</b>	<b>4.71</b>	<b>6.72</b>	<b>11.6</b>	NS	<b>5.45</b>	<b>5.58</b>	NS
9/1/2017	SU	<b>7.15</b>	<b>5.21</b>	<b>4.61</b>	<b>12.18</b>	<b>6.68</b>	<b>6.14</b>	<b>5.99</b>	NS	<b>5.4</b>
10/1/2017	SU	<b>6.28</b>	<b>5.92</b>	<b>5.25</b>	<b>6.86</b>	<b>10.17</b>	<b>9.36</b>	<b>5.49</b>	<b>5.37</b>	<b>6.05</b>
11/1/2017	SU	<b>6.67</b>	<b>6.2</b>	<b>5.32</b>	<b>7.32</b>	<b>11.59</b>	<b>9.43</b>	<b>5.84</b>	<b>5.52</b>	<b>5.81</b>
12/1/2017	SU	<b>11.21</b>	<b>6.16</b>	<b>6.06</b>	<b>7.67</b>	<b>11.69</b>	<b>6.47</b>	<b>5.62</b>	<b>5.52</b>	<b>5.68</b>
1/1/2018	SU	<b>10.29</b>	<b>5.61</b>	<b>4.46</b>	<b>11.44</b>	<b>12.13</b>	<b>6.37</b>	<b>5.56</b>	<b>5.41</b>	<b>5.85</b>
4/1/2018	SU	<b>6.39</b>	<b>5.98</b>	<b>4.68</b>	<b>6.46</b>	<b>11.99</b>	<b>6.36</b>	<b>5.27</b>	<b>4.93</b>	<b>5.48</b>
8/1/2018	SU	<b>6.95</b>	<b>6.23</b>	<b>6.37</b>	<b>6.86</b>	NS	<b>10.41</b>	<b>5.46</b>	<b>5.38</b>	<b>6.21</b>

**Bold indicates detection above the reporting limit**

NS indicates not sampled

NA indicates not applicable

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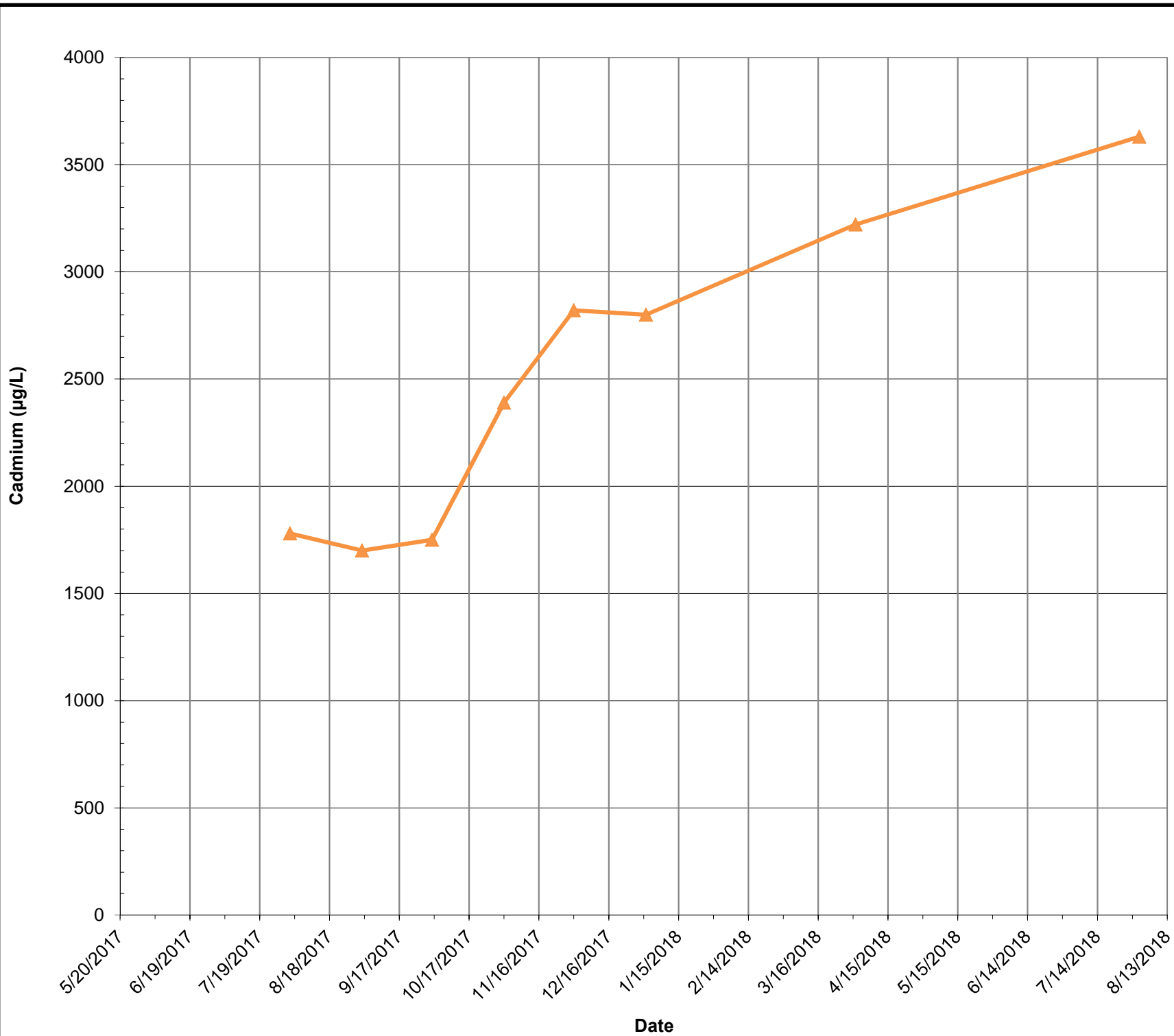
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## **APPENDIX A**

### **Shallow Groundwater Time-Series Graphs**

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**LEGEND**

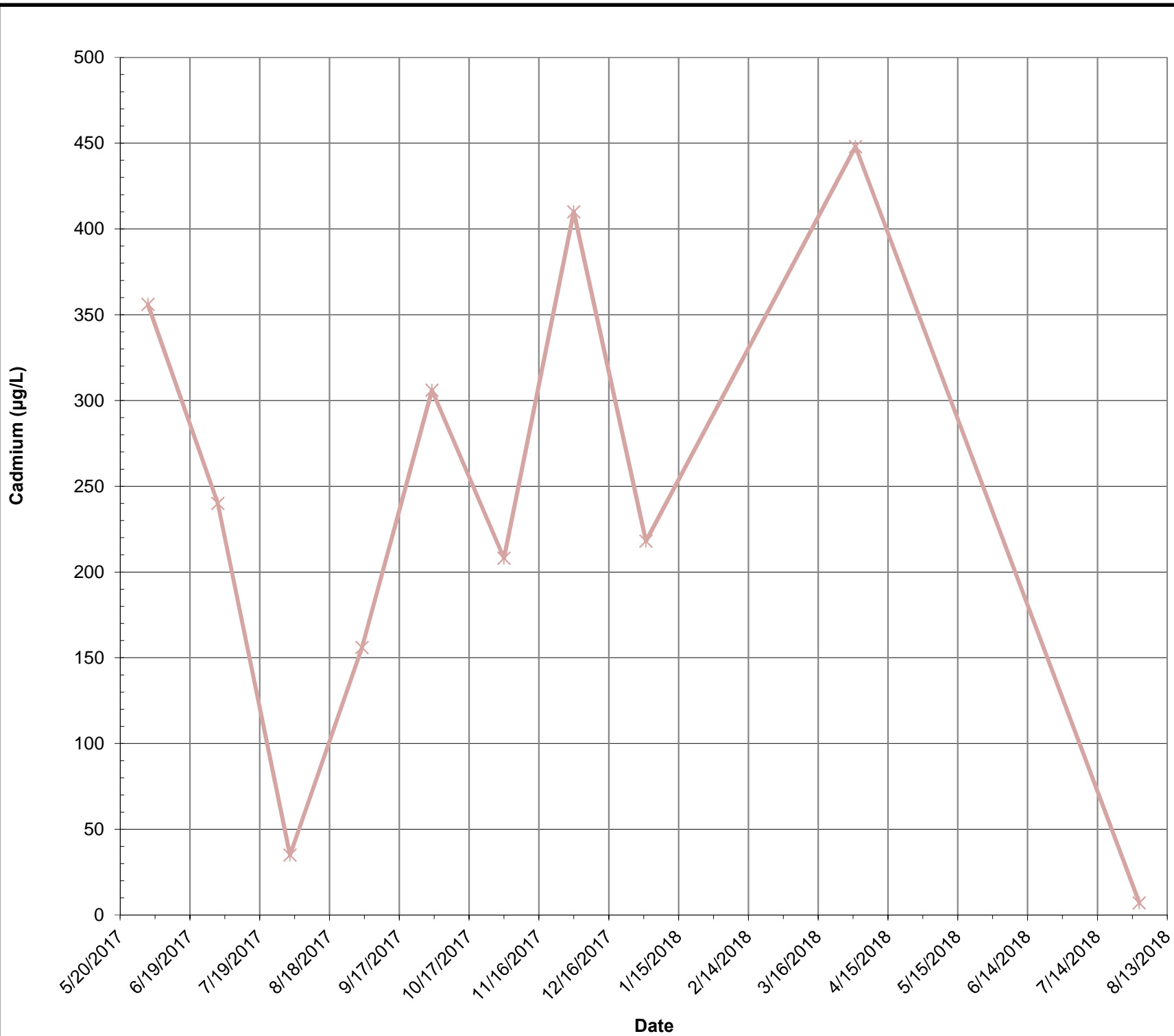
—▲— RW14-MW(S)



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SHALLOW GROUNDWATER  
CADMIUM CONCENTRATIONS  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date August 21, 2018			Figure A1
PE/RG	PM	DR	



## LEGEND

✕ RW18-MW(S)



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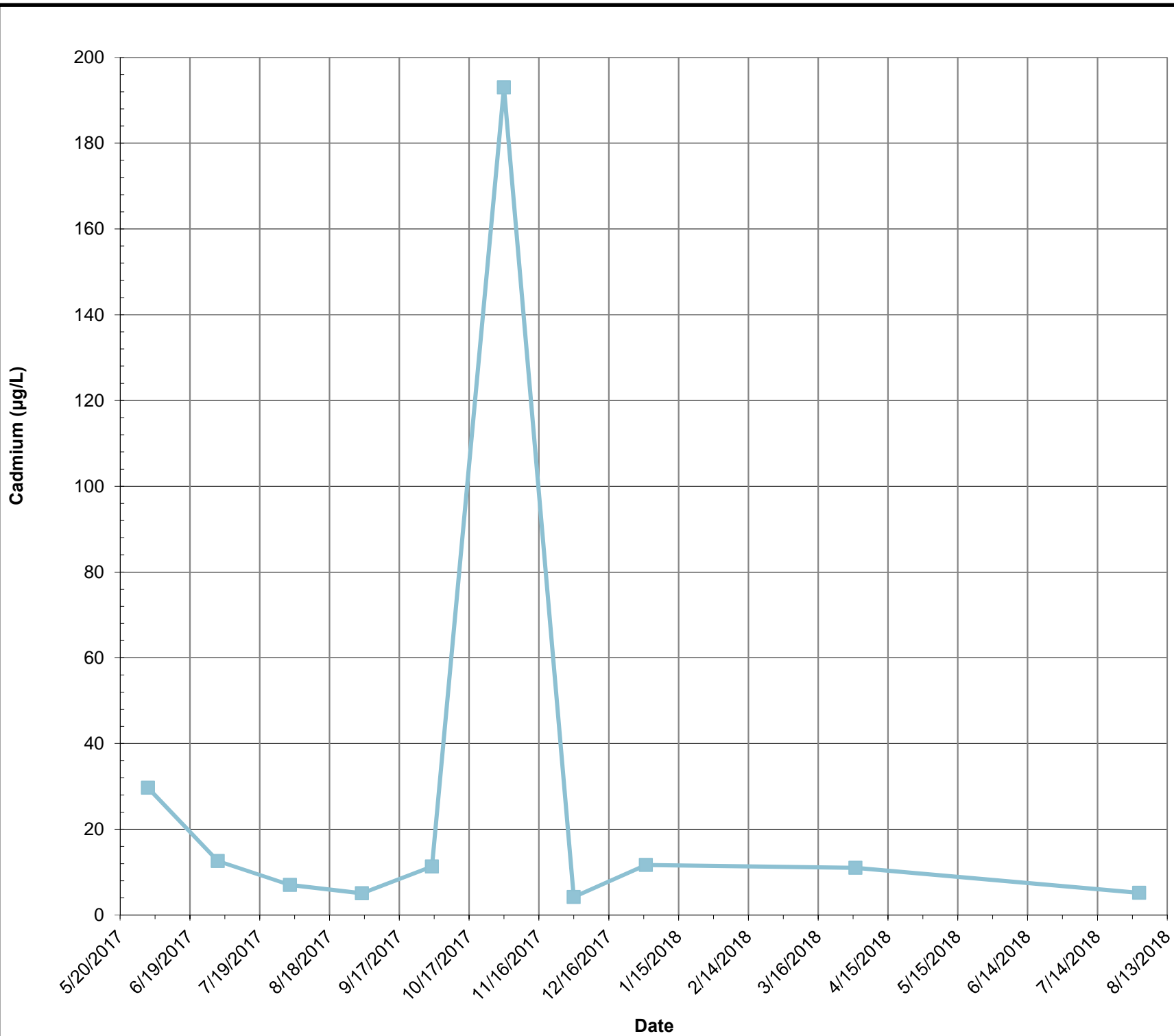
SHALLOW GROUNDWATER  
CADMIUM CONCENTRATIONS  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 21, 2018

PE/RG PM DR

Figure

A2



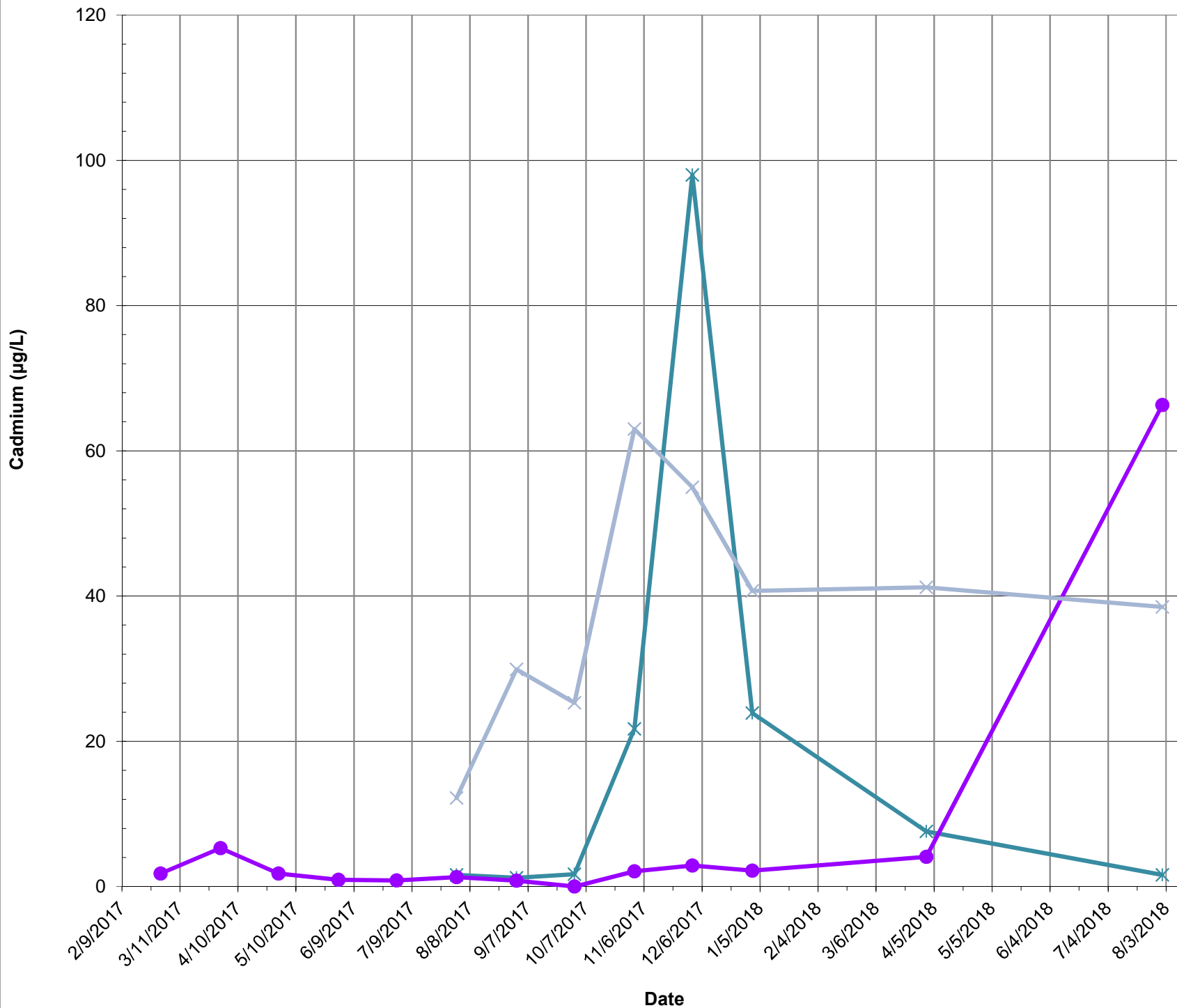
**LEGEND**

—■— RW12-MW(S)



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## LEGEND

- RW01-MW(S)
- RW11-MW(S)
- RW15-MW(S)

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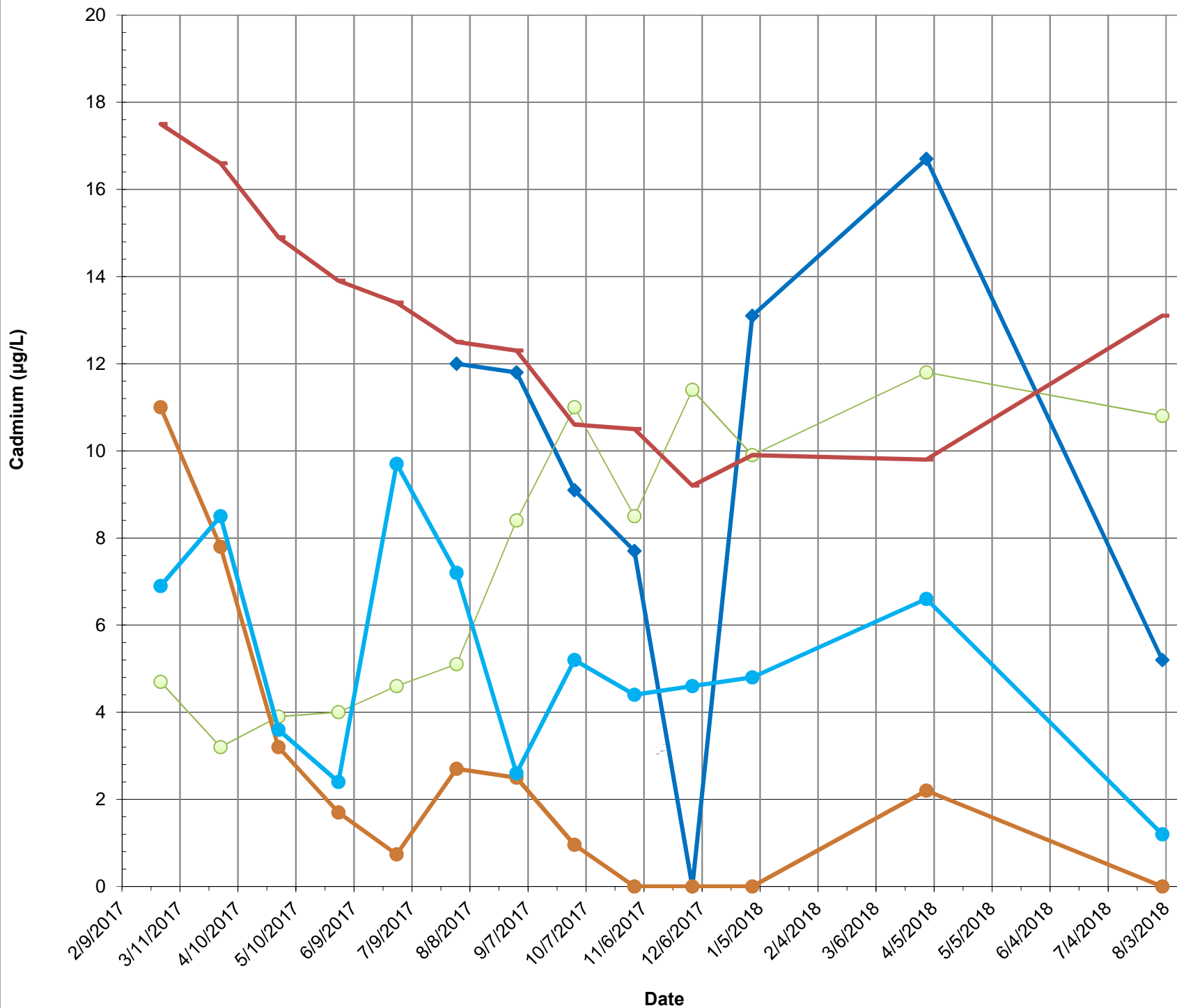
SHALLOW GROUNDWATER  
CADMIUM CONCENTRATIONS  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 21, 2018

Figure

PE/RG PM DR

A4



# LEGEND

- RW02-MW(S)
- RW03-MW(S)
- RW08-MW(S)
- RW09-MW(S)
- RW19-MW(S)

EnviroAnalytics  
Group

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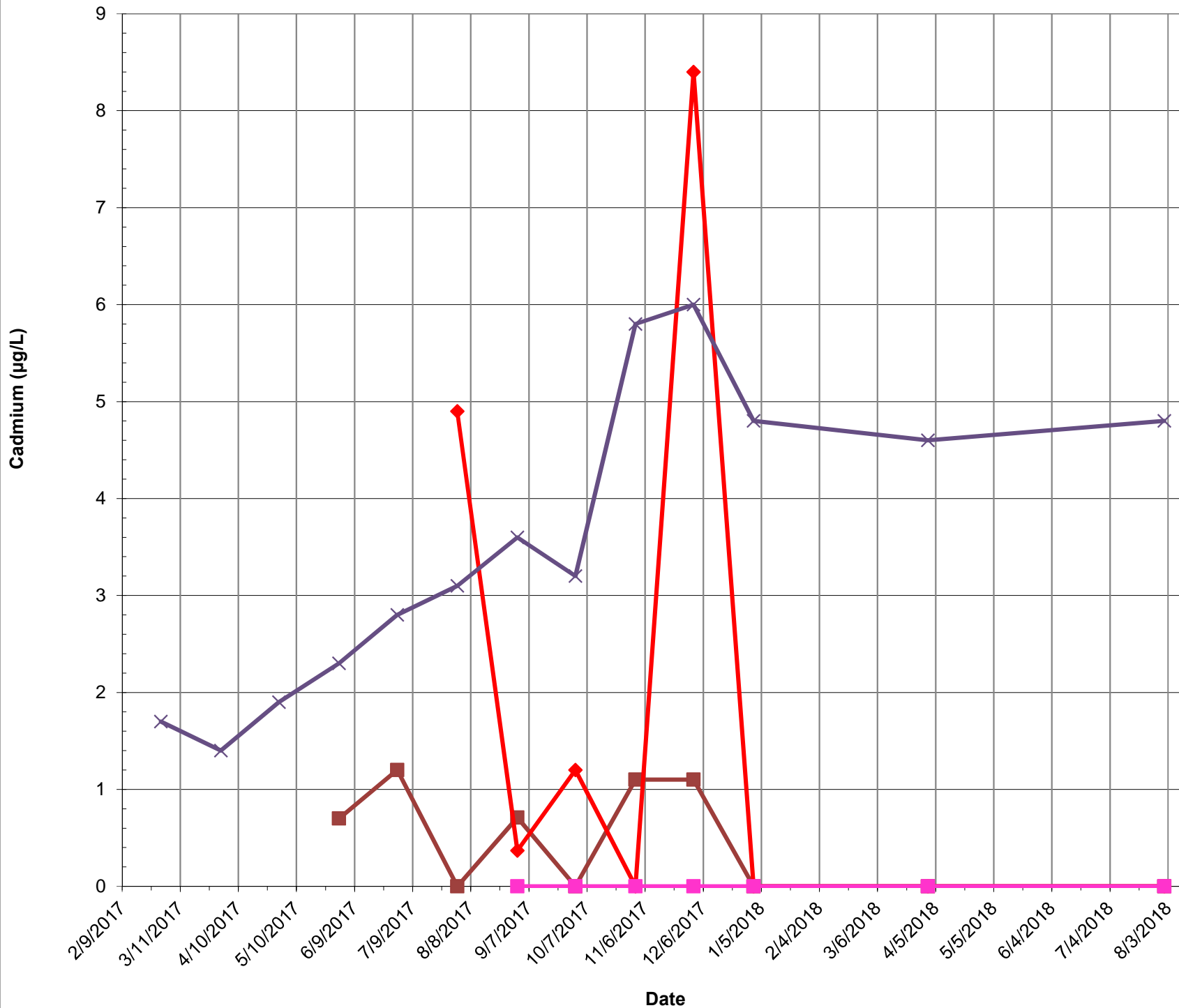
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CADMIUM CONCENTRATIONS  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 21, 2018

PE/RG PM DR

Figure  
A5



## LEGEND

- RW04-MW(S)
- RW05-MW(S)
- RW07-MW(S)
- RW16-MW(S)

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Group

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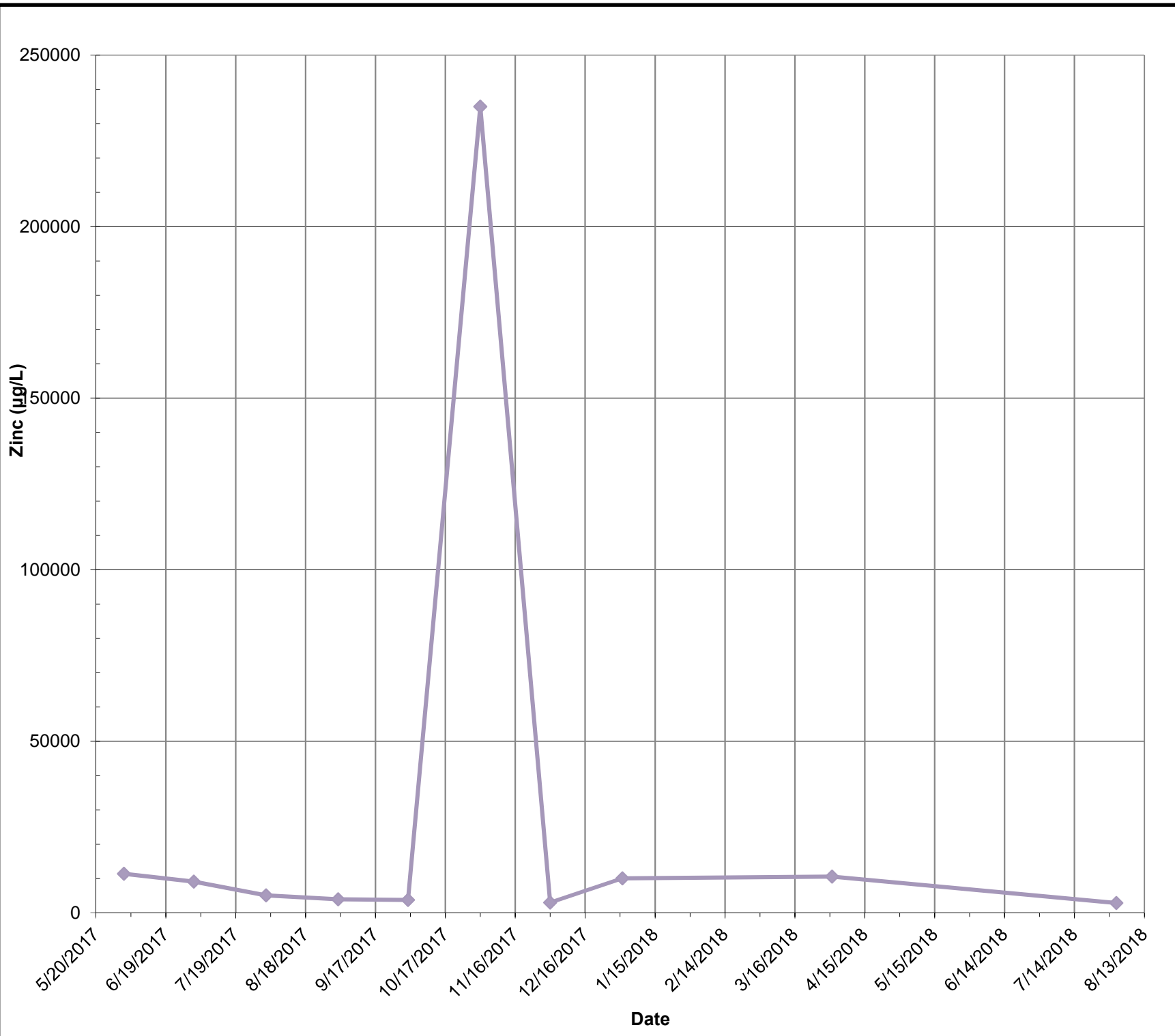
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CADMIUM CONCENTRATIONS  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 21, 2018

PE/RG PM DR

Figure  
A6



**LEGEND**  
RW12-MW(S)

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ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

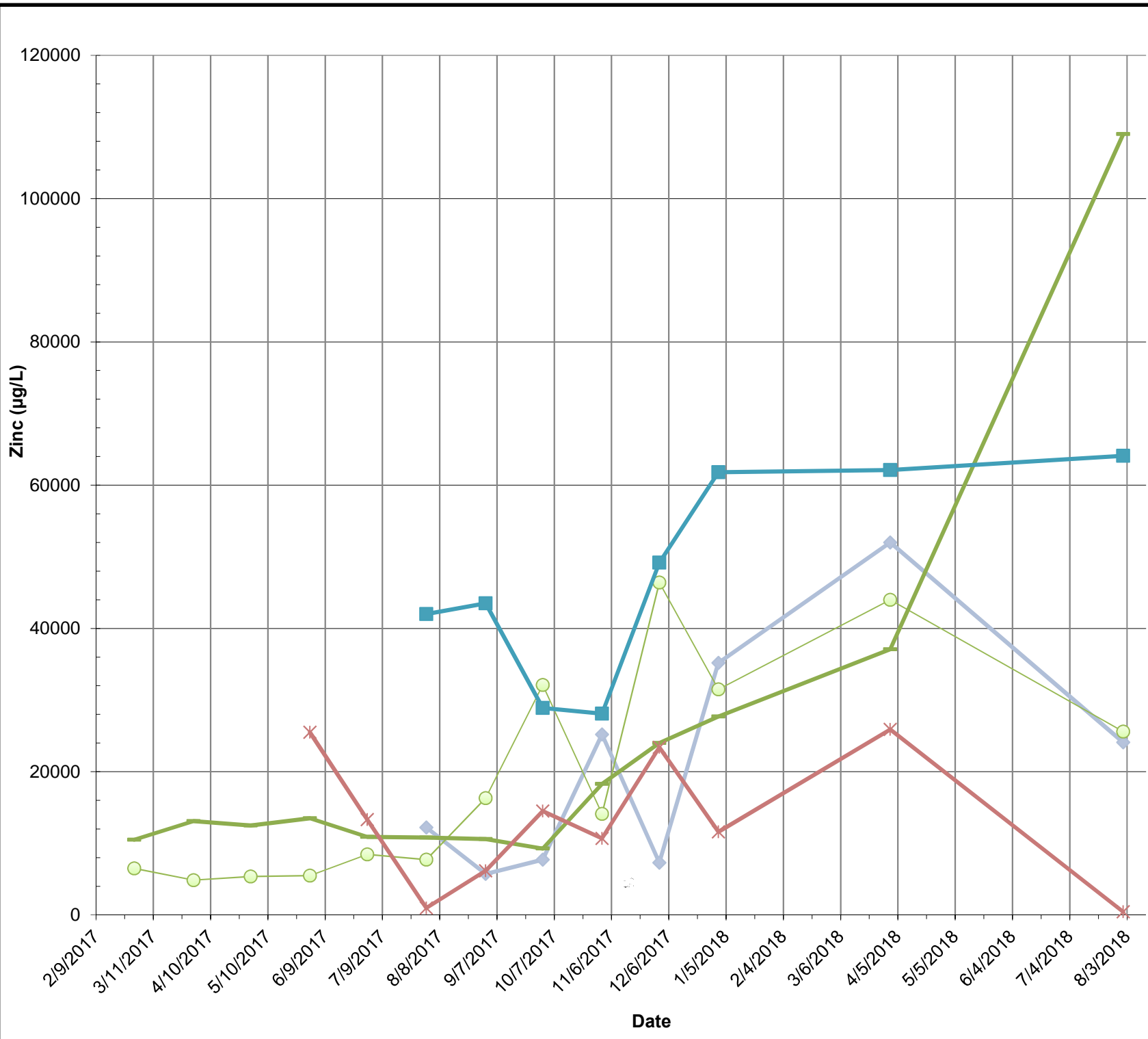
Date  
August 15, 2018

Figure  
A7

PE/RG

PM

DR



# **LEGEND**

- RW01-MW(S)
- RW03-MW(S)
- RW11-MW(S)
- RW14-MW(S)
- RW18-MW(S)

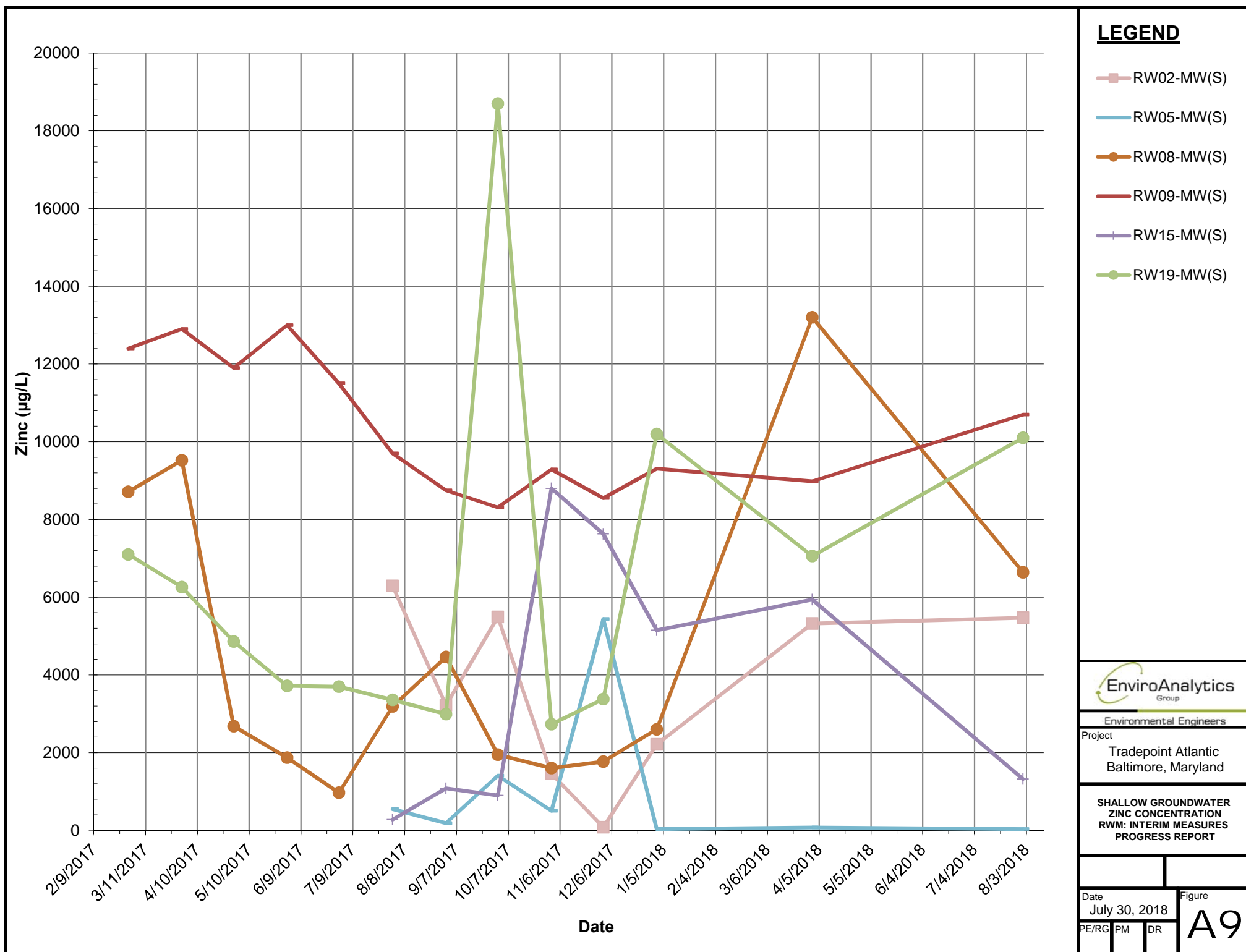


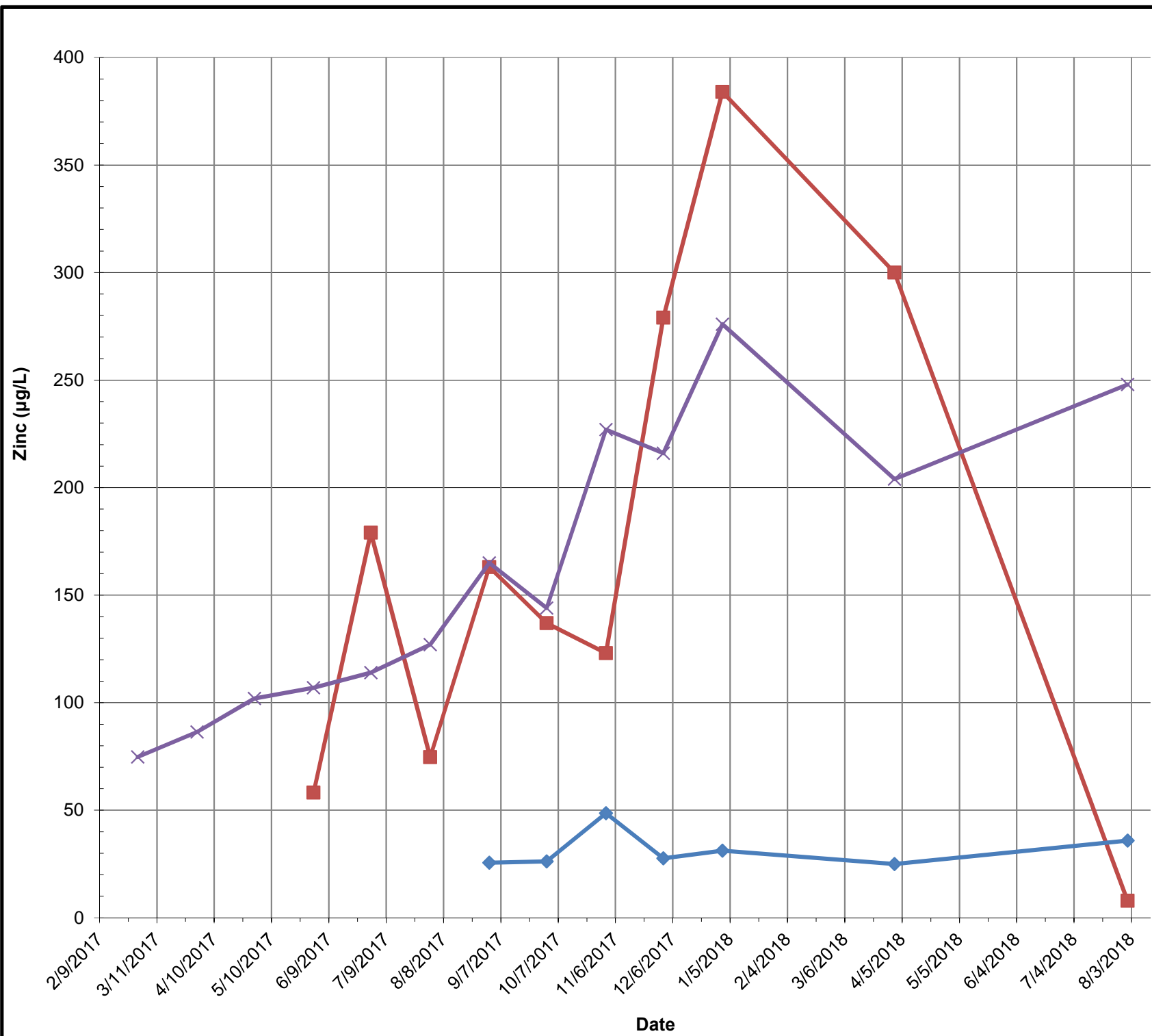
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SHALLOW GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date	Figure
August 15, 2018	A8
PE/RC/PM	DR





**LEGEND**

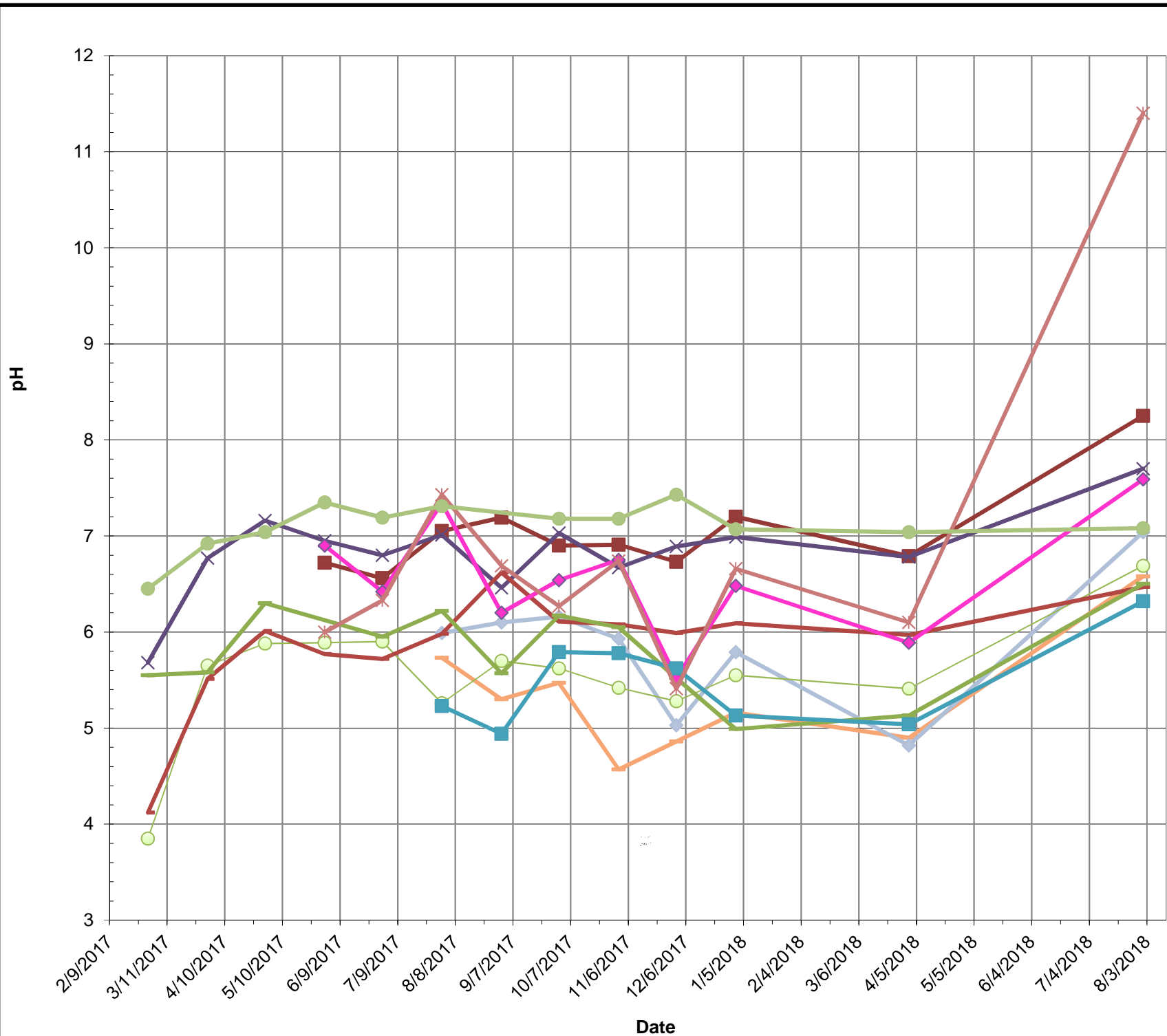
- RW04-MW(S)
- RW07-MW(S)
- RW16-MW(S)

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SHALLOW GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date August 15, 2018	Figure A10
PE/RG	PM
DR	



## LEGEND

- RW01-MW(S)
- RW02-MW(S)
- RW03-MW(S)
- RW04-MW(S)
- RW07-MW(S)
- RW09-MW(S)
- RW11-MW(S)
- RW12-MW(S)
- RW14-MW(S)
- RW18-MW(S)
- RW19-MW(S)



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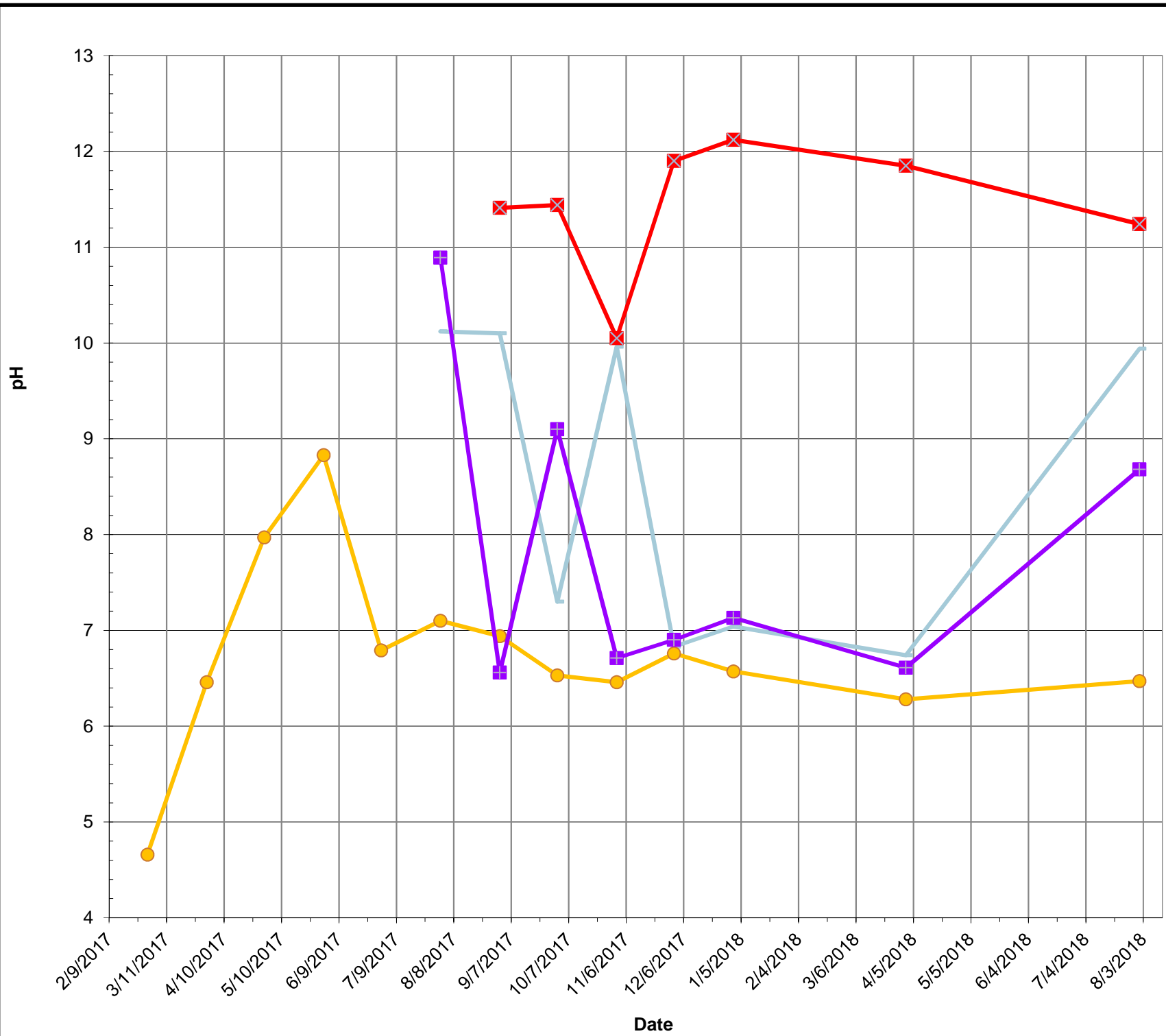
SHALLOW GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 15, 2018

Figure

PE/RG PM DR

A11



# **LEGEND**

- RW05-MW(S)
- RW08-MW(S)
- RW15-MW(S)
- RW16-MW(S)



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SHALLOW GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 15, 2018

Figure

PE/RG PM DR

A12

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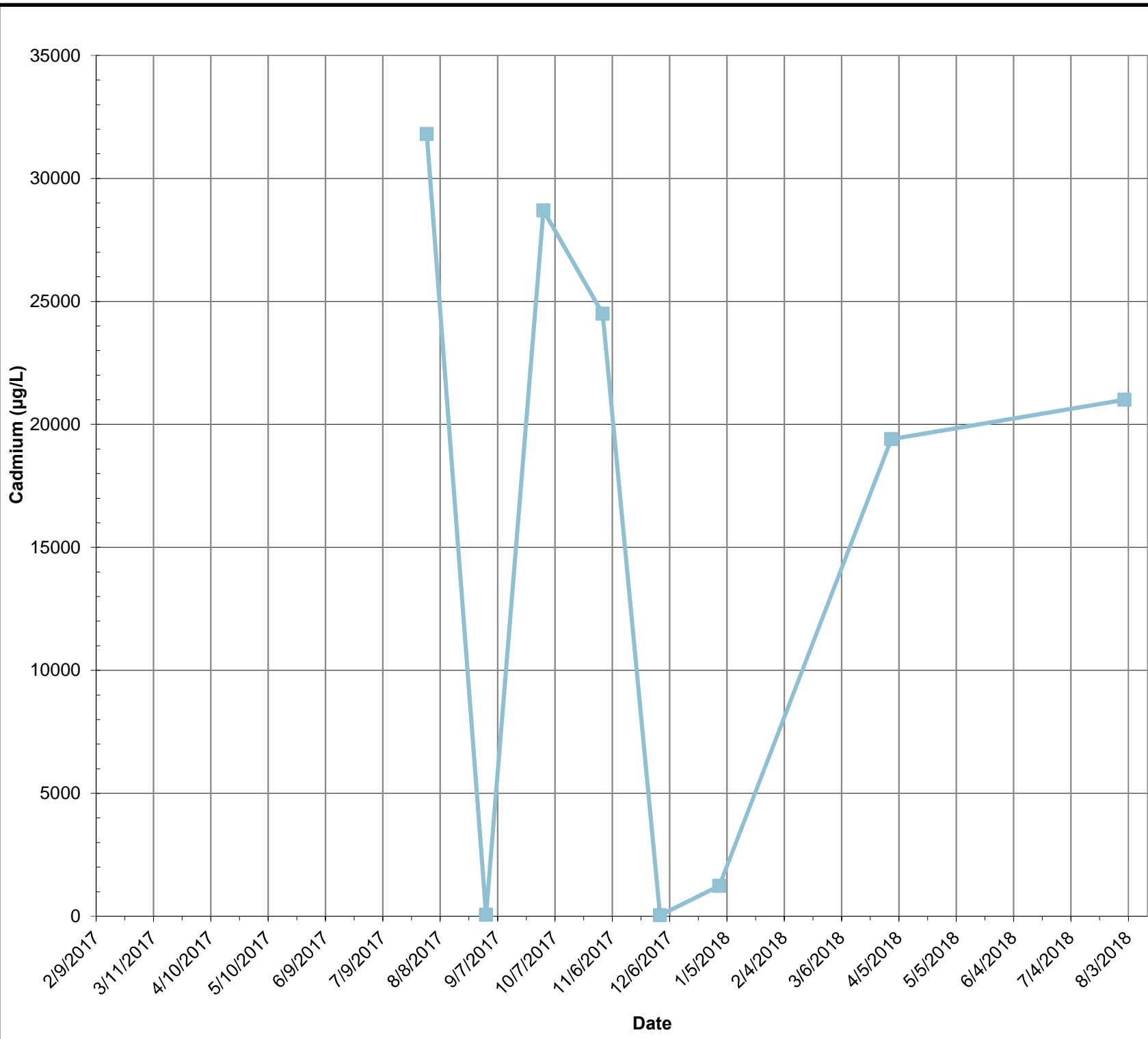
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## **APPENDIX B**

### **Intermediate Groundwater Time-Series Graphs**

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**LEGEND**

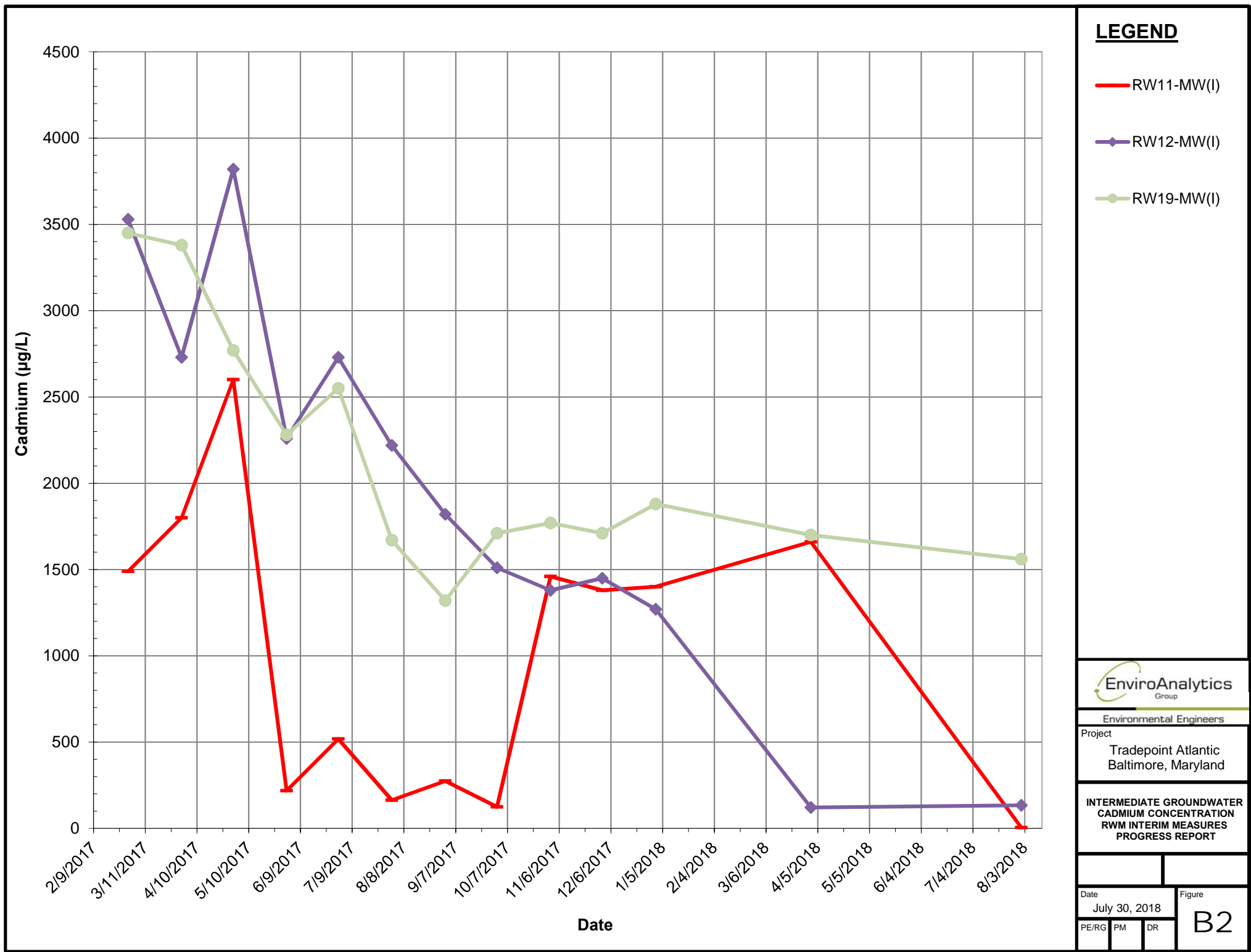
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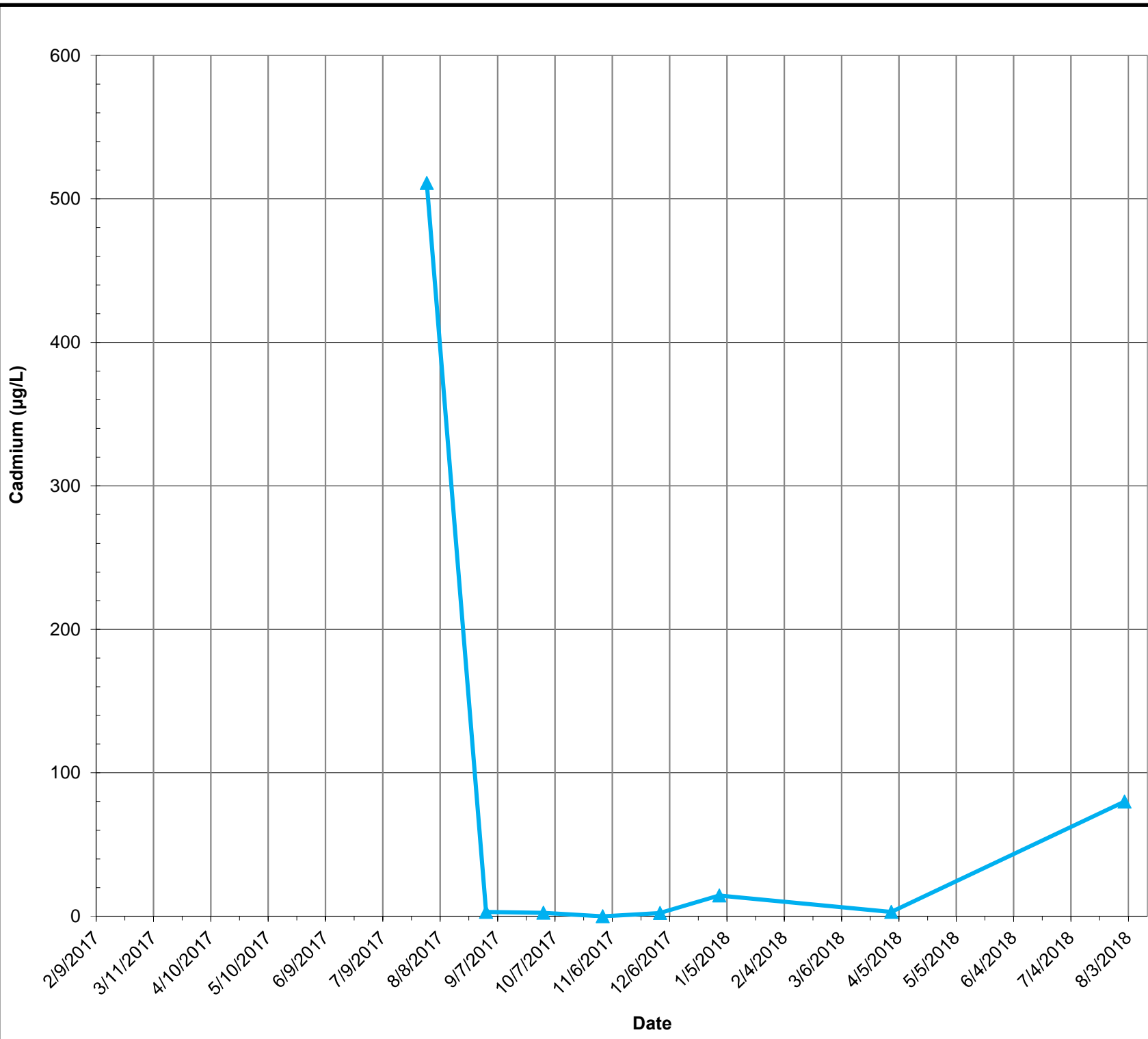


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**INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT**

Date July 30, 2018			Figure B1
PE/RG	PM	DR	





**LEGEND**

—▲— RW02-MW(I)



Environmental Engineers

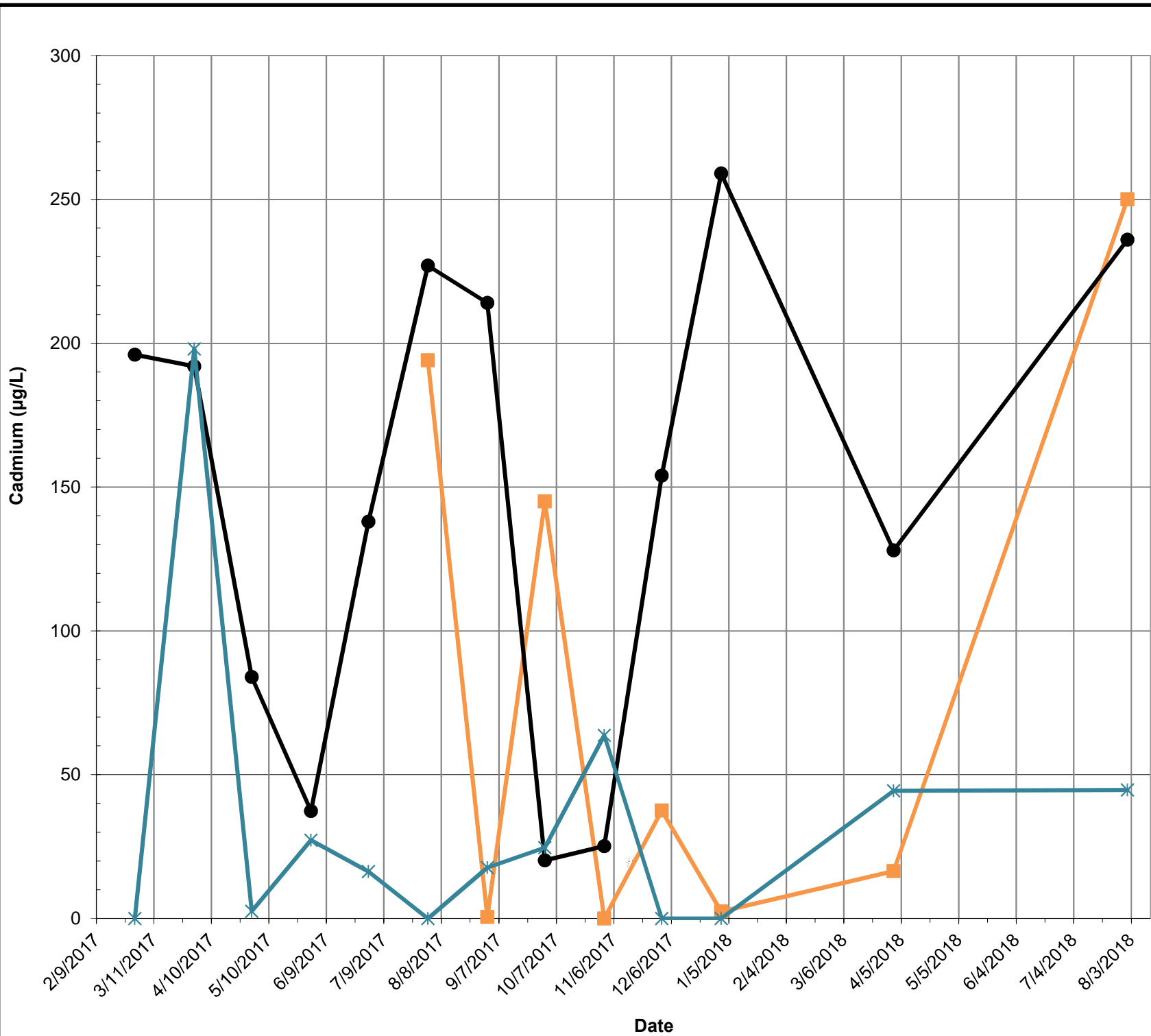
Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
July 30, 2018

Figure  
B3

PE/RG PM DR



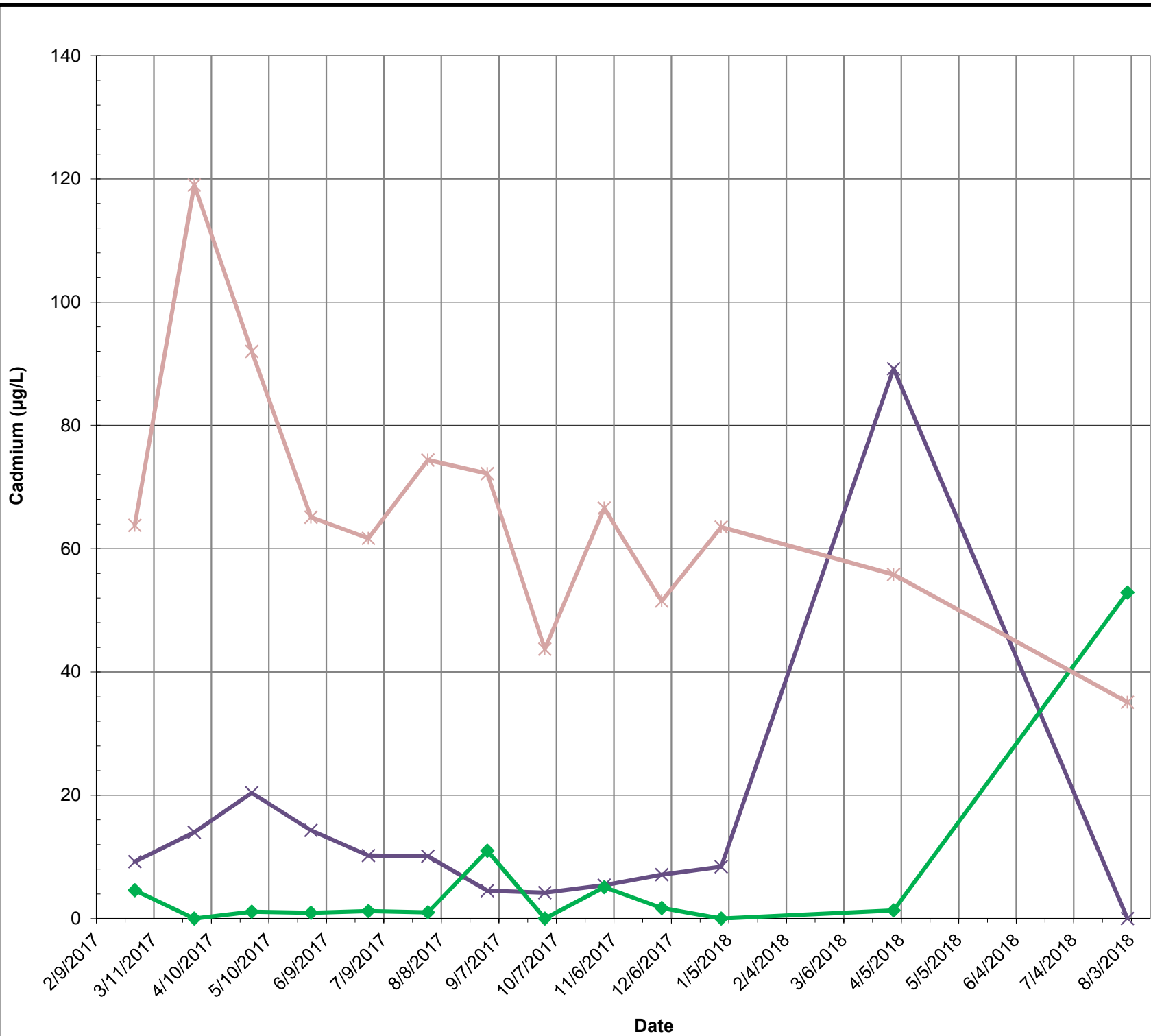
**LEGEND**

- RW01-MW(I)
- RW03-MW(I)
- RW10-MW(I)

**EnviroAnalytics**  
Group  
Environmental Engineers

Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT



**LEGEND**

- RW06-MW(I)
- RW07-MW(I)
- RW18-MW(I)

**EnviroAnalytics**  
Group  
Environmental Engineers

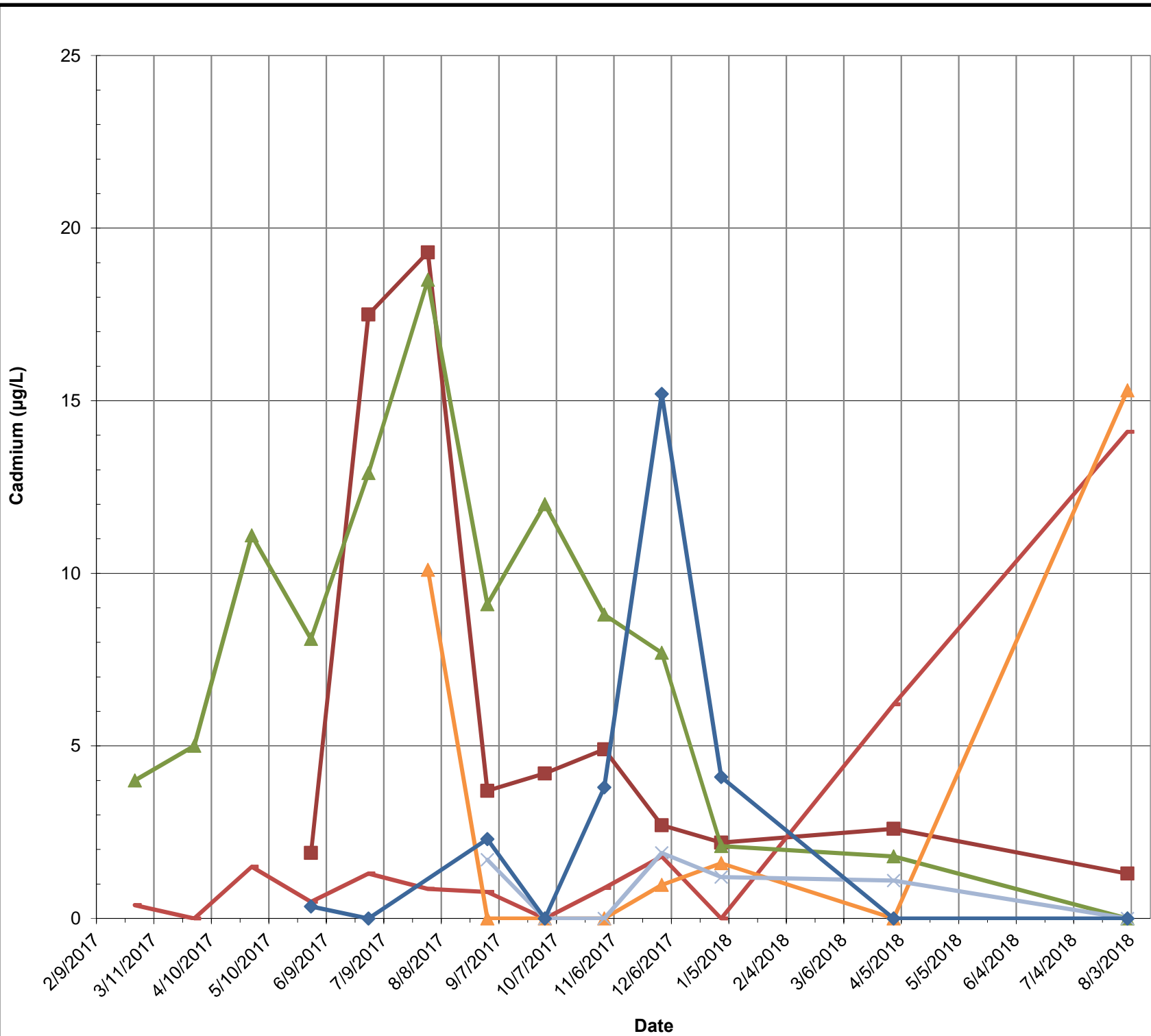
Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
July 30, 2018

Figure  
B5

PE/RG PM DR



# **LEGEND**

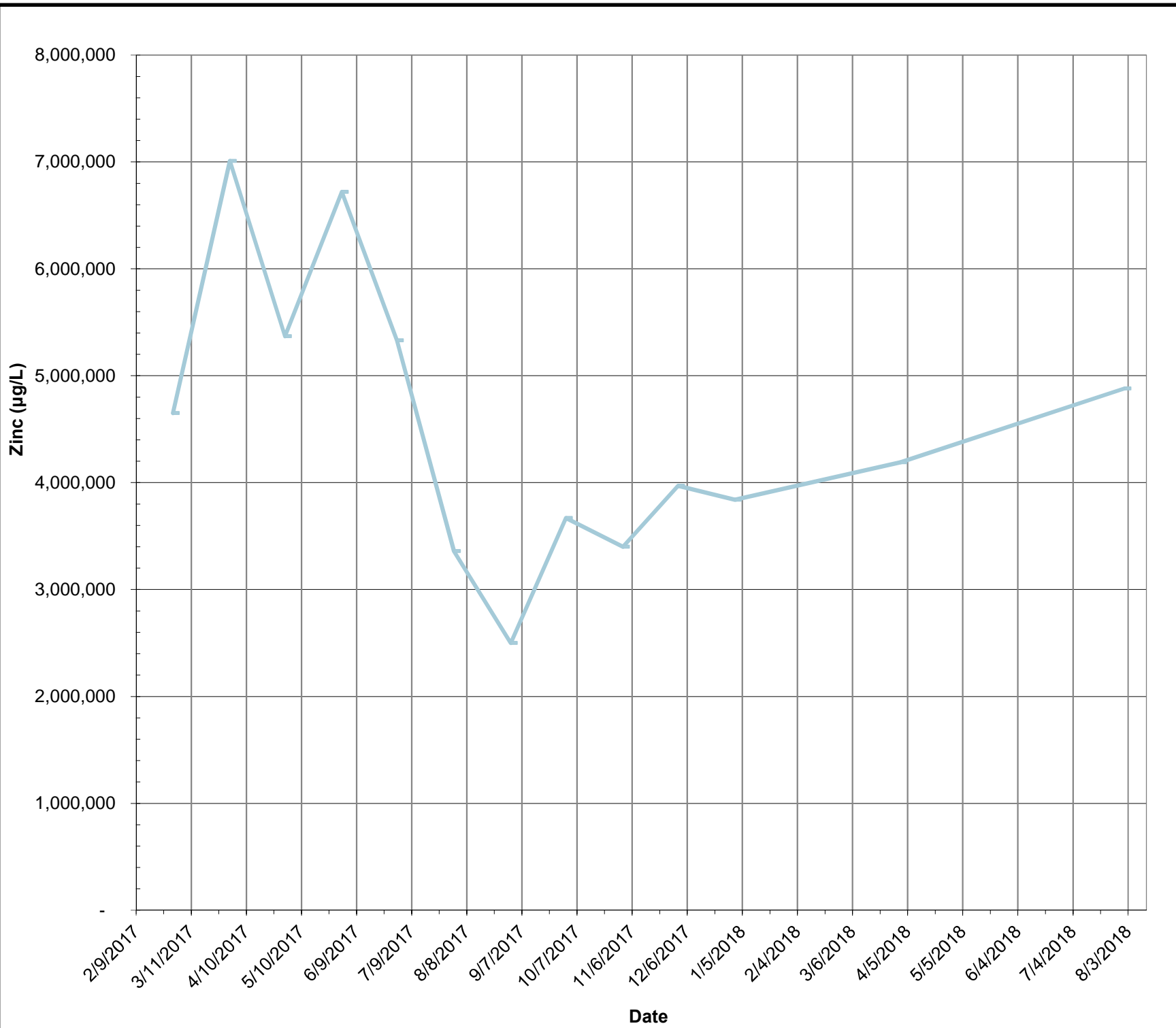
- RW05-MW(I)
- RW08-MW(I)
- ▲ RW09-MW(I)
- ▲ RW15-MW(I)
- × RW16-MW(I)
- ◆ RW22-MW(I)



Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
CADMIUM CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date July 30, 2018			Figure B6
PE/RG	PM	DR	



**LEGEND**

— RW19-MW(I)



Environmental Engineers

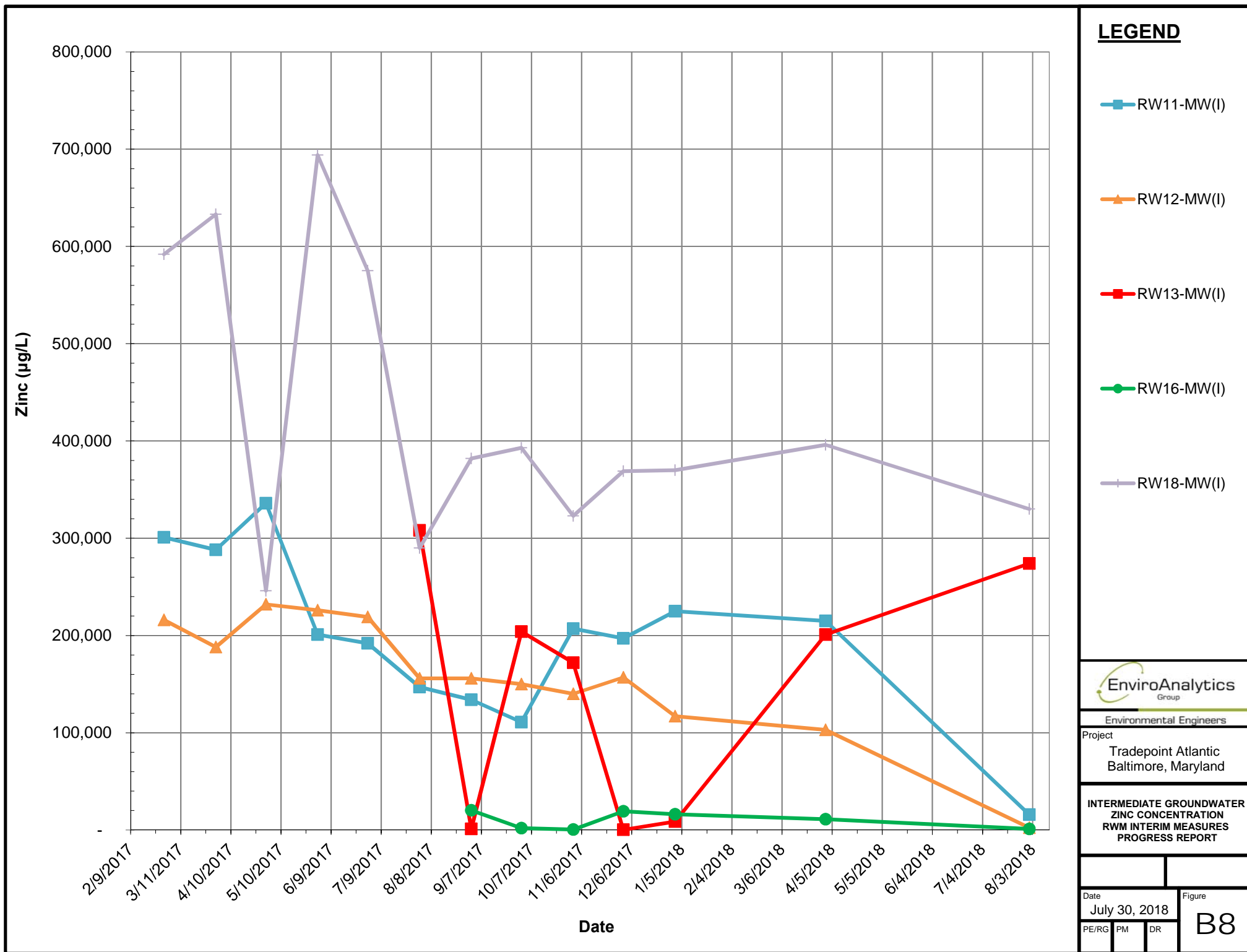
Project  
Tradepoint Atlantic  
Baltimore, Maryland

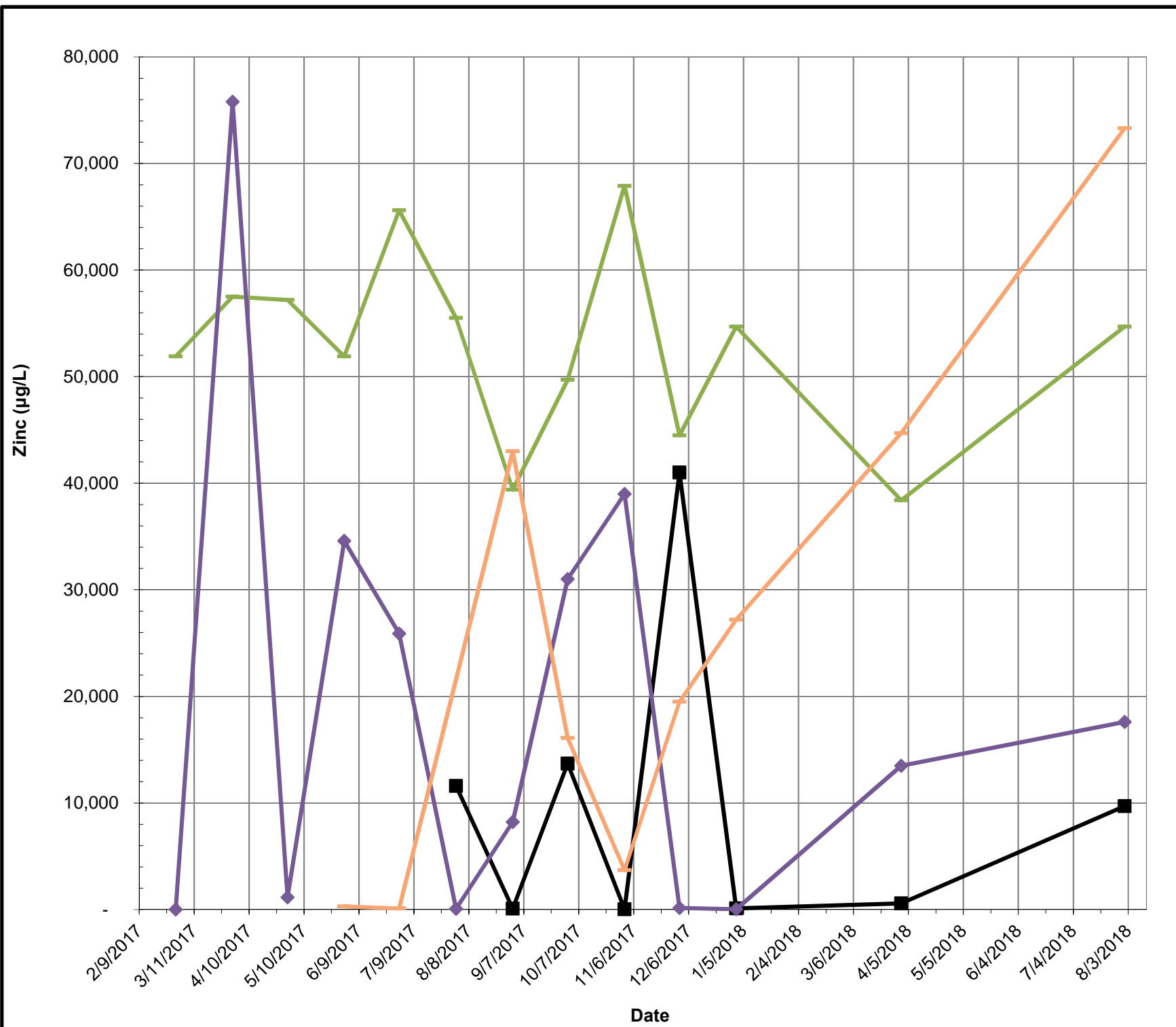
INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
July 30, 2018

PE/RG PM DR

Figure  
B7





**LEGEND**

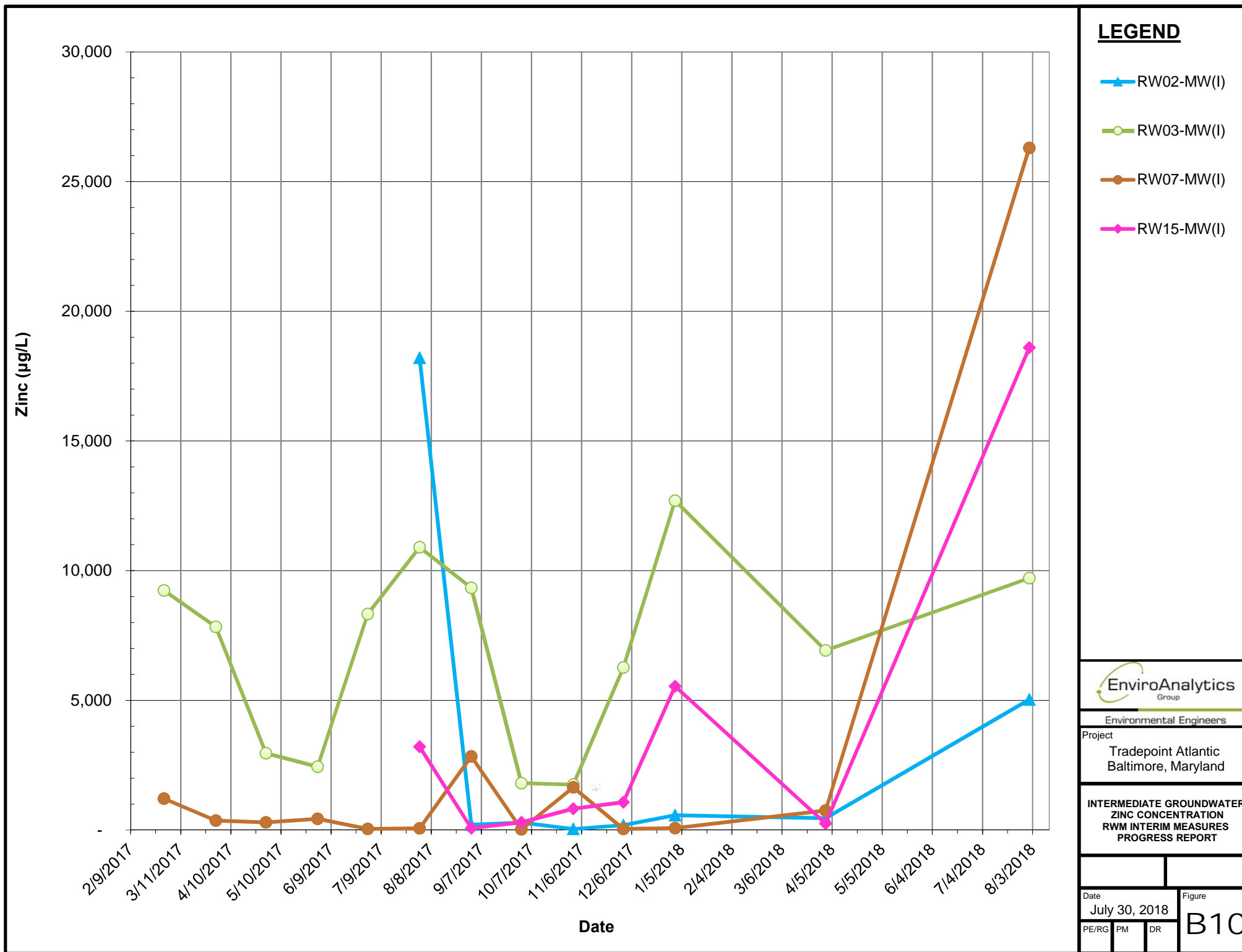
- RW01-MW(I)
- ▲ RW09-MW(I)
- ◆ RW10-MW(I)
- ✕ RW22-MW(I)



Environmental Engineers

Project  
Tradeport Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT



Environmental Engineers

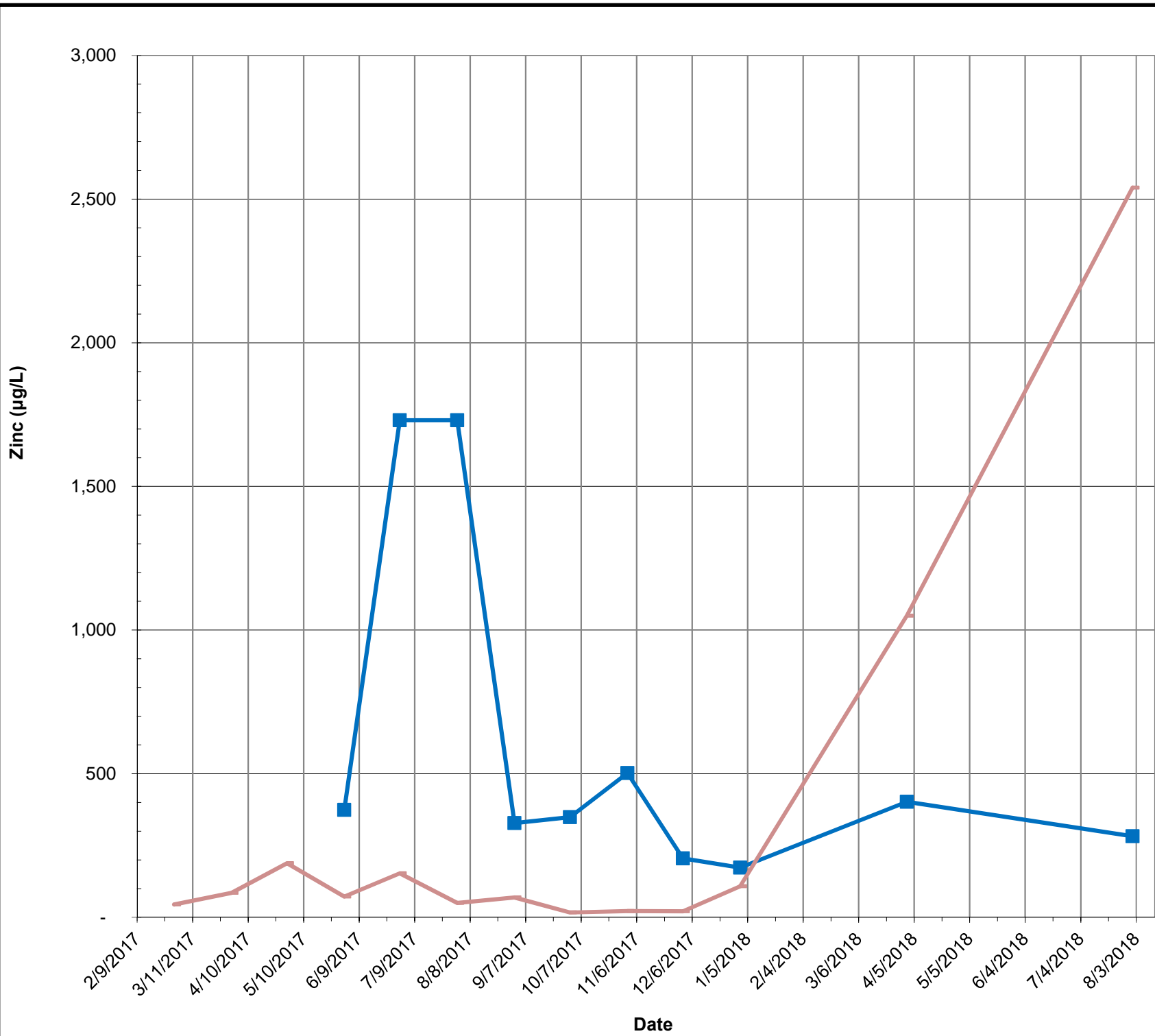
Project  
Tradeport Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
July 30, 2018


Figure  
B10

PE/RG PM DR



**LEGEND**

- RW05-MW(I)
- RW08-MW(I)



Environmental Engineers

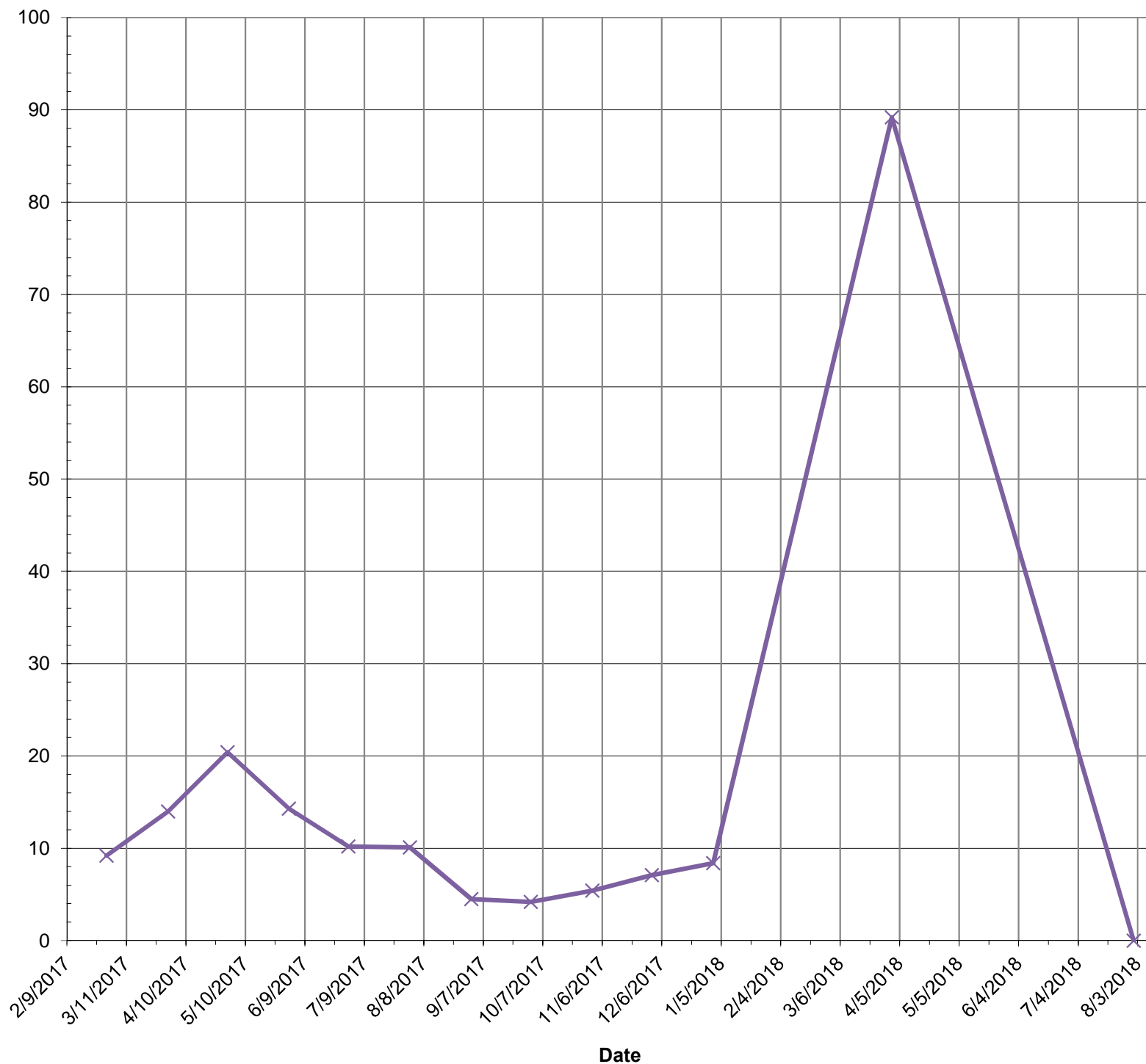
Project

Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date		Figure	
July 30, 2018		B11	
PE/RG	PM	DR	

Zinc (µg/L)



## LEGEND

✕ RW06-MW(I)



Environmental Engineers

Project

Tradepoint Atlantic  
Baltimore, Maryland

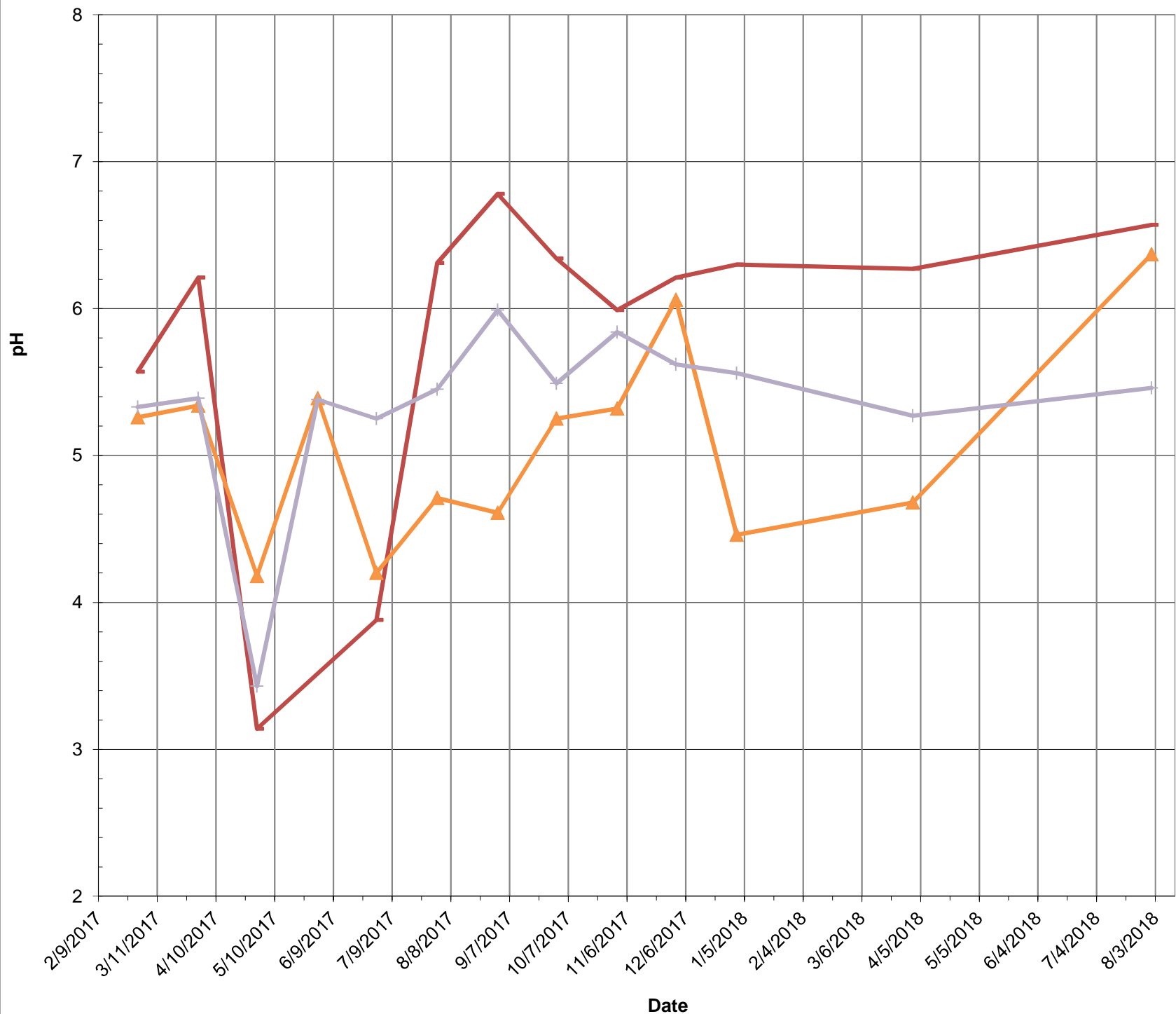
INTERMEDIATE GROUNDWATER  
ZINC CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
July 30, 2018

PE/RG PM DR

Figure

B12



## LEGEND

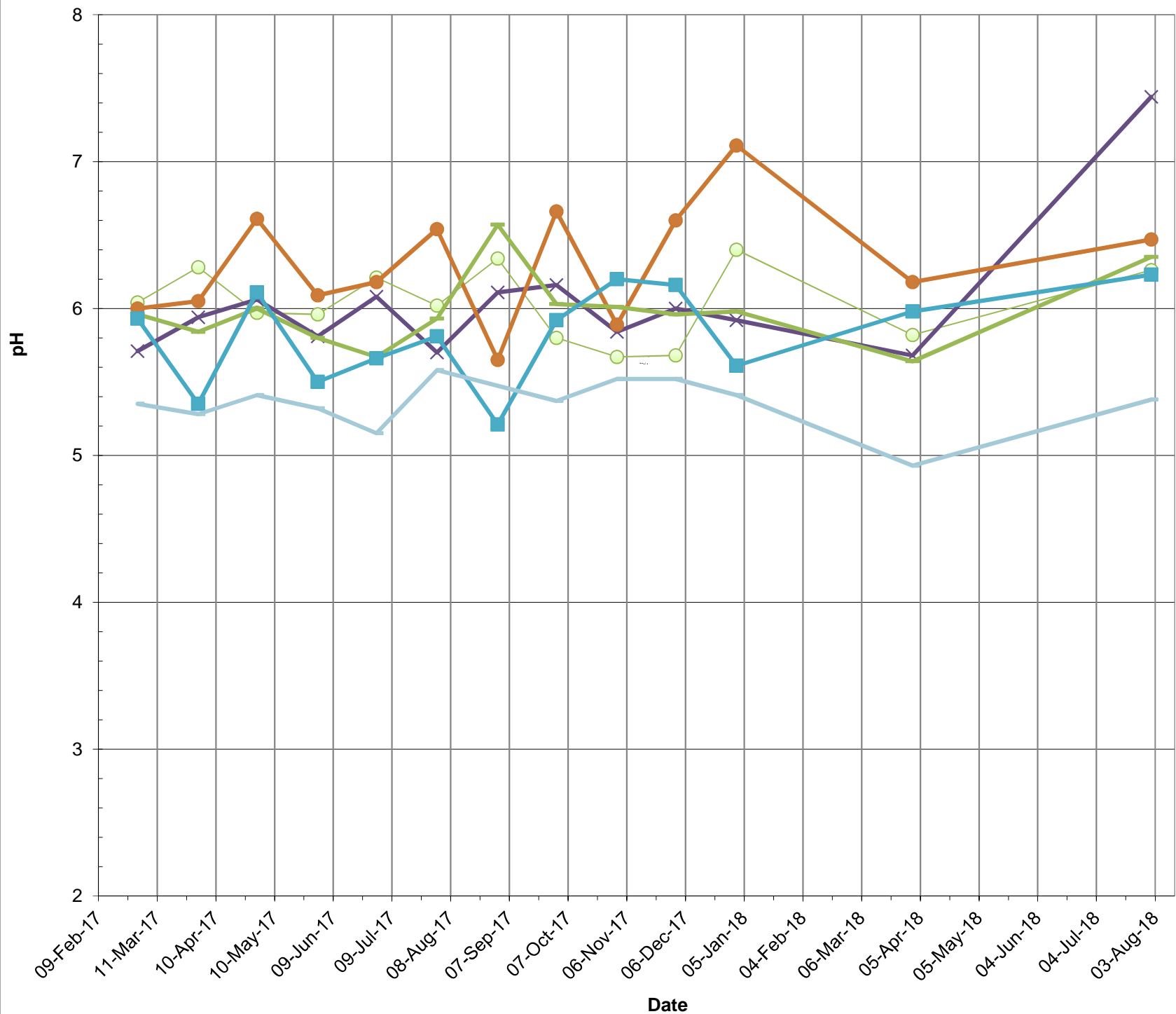
- RW08-MW(I)
- RW12-MW(I)
- RW18-MW(I)



Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date	August 16, 2018	Figure	B13
PE/RG	PM	DR	



# **LEGEND**

- RW03-MW(I)
- RW06-MW(I)
- RW07-MW(I)
- RW09-MW(I)
- RW11-MW(I)
- RW19-MW(I)



Environmental Engineers

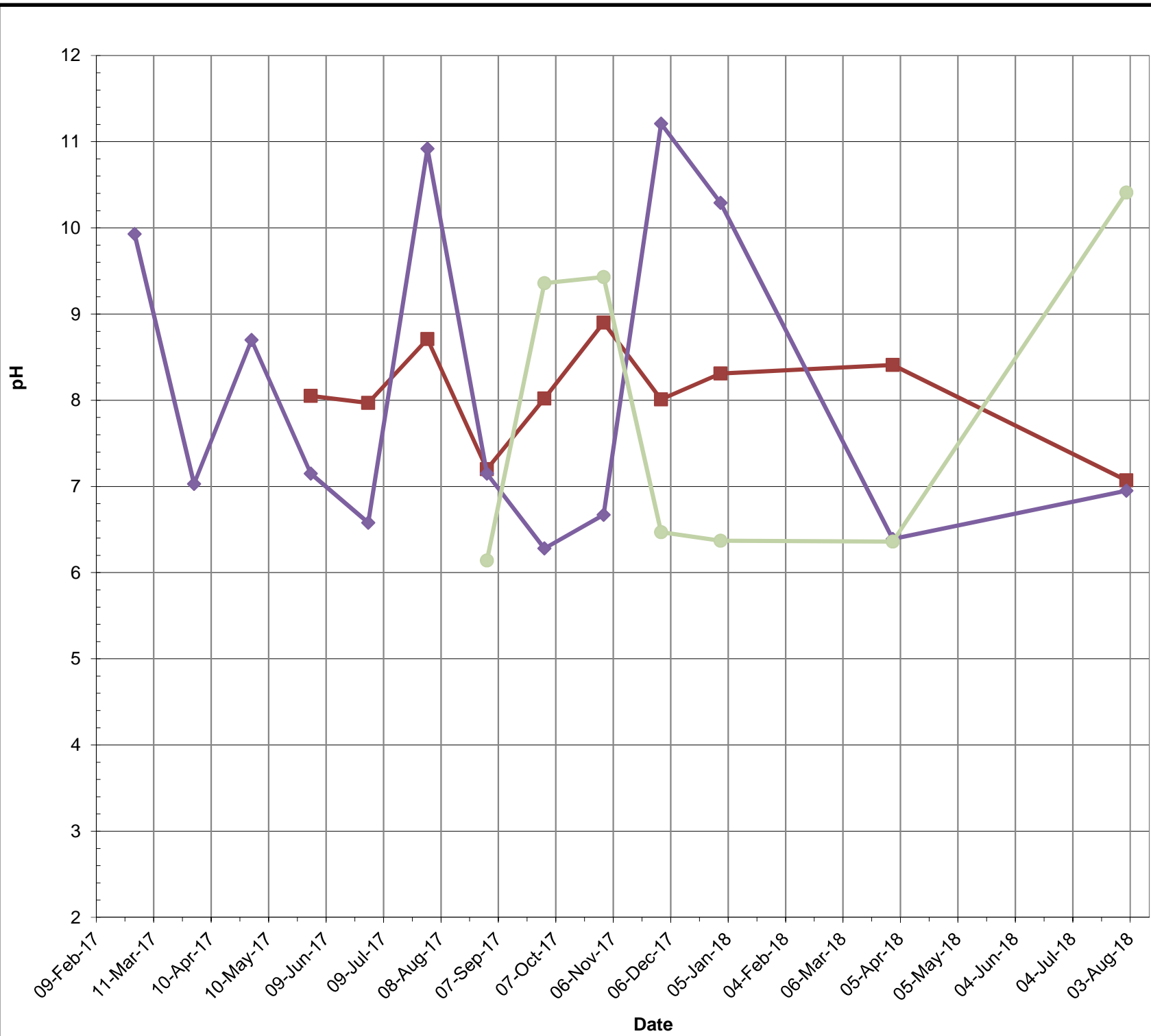
Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 18, 2018

Figure  
B14

PE/RG PM DR



**LEGEND**

- RW05-MW(I)
- RW10-MW(I)
- RW16-MW(I)



Environmental Engineers

Project

Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date

August 18, 2018

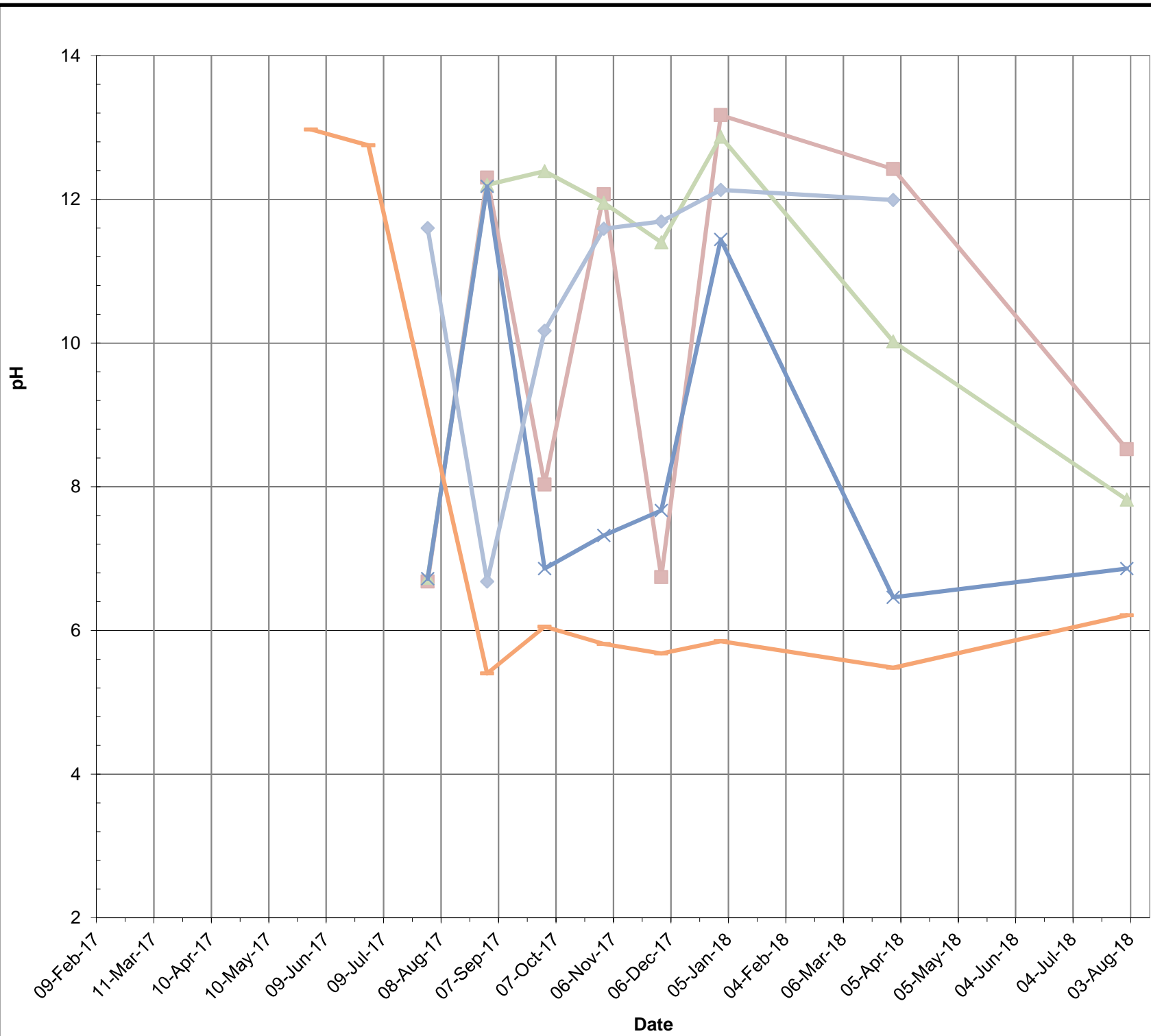
Figure

B15

PE/RG

PM

DR



# **LEGEND**

- RW01-MW(I)
- RW02-MW(I)
- RW13-MW(I)
- RW15-MW(I)
- RW22-MW(I)

EnviroAnalytics  
Group  
Environmental Engineers

Project  
Tradepoint Atlantic  
Baltimore, Maryland

INTERMEDIATE GROUNDWATER  
pH CONCENTRATION  
RWM INTERIM MEASURES  
PROGRESS REPORT

Date  
August 18, 2018

PE/RG PM DR

Figure  
B16

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## **APPENDIX C**

### **Laboratory Data from Recent Sampling**

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## Appendix C Lab Sample ID Conversion Chart

Several wells at the Rod and Wire Mill area of Sparrows Point have undergone name changes at some point during their existence. Specifically, some well names have changed so that they are different from those that were used in the laboratory reports contained in this appendix. The following chart is meant to act as a guide to match up well names used in this appendix with those used in the rest of the report.

<b><u>Well ID in rest of IM Progress Report</u></b>	<b><u>Well ID in this Appendix (Lab Reports)</u></b>
RW01-MW(IA)	RW01-MW(I)
RW01-MW(SA)	RW01-MW(S)
RW02-MW(IA)	RW02-MW(I)
RW02-MW(SA)	RW02-MW(S)
RW05-MW(IA)	RW05-MW(I)
RW15-MW(IA)	RW15-MW(I)
RW15-MW(SA)	RW15-MW(S)
RW17-MW(SA)	RW17-MW(S)
RW15-MW(I)	RW20-MW(I)
RW15-MW(S)	RW20-MW(S)
RW22-MW(I)	RW21-MW(I)
RW05-MW(I)	RW22-MW(I)
RW05-MW(S)	RW22-MW(S)
RW20-MW(S)	RW23-MW(S)
RW17-MW(S)	RW24-MW(S)
RW21-MW(S)	RW25-MW(S)

February 17, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3  
Pace Project No.: 30210492

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Trip Blank sample analysis canceled as no VOC analysis is being performed on any sample.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel A3

Pace Project No.: 30210492

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3

Pace Project No.: 30210492

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30210492001	RW01 - MW (S)	Water	02/10/17 10:47	02/10/17 21:40
30210492002	RW01 - MW (I)	Water	02/10/17 11:34	02/10/17 21:40
30210492003	RW02 - MW (S)	Water	02/10/17 12:20	02/10/17 21:40
30210492004	RW02 - MW (I)	Water	02/10/17 12:50	02/10/17 21:40
30210492005	RW03 - MW (S)	Water	02/10/17 14:50	02/10/17 21:40
30210492006	RW03 - MW (I)	Water	02/10/17 15:35	02/10/17 21:40
30210492007	Trip Blank	Water	02/10/17 00:01	02/10/17 21:40

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3

Pace Project No.: 30210492

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210492001	RW01 - MW (S)	EPA 6010C	PJD	2
30210492002	RW01 - MW (I)	EPA 6010C	PJD	2
30210492003	RW02 - MW (S)	EPA 6010C	PJD	2
30210492004	RW02 - MW (I)	EPA 6010C	PJD	2
30210492005	RW03 - MW (S)	EPA 6010C	PJD	2
30210492006	RW03 - MW (I)	EPA 6010C	PJD	2

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## PROJECT NARRATIVE

Project: Area A Parcel A3

Pace Project No.: 30210492

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 17, 2017

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW01 - MW (S)		Lab ID: 30210492001		Collected: 02/10/17 10:47		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.4J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:34	7440-43-9	
Zinc	<b>13200</b>	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:10	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW01 - MW (I)		Lab ID: 30210492002	Collected: 02/10/17 11:34	Received: 02/10/17 21:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>401</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:36	7440-43-9	
Zinc	<b>12900</b>	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW02 - MW (S)		Lab ID: 30210492003		Collected: 02/10/17 12:20		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.8</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:53	7440-43-9	
Zinc	<b>45200</b>	ug/L	1000	108	100	02/16/17 08:33	02/17/17 01:25	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW02 - MW (I)		Lab ID: 30210492004		Collected: 02/10/17 12:50		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>41.3</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:56	7440-43-9	
Zinc	<b>2740</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:56	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW03 - MW (S)		Lab ID: 30210492005		Collected: 02/10/17 14:50		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.9</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:58	7440-43-9	
Zinc	<b>6200</b>	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3

Pace Project No.: 30210492

Sample: RW03 - MW (I)		Lab ID: 30210492006		Collected: 02/10/17 15:35		Received: 02/10/17 21:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>189</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 01:01	7440-43-9	
Zinc	<b>9740</b>	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:33	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3

Pace Project No.: 30210492

QC Batch: 249474 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30210492001, 30210492002, 30210492003, 30210492004, 30210492005, 30210492006

METHOD BLANK: 1227019 Matrix: Water  
Associated Lab Samples: 30210492001, 30210492002, 30210492003, 30210492004, 30210492005, 30210492006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	02/16/17 23:50	
Zinc	ug/L	10.0 U	10.0	1.1	02/16/17 23:50	

LABORATORY CONTROL SAMPLE: 1227020

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	496	99	80-120	

MATRIX SPIKE SAMPLE: 1227022

Parameter	Units	30210492002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	401	500	926	105	75-125	
Zinc	ug/L	12900	500	13400	112	75-125	

MATRIX SPIKE SAMPLE: 1227024

Parameter	Units	30210609003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.8	500	520	103	75-125	
Zinc	ug/L	1080	500	1490	82	75-125	

SAMPLE DUPLICATE: 1227021

Parameter	Units	30210492002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	401	415	3	20	
Zinc	ug/L	12900	13200	3	20	

SAMPLE DUPLICATE: 1227023

Parameter	Units	30210609003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.8	3.9	2	20	
Zinc	ug/L	1080	1070	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3

Pace Project No.: 30210492

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3

Pace Project No.: 30210492

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30210492001	RW01 - MW (S)	EPA 3005A	249474	EPA 6010C	249566
30210492002	RW01 - MW (I)	EPA 3005A	249474	EPA 6010C	249566
30210492003	RW02 - MW (S)	EPA 3005A	249474	EPA 6010C	249566
30210492004	RW02 - MW (I)	EPA 3005A	249474	EPA 6010C	249566
30210492005	RW03 - MW (S)	EPA 3005A	249474	EPA 6010C	249566
30210492006	RW03 - MW (I)	EPA 3005A	249474	EPA 6010C	249566

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section C  
Invoice Information:

Page: ( ) of ( )

Section B  
Required Project Information:

Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219	PO Number:	FA6-SPT-	Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	icalenda@enviroanalyticsgroup.com	Project Name:	Area A Parcel A3	Pace Quote Reference:	
Phone:	314-620-3056	Project Number:	2-16-17	Pace Project Manager:	Samantha Bayura
Requested Due Date/TAT:	2-16-17			Pace Profile #:	

Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WASTE WATER PRODUCT P SOIL/SOLID SL OIL OL WIPE WIP AIR AR OTHER OT TISSUE TS	SAMPLE ID (A-Z, 0-9 / - / :) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	DATE		TIME	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	Preservatives										Analysis Test ↑	Y/N ↓	VOC/8260B SVOC 8270B DRO/8015B GRO/8015B METALS/6010C Mercury/7471A or 7470A Hexavalent Chromium/7196A Total Cyanide/9012A PCB/8082 (soil) Oil and Grease/1664A (ad) Oil and Grease/9071B (soil) Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.							
			COMPOSITE START	COMPOSITE END/GRAB		DI Water	Methanol					Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	NaOH	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	Unpreserved															
1		RW01 - mw (S)			C	2-10-17	1047		WT	C	1																					001
2		RW01 - mw (I)			C	1-13-17			WT	C	1																					002
3		RW02 - mw (S)			C	1-13-17			WT	C	1																					003
4		RW02 - mw (I)			C	1-13-17			WT	C	1																					004
5		RW03 - mw (S)			C	1-13-17			WT	C	1																					005
6		RW03 - mw (I)			C	1-13-17			WT	C	1																					006
7		BT - waste - char -			C	2-10-17			SL	C	1																					007
8		Trip Blank			C	2-10-17			WT	C	2																					
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
Data Package Required? (Y/N):										
Data Validation Required? (Y/N):										
If data package is required, attach data package checklist.										

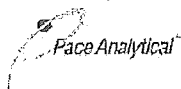
WO#: 30210492



30210492

SAMPLER NAME AND SIGNATURE		Temp In °C	Received on	Custody Sealed	Samples Intact
PRINT Name of SAMPLER:	Lisa Pecan				
SIGNATURE of SAMPLER:	<i>Lisa Pecan</i>				
DATE Signed (MM/DD/YY):	2-10-17				

# Sample Condition Upon Receipt Pittsburgh



Client Name: SPAWNS

Project # 0210492

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used C Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.2 °C Correction Factor: +0.2 °C Final Temp: 2.4 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 2/10/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>INT</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>ARM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		/		16. <u>VOAs received empty</u>
Trip Blank Present:	/			17.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

February 17, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW  
Pace Project No.: 30210609

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30210609001	RW 07-MW(S)	Water	02/13/17 09:25	02/13/17 23:00
30210609002	RW 07-MW(I)	Water	02/13/17 10:20	02/13/17 23:00
30210609003	RW 08-MW(S)	Water	02/13/17 11:20	02/13/17 23:00
30210609004	Duplicate	Water	02/13/17 00:01	02/13/17 23:00
30210609005	RW 08-MW(I)	Water	02/13/17 12:10	02/13/17 23:00
30210609006	RW 09-MW(S)	Water	02/13/17 13:40	02/13/17 23:00
30210609007	RW 09-MW(I)	Water	02/13/17 14:20	02/13/17 23:00
30210609008	RW 11-MW(S)	Water	02/13/17 15:15	02/13/17 23:00
30210609009	Field Blank	Water	02/13/17 16:25	02/13/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210609001	RW 07-MW(S)	EPA 6010C	PJD	2
30210609002	RW 07-MW(I)	EPA 6010C	PJD	2
30210609003	RW 08-MW(S)	EPA 6010C	PJD	2
30210609004	Duplicate	EPA 6010C	PJD	2
30210609005	RW 08-MW(I)	EPA 6010C	PJD	2
30210609006	RW 09-MW(S)	EPA 6010C	PJD	2
30210609007	RW 09-MW(I)	EPA 6010C	PJD	2
30210609008	RW 11-MW(S)	EPA 6010C	PJD	2
30210609009	Field Blank	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW  
Pace Project No.: 30210609

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** February 17, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 07-MW(S)		Lab ID: 30210609001		Collected: 02/13/17 09:25		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:09	7440-43-9	
Zinc	<b>81.6</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:09	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 07-MW(I)		Lab ID: 30210609002		Collected: 02/13/17 10:20		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:11	7440-43-9	
Zinc	<b>944</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:11	7440-66-6	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 08-MW(S)		Lab ID: 30210609003		Collected: 02/13/17 11:20		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.8</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/16/17 23:55	7440-43-9	
Zinc	<b>1080</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/16/17 23:55	7440-66-6	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: Duplicate		Lab ID: 30210609004		Collected: 02/13/17 00:01		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:19	7440-43-9	
Zinc	<b>86.2</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:19	7440-66-6	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 08-MW(I)		Lab ID: 30210609005		Collected: 02/13/17 12:10		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.49J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:22	7440-43-9	
Zinc	<b>178</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:22	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 09-MW(S)		Lab ID: 30210609006		Collected: 02/13/17 13:40		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>22.3</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:24	7440-43-9	
Zinc	<b>14500</b>	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:03	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 09-MW(I)		Lab ID: 30210609007		Collected: 02/13/17 14:20		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.1</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:26	7440-43-9	
Zinc	<b>51000</b>	ug/L	1000	108	100	02/16/17 08:33	02/17/17 01:05	7440-66-6	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Sample: RW 11-MW(S)		Lab ID: 30210609008		Collected: 02/13/17 15:15		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.78J</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:29	7440-43-9	
Zinc	<b>8790</b>	ug/L	100	10.8	10	02/16/17 08:33	02/17/17 01:08	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

<b>Sample: Field Blank</b>		<b>Lab ID: 30210609009</b>		Collected: 02/13/17 16:25		Received: 02/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	02/16/17 08:33	02/17/17 00:31	7440-43-9	
Zinc	<b>3.4J</b>	ug/L	10.0	1.1	1	02/16/17 08:33	02/17/17 00:31	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

QC Batch:	249474	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30210609001, 30210609002, 30210609003, 30210609004, 30210609005, 30210609006, 30210609007, 30210609008, 30210609009		

METHOD BLANK:	1227019	Matrix:	Water
Associated Lab Samples:	30210609001, 30210609002, 30210609003, 30210609004, 30210609005, 30210609006, 30210609007, 30210609008, 30210609009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	02/16/17 23:50	
Zinc	ug/L	10.0 U	10.0	1.1	02/16/17 23:50	

LABORATORY CONTROL SAMPLE:	1227020					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	496	99	80-120	

MATRIX SPIKE SAMPLE:		1227022					
		30210492002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	401	500	926	105	75-125	
Zinc	ug/L	12900	500	13400	112	75-125	

MATRIX SPIKE SAMPLE:	1227024						
		30210609003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	3.8	500	520	103	75-125	
Zinc	ug/L	1080	500	1490	82	75-125	

SAMPLE DUPLICATE:	1227021					
Parameter	Units	30210492002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	401	415	3	20	
Zinc	ug/L	12900	13200	3	20	

SAMPLE DUPLICATE:	1227023					
Parameter	Units	30210609003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.8	3.9	2	20	
Zinc	ug/L	1080	1070	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30210609

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30210609001	RW 07-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609002	RW 07-MW(I)	EPA 3005A	249474	EPA 6010C	249566
30210609003	RW 08-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609004	Duplicate	EPA 3005A	249474	EPA 6010C	249566
30210609005	RW 08-MW(I)	EPA 3005A	249474	EPA 6010C	249566
30210609006	RW 09-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609007	RW 09-MW(I)	EPA 3005A	249474	EPA 6010C	249566
30210609008	RW 11-MW(S)	EPA 3005A	249474	EPA 6010C	249566
30210609009	Field Blank	EPA 3005A	249474	EPA 6010C	249566

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



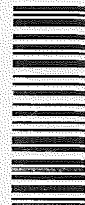
<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219	PO Number:	Awaiting PO	Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	jcalenda@enviroanalyticsgroup.com	Project Name:	Area A Parcel A3 GW	Pace Quote Reference:	
Phone:	314-620-3056	Project Number:	2-17-17	Pace Project Manager:	Samantha Bayura
Requested Due Date/TAT:	2-17-17			Pace Profile #:	

<b>REGULATORY AGENCY</b>	
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA
<input type="checkbox"/> OTHER	
Site Location	MD
STATE:	

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives	Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Pace Project No. / Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB		DATE	TIME											
1	RW07-mw(S)	WTG	G			1													001
2	RW07-mw(I)	WTG	G			1													002
3	RW08-mw(S)	WTG	G			3													ms/msd 003
4	Duplicate	WTG	G			1													004
5	RW08-mw(I)	WTG	G			1													005
6	RW09-mw(S)	WTG	G			1													006
7	RW09-mw(I)	WTG	G			1													007
8	RW11-mw(S)	WTG	G			1													008
9	Field Blank	WTG	C			1													009
10																			
11																			
12																			

<b>ADDITIONAL COMMENTS</b>		<b>RELINQUISHED BY / AFFILIATION</b>		<b>DATE</b>		<b>TIME</b>		<b>ACCEPTED BY / AFFILIATION</b>		<b>DATE</b>		<b>TIME</b>		<b>SAMPLE CONDITIONS</b>	
Data Package Required? (Y/N):		Lisa Perera		2-13-17		1630		Diana S. Williams		2-13-17		1630			
Data Validation Required? (Y/N):		Diana S. Williams		2-13-17		1850		Diana S. Williams		2-13-17		1930			
If data package is required, attach data package checklist.		Diana S. Williams		2-13-17		1730		Diana S. Williams		2-13-17		2300		Y N Y	

WO# : 30210609



\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

## Sample Condition Upon Receipt Pittsburgh

30210609

097A

Pace Analytical

Client Name: EnviroAnd Project # \_\_\_\_\_Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 7 Type of Ice: ☒ Wet ☐ Blue ☐ NoneCooler Temperature Observed Temp 1.9 °C Correction Factor: -0.1 °C Final Temp: 1.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 097A 2-14-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>097A</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

February 22, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30210854001	RW16-MW(S)	Water	02/14/17 09:15	02/15/17 22:00
30210854002	RW16-MW(I)	Water	02/14/17 10:05	02/15/17 22:00
30210854003	RW15-MW(I)	Water	02/14/17 10:55	02/15/17 22:00
30210854004	RW15-MW(S)	Water	02/14/17 11:50	02/15/17 22:00
30210854005	RW19-MW(S)	Water	02/14/17 12:35	02/15/17 22:00
30210854006	RW19-MW(I)	Water	02/14/17 13:15	02/15/17 22:00
30210854007	RW18-MW(I)	Water	02/14/17 15:30	02/15/17 22:00
30210854008	RW10-MW(I)	Water	02/15/17 10:20	02/15/17 22:00
30210854009	RW13-MW(I)	Water	02/15/17 12:10	02/15/17 22:00
30210854010	Duplicate	Water	02/15/17 00:01	02/15/17 22:00
30210854011	Trip Blank	Water	02/15/17 00:01	02/15/17 22:00
30210854012	Field Blank	Water	02/15/17 15:40	02/15/17 22:00
30210854013	RW12-MW(I)	Water	02/15/17 15:18	02/15/17 22:00

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210854001	RW16-MW(S)	EPA 6010C	KAS	2
30210854002	RW16-MW(I)	EPA 6010C	KAS	2
30210854003	RW15-MW(I)	EPA 6010C	KAS	2
30210854004	RW15-MW(S)	EPA 6010C	KAS	2
30210854005	RW19-MW(S)	EPA 6010C	KAS	2
30210854006	RW19-MW(I)	EPA 6010C	KAS	2
30210854007	RW18-MW(I)	EPA 6010C	KAS	2
30210854008	RW10-MW(I)	EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
		EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
30210854009	RW13-MW(I)	EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
		EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
30210854010	Duplicate	EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
		EPA 6010C	KAS	18
		EPA 6010C	PJD	18
		EPA 7470A	PJD	1
		EPA 7470A	PJD	1
		EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
30210854011	Trip Blank	EPA 8260B	LEL	55
30210854012	Field Blank	EPA 6010C	KAS	18
		EPA 7470A	PJD	1

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30210854013	RW12-MW(I)	EPA 8270D by SIM	TMK	20
		EPA 8270D	EAC	62
		EPA 8260B	LEL	55
		EPA 7196A	PAS	1
		EPA 9012B	LEP	1
		EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** February 22, 2017

### General Information:

12 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 249761

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 1229013)
  - Aluminum
  - Antimony

### Additional Comments:

Batch Comments:

- Cd and Zn failed for the serial dilution.
- QC Batch: 249839

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- BLANK (Lab ID: 1229011)

- Silver
- Aluminum
- Arsenic
- Barium
- Beryllium
- Cadmium
- Cobalt
- Chromium
- Copper
- Iron
- Manganese
- Nickel
- Lead
- Antimony
- Selenium
- Thallium
- Vanadium
- Zinc

- DUP (Lab ID: 1229013)

- Silver
- Aluminum
- Arsenic
- Barium
- Beryllium
- Cadmium
- Cobalt
- Chromium
- Copper
- Iron
- Manganese
- Nickel
- Lead
- Antimony
- Selenium
- Thallium
- Vanadium
- Zinc

- DUP (Lab ID: 1229016)

- Silver
- Aluminum
- Arsenic
- Barium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- DUP (Lab ID: 1229016)
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium
  - Copper
  - Iron
  - Manganese
  - Nickel
  - Lead
  - Antimony
  - Selenium
  - Thallium
  - Vanadium
  - Zinc
- Duplicate (Lab ID: 30210854010)
  - Silver
  - Aluminum
  - Arsenic
  - Barium
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium
  - Copper
  - Iron
  - Manganese
  - Nickel
  - Lead
  - Antimony
  - Selenium
  - Thallium
  - Vanadium
  - Zinc
- Field Blank (Lab ID: 30210854012)
  - Silver
  - Aluminum
  - Arsenic
  - Barium
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- Field Blank (Lab ID: 30210854012)

- Copper
- Iron
- Manganese
- Nickel
- Lead
- Antimony
- Selenium
- Thallium
- Vanadium
- Zinc

- LCS (Lab ID: 1229012)

- Silver
- Aluminum
- Arsenic
- Barium
- Beryllium
- Cadmium
- Cobalt
- Chromium
- Copper
- Iron
- Manganese
- Nickel
- Lead
- Antimony
- Selenium
- Thallium
- Vanadium
- Zinc

- MS (Lab ID: 1229014)

- Silver
- Aluminum
- Arsenic
- Barium
- Beryllium
- Cadmium
- Cobalt
- Chromium
- Copper
- Iron
- Manganese
- Nickel

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- MS (Lab ID: 1229014)
  - Lead
  - Antimony
  - Selenium
  - Thallium
  - Vanadium
  - Zinc
- MS (Lab ID: 1229017)
  - Silver
  - Aluminum
  - Arsenic
  - Barium
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium
  - Copper
  - Iron
  - Manganese
  - Nickel
  - Lead
  - Antimony
  - Selenium
  - Thallium
  - Vanadium
  - Zinc
- MSD (Lab ID: 1229015)
  - Silver
  - Aluminum
  - Arsenic
  - Barium
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium
  - Copper
  - Iron
  - Manganese
  - Nickel
  - Lead
  - Antimony
  - Selenium
  - Thallium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- MSD (Lab ID: 1229015)
  - Vanadium
  - Zinc
- RW10-MW(I) (Lab ID: 30210854008)
  - Silver
  - Aluminum
  - Arsenic
  - Barium
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium
  - Copper
  - Iron
  - Manganese
  - Nickel
  - Lead
  - Antimony
  - Selenium
  - Thallium
  - Vanadium
  - Zinc
- RW12-MW(I) (Lab ID: 30210854013)
  - Cadmium
  - Zinc
- RW13-MW(I) (Lab ID: 30210854009)
  - Silver
  - Aluminum
  - Arsenic
  - Barium
  - Beryllium
  - Cadmium
  - Cobalt
  - Chromium
  - Copper
  - Iron
  - Manganese
  - Nickel
  - Lead
  - Antimony
  - Selenium
  - Thallium
  - Vanadium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249761

1c: Cd and Zn failed for the serial dilution.

- RW13-MW(I) (Lab ID: 30210854009)
  - Zinc
- RW15-MW(I) (Lab ID: 30210854003)
  - Cadmium
  - Zinc
- RW15-MW(S) (Lab ID: 30210854004)
  - Cadmium
  - Zinc
- RW16-MW(I) (Lab ID: 30210854002)
  - Cadmium
  - Zinc
- RW16-MW(S) (Lab ID: 30210854001)
  - Cadmium
  - Zinc
- RW18-MW(I) (Lab ID: 30210854007)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30210854006)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30210854005)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP,Dissolved  
**Client:** EnviroAnalytics Group, LLC  
**Date:** February 22, 2017

### General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Serial dilution failed for Ni and Zinc
- QC Batch: 249814

Analyte Comments:

QC Batch: 249737

- 2c: Serial dilution failed for Ni and Zinc
- BLANK (Lab ID: 1228946)
  - Silver, Dissolved
  - Aluminum, Dissolved
  - Arsenic, Dissolved
  - Barium, Dissolved
  - Beryllium, Dissolved
  - Cadmium, Dissolved

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP,Dissolved

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- BLANK (Lab ID: 1228946)
  - Cobalt, Dissolved
  - Chromium, Dissolved
  - Copper, Dissolved
  - Iron, Dissolved
  - Manganese, Dissolved
  - Nickel, Dissolved
  - Lead, Dissolved
  - Antimony, Dissolved
  - Selenium, Dissolved
  - Thallium, Dissolved
  - Vanadium, Dissolved
  - Zinc, Dissolved
- DUP (Lab ID: 1228948)
  - Silver, Dissolved
  - Aluminum, Dissolved
  - Arsenic, Dissolved
  - Barium, Dissolved
  - Beryllium, Dissolved
  - Cadmium, Dissolved
  - Cobalt, Dissolved
  - Chromium, Dissolved
  - Copper, Dissolved
  - Iron, Dissolved
  - Manganese, Dissolved
  - Nickel, Dissolved
  - Lead, Dissolved
  - Antimony, Dissolved
  - Selenium, Dissolved
  - Thallium, Dissolved
  - Vanadium, Dissolved
  - Zinc, Dissolved
- Duplicate (Lab ID: 30210854010)
  - Silver, Dissolved
  - Aluminum, Dissolved
  - Arsenic, Dissolved
  - Barium, Dissolved
  - Beryllium, Dissolved
  - Cadmium, Dissolved
  - Cobalt, Dissolved
  - Chromium, Dissolved
  - Copper, Dissolved
  - Iron, Dissolved

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP,Dissolved

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- Duplicate (Lab ID: 30210854010)

- Manganese, Dissolved
- Nickel, Dissolved
- Lead, Dissolved
- Antimony, Dissolved
- Selenium, Dissolved
- Thallium, Dissolved
- Vanadium, Dissolved
- Zinc, Dissolved

- LCS (Lab ID: 1228947)

- Silver, Dissolved
- Aluminum, Dissolved
- Arsenic, Dissolved
- Barium, Dissolved
- Beryllium, Dissolved
- Cadmium, Dissolved
- Cobalt, Dissolved
- Chromium, Dissolved
- Copper, Dissolved
- Iron, Dissolved
- Manganese, Dissolved
- Nickel, Dissolved
- Lead, Dissolved
- Antimony, Dissolved
- Selenium, Dissolved
- Thallium, Dissolved
- Vanadium, Dissolved
- Zinc, Dissolved

- MS (Lab ID: 1228949)

- Silver, Dissolved
- Aluminum, Dissolved
- Arsenic, Dissolved
- Barium, Dissolved
- Beryllium, Dissolved
- Cadmium, Dissolved
- Cobalt, Dissolved
- Chromium, Dissolved
- Copper, Dissolved
- Iron, Dissolved
- Manganese, Dissolved
- Nickel, Dissolved
- Lead, Dissolved
- Antimony, Dissolved

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP,Dissolved

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- MS (Lab ID: 1228949)
  - Selenium, Dissolved
  - Thallium, Dissolved
  - Vanadium, Dissolved
  - Zinc, Dissolved
- MSD (Lab ID: 1228950)
  - Silver, Dissolved
  - Aluminum, Dissolved
  - Arsenic, Dissolved
  - Barium, Dissolved
  - Beryllium, Dissolved
  - Cadmium, Dissolved
  - Cobalt, Dissolved
  - Chromium, Dissolved
  - Copper, Dissolved
  - Iron, Dissolved
  - Manganese, Dissolved
  - Nickel, Dissolved
  - Lead, Dissolved
  - Antimony, Dissolved
  - Selenium, Dissolved
  - Thallium, Dissolved
  - Vanadium, Dissolved
  - Zinc, Dissolved
- RW10-MW(I) (Lab ID: 30210854008)
  - Silver, Dissolved
  - Aluminum, Dissolved
  - Arsenic, Dissolved
  - Barium, Dissolved
  - Beryllium, Dissolved
  - Cadmium, Dissolved
  - Cobalt, Dissolved
  - Chromium, Dissolved
  - Copper, Dissolved
  - Iron, Dissolved
  - Manganese, Dissolved
  - Nickel, Dissolved
  - Lead, Dissolved
  - Antimony, Dissolved
  - Selenium, Dissolved
  - Thallium, Dissolved
  - Vanadium, Dissolved
  - Zinc, Dissolved

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP,Dissolved

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249737

2c: Serial dilution failed for Ni and Zinc

- RW13-MW(I) (Lab ID: 30210854009)
  - Silver, Dissolved
  - Aluminum, Dissolved
  - Arsenic, Dissolved
  - Barium, Dissolved
  - Beryllium, Dissolved
  - Cadmium, Dissolved
  - Cobalt, Dissolved
  - Chromium, Dissolved
  - Copper, Dissolved
  - Iron, Dissolved
  - Manganese, Dissolved
  - Nickel, Dissolved
  - Lead, Dissolved
  - Antimony, Dissolved
  - Selenium, Dissolved
  - Thallium, Dissolved
  - Vanadium, Dissolved
  - Zinc, Dissolved

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 7470A

**Description:** 7470 Mercury

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

### General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 7470A

**Description:** 7470 Mercury, Dissolved

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

### General Information:

3 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

---

**Method:** EPA 8270D by SIM  
**Description:** 8270D MSSV PAH by SIM  
**Client:** EnviroAnalytics Group, LLC  
**Date:** February 22, 2017

### General Information:

4 samples were analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 249730

B: Analyte was detected in the associated method blank.

- BLANK for HBN 249730 [OEXT/310 (Lab ID: 1228917)]
- Naphthalene

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 8270D

**Description:** 8270D MSSV Organics

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

### General Information:

4 samples were analyzed for EPA 8270D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

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**Method:** EPA 8260B  
**Description:** 8260B MSV  
**Client:** EnviroAnalytics Group, LLC  
**Date:** February 22, 2017

### General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 249543

B: Analyte was detected in the associated method blank.

- BLANK for HBN 249543 [MSV/3274 (Lab ID: 1227273)]
- Acetone

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

Analyte Comments:

QC Batch: 249543

C9: Common Laboratory Contaminant.

- BLANK (Lab ID: 1227273)
- Acetone
- Methylene Chloride

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

**Method:** EPA 7196A

**Description:** 7196 Chromium, Hexavalent

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

### General Information:

4 samples were analyzed for EPA 7196A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

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**Method:** EPA 9012B

**Description:** 9012B Cyanide, Total

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

### General Information:

4 samples were analyzed for EPA 9012B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 9012B with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample: RW16-MW(S)**      **Lab ID: 30210854001**      Collected: 02/14/17 09:15      Received: 02/15/17 22:00      Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>22.9</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:45	7440-43-9	1c
Zinc	<b>3370</b>	ug/L	10.0	1.1	1	02/20/17 11:01	02/21/17 18:45	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample: RW16-MW(I)**      **Lab ID: 30210854002**      Collected: 02/14/17 10:05      Received: 02/15/17 22:00      Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>12.1</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:47	7440-43-9	1c
Zinc	<b>86300</b>	ug/L	1000	108	100	02/20/17 11:01	02/21/17 19:03	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW15-MW(I) **Lab ID:** 30210854003 Collected: 02/14/17 10:55 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>103</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:50	7440-43-9	1c
Zinc	<b>92600</b>	ug/L	1000	108	100	02/20/17 11:01	02/21/17 19:05	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample: RW15-MW(S)**      **Lab ID: 30210854004**      Collected: 02/14/17 11:50      Received: 02/15/17 22:00      Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>44.7</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:52	7440-43-9	1c
Zinc	<b>3470</b>	ug/L	10.0	1.1	1	02/20/17 11:01	02/21/17 18:52	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample: RW19-MW(S)**      **Lab ID: 30210854005**      Collected: 02/14/17 12:35      Received: 02/15/17 22:00      Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>14.8</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:54	7440-43-9	1c
Zinc	<b>10100</b>	ug/L	1000	108	100	02/20/17 11:01	02/21/17 19:07	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW19-MW(I) **Lab ID:** 30210854006 Collected: 02/14/17 13:15 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3760</b>	ug/L	300	34.4	100	02/20/17 11:01	02/21/17 19:15	7440-43-9	1c
Zinc	<b>5900000</b>	ug/L	50000	5400	5000	02/20/17 11:01	02/22/17 01:04	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW18-MW(I) **Lab ID:** 30210854007 Collected: 02/14/17 15:30 Received: 02/15/17 22:00 Matrix: Water

Comments: • Sample time of collection on bottle did not match COC. Revised COC provided.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>70.3</b>	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 19:00	7440-43-9	1c
Zinc	<b>728000</b>	ug/L	5000	540	500	02/20/17 11:01	02/21/17 21:45	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW10-MW(I) Lab ID: 30210854008 Collected: 02/15/17 10:20 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	80.7	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 17:01	7429-90-5	1c
Antimony	6.0 U	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 17:01	7440-36-0	1c
Arsenic	15.0	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:01	7440-38-2	1c
Barium	98.1	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 17:01	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 17:01	7440-41-7	1c
Cadmium	446	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 17:01	7440-43-9	1c
Chromium	5.0 U	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 17:01	7440-47-3	1c
Cobalt	57.4	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 17:01	7440-48-4	1c
Copper	5.0 U	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 17:01	7440-50-8	1c
Iron	148000	ug/L	7000	984	100	02/20/17 11:01	02/21/17 21:21	7439-89-6	1c
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:01	7439-92-1	1c
Manganese	10300	ug/L	500	70.7	100	02/20/17 11:01	02/21/17 21:21	7439-96-5	1c
Nickel	33.3	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 17:01	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 17:01	7782-49-2	1c
Silver	1.5J	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 17:01	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 17:01	7440-28-0	1c
Vanadium	5.0 U	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 17:01	7440-62-2	1c
Zinc	104000	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:21	7440-66-6	1c
<b>6010C MET ICP,Dissolved</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Iron, Dissolved	164000	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:34	7439-89-6	2c
Manganese, Dissolved	11100	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:34	7439-96-5	2c
Zinc, Dissolved	111000	ug/L	1000	108	100	02/20/17 08:25	02/20/17 23:34	7440-66-6	2c
Aluminum, Dissolved	50.0 U	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:41	7429-90-5	2c
Antimony, Dissolved	6.0 U	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:41	7440-36-0	2c
Arsenic, Dissolved	13.9	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:41	7440-38-2	2c
Barium, Dissolved	98.3	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:41	7440-39-3	2c
Beryllium, Dissolved	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:41	7440-41-7	2c
Cadmium, Dissolved	455	ug/L	3.0	0.34	1	02/20/17 08:25	02/20/17 22:41	7440-43-9	2c
Chromium, Dissolved	5.0 U	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:41	7440-47-3	2c
Cobalt, Dissolved	59.3	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:41	7440-48-4	2c
Copper, Dissolved	5.0 U	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:41	7440-50-8	2c
Lead, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:41	7439-92-1	2c
Nickel, Dissolved	37.0	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:41	7440-02-0	2c
Selenium, Dissolved	8.0 U	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:41	7782-49-2	2c
Silver, Dissolved	2.4J	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:41	7440-22-4	2c
Thallium, Dissolved	10.0 U	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:41	7440-28-0	2c
Vanadium, Dissolved	5.0 U	ug/L	5.0	0.27	1	02/20/17 08:25	02/20/17 22:41	7440-62-2	2c
<b>7470 Mercury</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:56	7439-97-6	
<b>7470 Mercury, Dissolved</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.20 U	ug/L	0.20	0.017	1	02/20/17 11:59	02/21/17 00:18	7439-97-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW10-MW(I) Lab ID: 30210854008 Collected: 02/15/17 10:20 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	83-32-9	
Acenaphthylene	0.10 U	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 21:34	208-96-8	
Anthracene	0.030J	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:34	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 21:34	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 21:34	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 21:34	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:34	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 21:34	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:34	53-70-3	
1,4-Dioxane (p-Dioxane)	1.0	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 19:36	123-91-1	
Fluoranthene	0.018J	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:34	206-44-0	
Fluorene	0.019J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:34	193-39-5	
2-Methylnaphthalene	0.11	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 21:34	91-57-6	
Naphthalene	5.5	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 21:34	91-20-3	
Phenanthrene	0.023J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:34	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:34	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	49	%	19-123		1	02/20/17 08:38	02/20/17 21:34	321-60-8	
Terphenyl-d14 (S)	86	%	58-130		1	02/20/17 08:38	02/20/17 21:34	1718-51-0	
<b>8270D MSSV Organics</b> Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Acenaphthene	0.56J	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:34	83-32-9	
Acenaphthylene	0.91J	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:34	208-96-8	
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 18:34	120-12-7	
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 18:34	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:34	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:34	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 18:34	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	92-52-4	
Caprolactam	1.1J	ug/L	2.5	0.14	1	02/20/17 08:38	02/20/17 18:34	105-60-2	
Carbazole	3.4	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:34	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 18:34	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 18:34	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	91-58-7	
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	95-57-8	
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:34	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.59	1	02/20/17 08:38	02/20/17 18:34	91-94-1	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 18:34	120-83-2	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

Sample: RW10-MW(I) Lab ID: 30210854008 Collected: 02/15/17 10:20 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV Organics</b> Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Diethylphthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:34	84-66-2	
2,4-Dimethylphenol	1.0 U	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 18:34	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 18:34	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.69	1	02/20/17 08:38	02/20/17 18:34	121-14-2	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 18:34	606-20-2	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 18:34	117-84-0	
bis(2-Ethylhexyl)phthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:34	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:34	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:34	86-73-7	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	87-68-3	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 18:34	118-74-1	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 18:34	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	67-72-1	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:34	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	78-59-1	
2-Methylnaphthalene	1.6	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:34	91-57-6	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:34	95-48-7	
3&4-Methylphenol(m&p Cresol)	14.7	ug/L	2.0	0.47	1	02/20/17 08:38	02/20/17 18:34		
Naphthalene	7.5	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 18:34	91-20-3	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 18:34	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 18:34	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	98-95-3	
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:34	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 18:34	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.64	1	02/20/17 08:38	02/20/17 18:34	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 18:34	85-01-8	
Phenol	0.56J	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 18:34	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:34	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:34	95-94-3	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 18:34	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.62	1	02/20/17 08:38	02/20/17 18:34	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 18:34	88-06-2	
<b>Surrogates</b>									
Nitrobenzene-d5 (S)	48	%	16-112		1	02/20/17 08:38	02/20/17 18:34	4165-60-0	
2-Fluorobiphenyl (S)	39	%	18-115		1	02/20/17 08:38	02/20/17 18:34	321-60-8	
Terphenyl-d14 (S)	65	%	54-118		1	02/20/17 08:38	02/20/17 18:34	1718-51-0	
Phenol-d6 (S)	20	%	10-48		1	02/20/17 08:38	02/20/17 18:34	13127-88-3	
2-Fluorophenol (S)	30	%	10-76		1	02/20/17 08:38	02/20/17 18:34	367-12-4	
2,4,6-Tribromophenol (S)	60	%	27-129		1	02/20/17 08:38	02/20/17 18:34	118-79-6	
<b>8260B MSV</b> Analytical Method: EPA 8260B									
Acetone	12.1	ug/L	10.0	3.5	1		02/17/17 00:34	67-64-1	B
Benzene	2.3	ug/L	1.0	0.21	1		02/17/17 00:34	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:34	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:34	75-25-2	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW10-MW(I)		Lab ID: 30210854008		Collected: 02/15/17 10:20		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:34	74-83-9	
2-Butanone (MEK)	8.9J	ug/L	10.0	2.4	1		02/17/17 00:34	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:34	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 00:34	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:34	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 00:34	75-00-3	
Chloroform	0.76J	ug/L	1.0	0.40	1		02/17/17 00:34	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 00:34	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 00:34	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 00:34	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:34	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 00:34	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:34	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 00:34	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:34	75-71-8	
1,1-Dichloroethane	3.0	ug/L	1.0	0.37	1		02/17/17 00:34	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:34	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/17/17 00:34	540-59-0	
1,1-Dichloroethene	0.26J	ug/L	1.0	0.20	1		02/17/17 00:34	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/17/17 00:34	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:34	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:34	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:34	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:34	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:34	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 00:34	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 00:34	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 00:34	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 00:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 00:34	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	1634-04-4	
Styrene	1.3	ug/L	1.0	0.17	1		02/17/17 00:34	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 00:34	127-18-4	
Toluene	1.5	ug/L	1.0	0.21	1		02/17/17 00:34	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 00:34	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:34	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:34	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:34	79-00-5	
Trichloroethene	0.28J	ug/L	1.0	0.20	1		02/17/17 00:34	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 00:34	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 00:34	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/17/17 00:34	75-01-4	
Xylene (Total)	3.4	ug/L	3.0	0.47	1		02/17/17 00:34	1330-20-7	
m&p-Xylene	1.4J	ug/L	2.0	0.28	1		02/17/17 00:34	179601-23-1	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW10-MW(I)		Lab ID: 30210854008		Collected: 02/15/17 10:20		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
o-Xylene	2.0	ug/L	1.0	0.19	1		02/17/17 00:34	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	78-117		1		02/17/17 00:34	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-128		1		02/17/17 00:34	17060-07-0	
Toluene-d8 (S)	100	%	59-140		1		02/17/17 00:34	2037-26-5	
Dibromofluoromethane (S)	96	%	66-132		1		02/17/17 00:34	1868-53-7	
<b>7196 Chromium, Hexavalent</b>		Analytical Method: EPA 7196A							
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:01	18540-29-9	
<b>9012B Cyanide, Total</b>		Analytical Method: EPA 9012B Preparation Method: EPA 9012B							
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:38	57-12-5	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW13-MW(I) **Lab ID:** 30210854009 **Collected:** 02/15/17 12:10 **Received:** 02/15/17 22:00 **Matrix:** Water

**Comments:** • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	66.3	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 16:45	7429-90-5	1c, D6
Antimony	18.8	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 16:45	7440-36-0	1c, D6
Arsenic	7.0	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 16:45	7440-38-2	1c
Barium	31.3	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 16:45	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 16:45	7440-41-7	1c
Cadmium	54900	ug/L	3000	344	1000	02/20/17 11:01	02/22/17 01:10	7440-43-9	1c, ML
Chromium	5.0 U	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 16:45	7440-47-3	1c
Cobalt	444	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 16:45	7440-48-4	1c
Copper	5.0 U	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 16:45	7440-50-8	1c
Iron	377000	ug/L	70000	9840	1000	02/20/17 11:01	02/22/17 01:10	7439-89-6	1c, ML
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 16:45	7439-92-1	1c
Manganese	24800	ug/L	5000	707	1000	02/20/17 11:01	02/22/17 01:10	7439-96-5	1c, ML
Nickel	297	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 16:45	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 16:45	7782-49-2	1c
Silver	5.7J	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 16:45	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 16:45	7440-28-0	1c
Vanadium	25.0 U	ug/L	25.0	1.4	5	02/20/17 11:01	02/21/17 17:45	7440-62-2	1c
Zinc	600000	ug/L	10000	1080	1000	02/20/17 11:01	02/22/17 01:10	7440-66-6	1c, ML
<b>6010C MET ICP, Dissolved</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Vanadium, Dissolved	25.0 U	ug/L	25.0	1.4	5	02/20/17 08:25	02/20/17 22:58	7440-62-2	2c
Zinc, Dissolved	677000	ug/L	10000	1080	1000	02/20/17 08:25	02/20/17 23:39	7440-66-6	2c, ML
Aluminum, Dissolved	50.0 U	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:25	7429-90-5	2c
Antimony, Dissolved	11.0	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:25	7440-36-0	2c
Arsenic, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:25	7440-38-2	2c
Barium, Dissolved	33.9	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:25	7440-39-3	2c
Beryllium, Dissolved	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:25	7440-41-7	2c
Chromium, Dissolved	5.0 U	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:25	7440-47-3	2c
Cobalt, Dissolved	417	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:25	7440-48-4	2c
Copper, Dissolved	5.0 U	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:25	7440-50-8	2c
Lead, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:25	7439-92-1	2c
Nickel, Dissolved	293	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:25	7440-02-0	2c
Selenium, Dissolved	8.0 U	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:25	7782-49-2	2c
Silver, Dissolved	7.9	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:25	7440-22-4	2c
Thallium, Dissolved	10.0 U	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:25	7440-28-0	2c
Cadmium, Dissolved	66300	ug/L	300	34.4	100	02/20/17 08:25	02/20/17 23:08	7440-43-9	2c, MH, ML
Iron, Dissolved	484000	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:08	7439-89-6	2c, MH, ML
Manganese, Dissolved	27800	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:08	7439-96-5	2c, MH, ML
<b>7470 Mercury</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:47	7439-97-6	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW13-MW(I) **Lab ID:** 30210854009 **Collected:** 02/15/17 12:10 **Received:** 02/15/17 22:00 **Matrix:** Water

**Comments:** • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>7470 Mercury, Dissolved</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<b>0.20 U</b>	ug/L	0.20	0.017	1	02/20/17 11:59	02/21/17 00:08	7439-97-6	
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	<b>0.60</b>	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	83-32-9	ML
Acenaphthylene	<b>1.2</b>	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 21:52	208-96-8	ML
Anthracene	<b>0.034J</b>	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:52	120-12-7	
Benzo(a)anthracene	<b>0.10 U</b>	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 21:52	56-55-3	
Benzo(a)pyrene	<b>0.10 U</b>	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 21:52	50-32-8	
Benzo(b)fluoranthene	<b>0.10 U</b>	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	205-99-2	
Benzo(g,h,i)perylene	<b>0.10 U</b>	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 21:52	191-24-2	
Benzo(k)fluoranthene	<b>0.10 U</b>	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:52	207-08-9	
Chrysene	<b>0.10 U</b>	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 21:52	218-01-9	
Dibenz(a,h)anthracene	<b>0.10 U</b>	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:52	53-70-3	
1,4-Dioxane (p-Dioxane)	<b>1.1</b>	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 20:03	123-91-1	
Fluoranthene	<b>0.10 U</b>	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 21:52	206-44-0	
Fluorene	<b>0.10 U</b>	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>0.10 U</b>	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 21:52	193-39-5	
2-Methylnaphthalene	<b>1.5</b>	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 21:52	91-57-6	ML
Naphthalene	<b>6.6</b>	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 21:52	91-20-3	ML
Phenanthrene	<b>0.019J</b>	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 21:52	85-01-8	
Pyrene	<b>0.10 U</b>	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 21:52	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	51	%	19-123		1	02/20/17 08:38	02/20/17 21:52	321-60-8	
Terphenyl-d14 (S)	88	%	58-130		1	02/20/17 08:38	02/20/17 21:52	1718-51-0	
<b>8270D MSSV Organics</b> Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Acenaphthene	<b>1.0 U</b>	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:56	83-32-9	ML
Acenaphthylene	<b>1.0 U</b>	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:56	208-96-8	ML
Acetophenone	<b>1.0 U</b>	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	98-86-2	
Anthracene	<b>1.0 U</b>	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 18:56	120-12-7	ML
Benzaldehyde	<b>1.0 U</b>	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 18:56	100-52-7	
Benzo(a)anthracene	<b>1.0 U</b>	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 18:56	56-55-3	
Benzo(a)pyrene	<b>1.0 U</b>	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	50-32-8	
Benzo(b)fluoranthene	<b>1.0 U</b>	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:56	205-99-2	
Benzo(g,h,i)perylene	<b>1.0 U</b>	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 18:56	191-24-2	
Benzo(k)fluoranthene	<b>1.0 U</b>	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	207-08-9	
Biphenyl (Diphenyl)	<b>1.0 U</b>	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	92-52-4	ML
Caprolactam	<b>2.5 U</b>	ug/L	2.5	0.15	1	02/20/17 08:38	02/20/17 18:56	105-60-2	
Carbazole	<b>0.14J</b>	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:56	86-74-8	
4-Chloroaniline	<b>1.0 U</b>	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 18:56	106-47-8	
bis(2-Chloroethoxy)methane	<b>1.0 U</b>	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	111-91-1	
bis(2-Chloroethyl) ether	<b>1.0 U</b>	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 18:56	111-44-4	
bis(2-Chloroisopropyl) ether	<b>1.0 U</b>	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	108-60-1	
2-Chloronaphthalene	<b>1.0 U</b>	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	91-58-7	ML
2-Chlorophenol	<b>1.0 U</b>	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	95-57-8	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW13-MW(I) **Lab ID:** 30210854009 **Collected:** 02/15/17 12:10 **Received:** 02/15/17 22:00 **Matrix:** Water

**Comments:** • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV Organics</b> Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 18:56	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 18:56	91-94-1	ML
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 18:56	120-83-2	
Diethylphthalate	0.26J	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:56	84-66-2	ML
2,4-Dimethylphenol	1.0J	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 18:56	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 18:56	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.70	1	02/20/17 08:38	02/20/17 18:56	121-14-2	ML
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 18:56	606-20-2	ML
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 18:56	117-84-0	
bis(2-Ethylhexyl)phthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 18:56	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 18:56	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 18:56	86-73-7	ML
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	87-68-3	ML
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 18:56	118-74-1	ML
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 18:56	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	67-72-1	ML
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 18:56	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	78-59-1	
2-Methylnaphthalene	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:56	91-57-6	ML
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 18:56	95-48-7	
3&4-Methylphenol(m&p Cresol)	4.6	ug/L	2.0	0.48	1	02/20/17 08:38	02/20/17 18:56		
Naphthalene	5.5	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 18:56	91-20-3	ML
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 18:56	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 18:56	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	98-95-3	
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 18:56	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 18:56	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.65	1	02/20/17 08:38	02/20/17 18:56	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 18:56	85-01-8	ML
Phenol	0.27J	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 18:56	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 18:56	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 18:56	95-94-3	ML
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 18:56	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.63	1	02/20/17 08:38	02/20/17 18:56	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 18:56	88-06-2	
<b>Surrogates</b>									
Nitrobenzene-d5 (S)	47	%	16-112		1	02/20/17 08:38	02/20/17 18:56	4165-60-0	
2-Fluorobiphenyl (S)	41	%	18-115		1	02/20/17 08:38	02/20/17 18:56	321-60-8	
Terphenyl-d14 (S)	65	%	54-118		1	02/20/17 08:38	02/20/17 18:56	1718-51-0	
Phenol-d6 (S)	21	%	10-48		1	02/20/17 08:38	02/20/17 18:56	13127-88-3	
2-Fluorophenol (S)	29	%	10-76		1	02/20/17 08:38	02/20/17 18:56	367-12-4	
2,4,6-Tribromophenol (S)	61	%	27-129		1	02/20/17 08:38	02/20/17 18:56	118-79-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW13-MW(I) **Lab ID:** 30210854009 **Collected:** 02/15/17 12:10 **Received:** 02/15/17 22:00 **Matrix:** Water

**Comments:** • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b> Analytical Method: EPA 8260B									
Acetone	10.0 U	ug/L	10.0	3.5	1		02/17/17 01:00	67-64-1	MH
Benzene	1.6	ug/L	1.0	0.21	1		02/17/17 01:00	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:00	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:00	75-25-2	
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:00	74-83-9	
2-Butanone (MEK)	10.0 U	ug/L	10.0	2.4	1		02/17/17 01:00	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:00	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 01:00	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:00	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 01:00	75-00-3	
Chloroform	0.59J	ug/L	1.0	0.40	1		02/17/17 01:00	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 01:00	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 01:00	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 01:00	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:00	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 01:00	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 01:00	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	75-71-8	
1,1-Dichloroethane	0.70J	ug/L	1.0	0.37	1		02/17/17 01:00	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:00	107-06-2	
1,2-Dichloroethene (Total)	1.5J	ug/L	2.0	0.85	1		02/17/17 01:00	540-59-0	
1,1-Dichloroethene	0.36J	ug/L	1.0	0.20	1		02/17/17 01:00	75-35-4	
cis-1,2-Dichloroethene	1.3	ug/L	1.0	0.56	1		02/17/17 01:00	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:00	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:00	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:00	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:00	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 01:00	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 01:00	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 01:00	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 01:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 01:00	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:00	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 01:00	127-18-4	
Toluene	0.27J	ug/L	1.0	0.21	1		02/17/17 01:00	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 01:00	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:00	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:00	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:00	79-00-5	
Trichloroethene	1.2	ug/L	1.0	0.20	1		02/17/17 01:00	79-01-6	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

**Sample:** RW13-MW(I) **Lab ID:** 30210854009 Collected: 02/15/17 12:10 Received: 02/15/17 22:00 Matrix: Water

Comments: • As per client do not preform MS/MSD for 1,4-Dioxane due to limited sample volume.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b> Analytical Method: EPA 8260B									
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 01:00	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 01:00	76-13-1	
Vinyl chloride	0.52J	ug/L	1.0	0.33	1		02/17/17 01:00	75-01-4	
Xylene (Total)	3.0 U	ug/L	3.0	0.47	1		02/17/17 01:00	1330-20-7	
m&p-Xylene	2.0 U	ug/L	2.0	0.28	1		02/17/17 01:00	179601-23-1	
o-Xylene	1.0 U	ug/L	1.0	0.19	1		02/17/17 01:00	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	78-117		1		02/17/17 01:00	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-128		1		02/17/17 01:00	17060-07-0	
Toluene-d8 (S)	101	%	59-140		1		02/17/17 01:00	2037-26-5	
Dibromofluoromethane (S)	97	%	66-132		1		02/17/17 01:00	1868-53-7	
<b>7196 Chromium, Hexavalent</b> Analytical Method: EPA 7196A									
Chromium, Hexavalent	23000J	ug/L	100000	16900	10000		02/16/17 00:06	18540-29-9	
<b>9012B Cyanide, Total</b> Analytical Method: EPA 9012B Preparation Method: EPA 9012B									
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:32	57-12-5	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	70.0	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 17:04	7429-90-5	1c
Antimony	3.4J	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 17:04	7440-36-0	1c
Arsenic	12.6	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:04	7440-38-2	1c
Barium	101	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 17:04	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 17:04	7440-41-7	1c
Cadmium	464	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 17:04	7440-43-9	1c
Chromium	5.0 U	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 17:04	7440-47-3	1c
Cobalt	59.6	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 17:04	7440-48-4	1c
Copper	5.0 U	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 17:04	7440-50-8	1c
Iron	153000	ug/L	7000	984	100	02/20/17 11:01	02/21/17 21:23	7439-89-6	1c
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 17:04	7439-92-1	1c
Manganese	10700	ug/L	500	70.7	100	02/20/17 11:01	02/21/17 21:23	7439-96-5	1c
Nickel	34.8	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 17:04	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 17:04	7782-49-2	1c
Silver	1.7J	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 17:04	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 17:04	7440-28-0	1c
Vanadium	5.0 U	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 17:04	7440-62-2	1c
Zinc	105000	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:23	7440-66-6	1c
<b>6010C MET ICP,Dissolved</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Iron, Dissolved	172000	ug/L	7000	984	100	02/20/17 08:25	02/20/17 23:36	7439-89-6	2c
Manganese, Dissolved	11700	ug/L	500	70.7	100	02/20/17 08:25	02/20/17 23:36	7439-96-5	2c
Zinc, Dissolved	116000	ug/L	1000	108	100	02/20/17 08:25	02/20/17 23:36	7440-66-6	2c
Aluminum, Dissolved	50.0 U	ug/L	50.0	16.8	1	02/20/17 08:25	02/20/17 22:44	7429-90-5	2c
Antimony, Dissolved	6.0 U	ug/L	6.0	2.8	1	02/20/17 08:25	02/20/17 22:44	7440-36-0	2c
Arsenic, Dissolved	10.8	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:44	7440-38-2	2c
Barium, Dissolved	102	ug/L	10.0	0.53	1	02/20/17 08:25	02/20/17 22:44	7440-39-3	2c
Beryllium, Dissolved	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:25	02/20/17 22:44	7440-41-7	2c
Cadmium, Dissolved	461	ug/L	3.0	0.34	1	02/20/17 08:25	02/20/17 22:44	7440-43-9	2c
Chromium, Dissolved	5.0 U	ug/L	5.0	0.53	1	02/20/17 08:25	02/20/17 22:44	7440-47-3	2c
Cobalt, Dissolved	61.4	ug/L	5.0	0.23	1	02/20/17 08:25	02/20/17 22:44	7440-48-4	2c
Copper, Dissolved	5.0 U	ug/L	5.0	1.3	1	02/20/17 08:25	02/20/17 22:44	7440-50-8	2c
Lead, Dissolved	5.0 U	ug/L	5.0	4.0	1	02/20/17 08:25	02/20/17 22:44	7439-92-1	2c
Nickel, Dissolved	38.6	ug/L	10.0	0.85	1	02/20/17 08:25	02/20/17 22:44	7440-02-0	2c
Selenium, Dissolved	8.0 U	ug/L	8.0	4.4	1	02/20/17 08:25	02/20/17 22:44	7782-49-2	2c
Silver, Dissolved	2.3J	ug/L	6.0	0.56	1	02/20/17 08:25	02/20/17 22:44	7440-22-4	2c
Thallium, Dissolved	10.0 U	ug/L	10.0	2.7	1	02/20/17 08:25	02/20/17 22:44	7440-28-0	2c
Vanadium, Dissolved	5.0 U	ug/L	5.0	0.27	1	02/20/17 08:25	02/20/17 22:44	7440-62-2	2c
<b>7470 Mercury</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/20/17 23:58	7439-97-6	
<b>7470 Mercury, Dissolved</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.20 U	ug/L	0.20	0.017	1	02/20/17 11:59	02/21/17 00:23	7439-97-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	0.53	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	83-32-9	
Acenaphthylene	1.0	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 22:09	208-96-8	
Anthracene	0.037J	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:09	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 22:09	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 22:09	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 22:09	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:09	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 22:09	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:09	53-70-3	
1,4-Dioxane (p-Dioxane)	0.92	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 20:29	123-91-1	
Fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:09	206-44-0	
Fluorene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:09	193-39-5	
2-Methylnaphthalene	1.5	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 22:09	91-57-6	
Naphthalene	5.9	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 22:09	91-20-3	
Phenanthrene	0.018J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:09	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:09	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	43	%	19-123		1	02/20/17 08:38	02/20/17 22:09	321-60-8	
Terphenyl-d14 (S)	86	%	58-130		1	02/20/17 08:38	02/20/17 22:09	1718-51-0	
<b>8270D MSSV Organics</b> Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
Acenaphthene	0.55J	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:00	83-32-9	
Acenaphthylene	0.78J	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:00	208-96-8	
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 20:00	120-12-7	
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 20:00	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:00	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:00	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 20:00	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	92-52-4	
Caprolactam	2.5 U	ug/L	2.5	0.15	1	02/20/17 08:38	02/20/17 20:00	105-60-2	
Carbazole	3.6	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:00	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 20:00	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 20:00	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	91-58-7	
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	95-57-8	
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:00	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:00	91-94-1	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 20:00	120-83-2	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV Organics</b> <span style="float: right;">Analytical Method: EPA 8270D Preparation Method: EPA 3510C</span>									
Diethylphthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:00	84-66-2	
2,4-Dimethylphenol	1.0 U	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 20:00	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 20:00	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.70	1	02/20/17 08:38	02/20/17 20:00	121-14-2	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 20:00	606-20-2	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 20:00	117-84-0	
bis(2-Ethylhexyl)phthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:00	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:00	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:00	86-73-7	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	87-68-3	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 20:00	118-74-1	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 20:00	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	67-72-1	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:00	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	78-59-1	
2-Methylnaphthalene	1.4	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:00	91-57-6	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:00	95-48-7	
3&4-Methylphenol(m&p Cresol)	13.2	ug/L	2.0	0.48	1	02/20/17 08:38	02/20/17 20:00		
Naphthalene	6.8	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 20:00	91-20-3	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 20:00	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 20:00	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	98-95-3	
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:00	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 20:00	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.65	1	02/20/17 08:38	02/20/17 20:00	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 20:00	85-01-8	
Phenol	0.51J	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 20:00	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:00	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:00	95-94-3	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 20:00	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.63	1	02/20/17 08:38	02/20/17 20:00	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:00	88-06-2	
<b>Surrogates</b>									
Nitrobenzene-d5 (S)	41	%	16-112		1	02/20/17 08:38	02/20/17 20:00	4165-60-0	
2-Fluorobiphenyl (S)	35	%	18-115		1	02/20/17 08:38	02/20/17 20:00	321-60-8	
Terphenyl-d14 (S)	71	%	54-118		1	02/20/17 08:38	02/20/17 20:00	1718-51-0	
Phenol-d6 (S)	18	%	10-48		1	02/20/17 08:38	02/20/17 20:00	13127-88-3	
2-Fluorophenol (S)	27	%	10-76		1	02/20/17 08:38	02/20/17 20:00	367-12-4	
2,4,6-Tribromophenol (S)	59	%	27-129		1	02/20/17 08:38	02/20/17 20:00	118-79-6	
<b>8260B MSV</b> <span style="float: right;">Analytical Method: EPA 8260B</span>									
Acetone	12.0	ug/L	10.0	3.5	1		02/17/17 01:26	67-64-1	B
Benzene	2.3	ug/L	1.0	0.21	1		02/17/17 01:26	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:26	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:26	75-25-2	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:26	74-83-9	
2-Butanone (MEK)	9.2J	ug/L	10.0	2.4	1		02/17/17 01:26	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:26	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 01:26	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:26	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 01:26	75-00-3	
Chloroform	0.72J	ug/L	1.0	0.40	1		02/17/17 01:26	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 01:26	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 01:26	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 01:26	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:26	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 01:26	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 01:26	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	75-71-8	
1,1-Dichloroethane	2.9	ug/L	1.0	0.37	1		02/17/17 01:26	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 01:26	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/17/17 01:26	540-59-0	
1,1-Dichloroethene	0.28J	ug/L	1.0	0.20	1		02/17/17 01:26	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/17/17 01:26	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:26	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 01:26	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 01:26	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 01:26	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 01:26	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 01:26	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 01:26	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 01:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 01:26	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/17/17 01:26	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 01:26	127-18-4	
Toluene	1.5	ug/L	1.0	0.21	1		02/17/17 01:26	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 01:26	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 01:26	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 01:26	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 01:26	79-00-5	
Trichloroethene	1.0 U	ug/L	1.0	0.20	1		02/17/17 01:26	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 01:26	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 01:26	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/17/17 01:26	75-01-4	
Xylene (Total)	3.5	ug/L	3.0	0.47	1		02/17/17 01:26	1330-20-7	
m&p-Xylene	1.4J	ug/L	2.0	0.28	1		02/17/17 01:26	179601-23-1	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Duplicate		Lab ID: 30210854010		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
o-Xylene	2.1	ug/L	1.0	0.19	1		02/17/17 01:26	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	78-117		1		02/17/17 01:26	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-128		1		02/17/17 01:26	17060-07-0	
Toluene-d8 (S)	102	%	59-140		1		02/17/17 01:26	2037-26-5	
Dibromofluoromethane (S)	94	%	66-132		1		02/17/17 01:26	1868-53-7	
<b>7196 Chromium, Hexavalent</b>		Analytical Method: EPA 7196A							
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:03	18540-29-9	
<b>9012B Cyanide, Total</b>		Analytical Method: EPA 9012B Preparation Method: EPA 9012B							
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:39	57-12-5	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Trip Blank		Lab ID: 30210854011		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
Acetone	10.0 U	ug/L	10.0	3.5	1		02/16/17 23:43	67-64-1	
Benzene	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/16/17 23:43	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/16/17 23:43	75-25-2	
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/16/17 23:43	74-83-9	
2-Butanone (MEK)	10.0 U	ug/L	10.0	2.4	1		02/16/17 23:43	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/16/17 23:43	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/16/17 23:43	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/16/17 23:43	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/16/17 23:43	75-00-3	
Chloroform	1.0 U	ug/L	1.0	0.40	1		02/16/17 23:43	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/16/17 23:43	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/16/17 23:43	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/16/17 23:43	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/16/17 23:43	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/16/17 23:43	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/16/17 23:43	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	75-71-8	
1,1-Dichloroethane	1.0 U	ug/L	1.0	0.37	1		02/16/17 23:43	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/16/17 23:43	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/16/17 23:43	540-59-0	
1,1-Dichloroethene	1.0 U	ug/L	1.0	0.20	1		02/16/17 23:43	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/16/17 23:43	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/16/17 23:43	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/16/17 23:43	78-87-5	
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/16/17 23:43	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/16/17 23:43	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/16/17 23:43	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/16/17 23:43	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/16/17 23:43	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/16/17 23:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/16/17 23:43	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/16/17 23:43	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/16/17 23:43	127-18-4	
Toluene	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/16/17 23:43	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/16/17 23:43	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/16/17 23:43	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/16/17 23:43	79-00-5	
Trichloroethene	0.29J	ug/L	1.0	0.20	1		02/16/17 23:43	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/16/17 23:43	75-69-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Trip Blank		Lab ID: 30210854011		Collected: 02/15/17 00:01		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
1,1,2-Trichlorotrifluoroethane	<b>50.0 U</b>	ug/L	50.0	0.39	1		02/16/17 23:43	76-13-1	
Vinyl chloride	<b>1.0 U</b>	ug/L	1.0	0.33	1		02/16/17 23:43	75-01-4	
Xylene (Total)	<b>3.0 U</b>	ug/L	3.0	0.47	1		02/16/17 23:43	1330-20-7	
m&p-Xylene	<b>2.0 U</b>	ug/L	2.0	0.28	1		02/16/17 23:43	179601-23-1	
o-Xylene	<b>1.0 U</b>	ug/L	1.0	0.19	1		02/16/17 23:43	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99	%	78-117		1		02/16/17 23:43	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-128		1		02/16/17 23:43	17060-07-0	
Toluene-d8 (S)	102	%	59-140		1		02/16/17 23:43	2037-26-5	
Dibromofluoromethane (S)	94	%	66-132		1		02/16/17 23:43	1868-53-7	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank		Lab ID: 30210854012		Collected: 02/15/17 15:40		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Aluminum	50.0 U	ug/L	50.0	16.8	1	02/20/17 11:01	02/21/17 18:19	7429-90-5	1c
Antimony	6.0 U	ug/L	6.0	2.8	1	02/20/17 11:01	02/21/17 18:19	7440-36-0	1c
Arsenic	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 18:19	7440-38-2	1c
Barium	10.0 U	ug/L	10.0	0.53	1	02/20/17 11:01	02/21/17 18:19	7440-39-3	1c
Beryllium	1.0 U	ug/L	1.0	0.22	1	02/20/17 11:01	02/21/17 18:19	7440-41-7	1c
Cadmium	3.0 U	ug/L	3.0	0.34	1	02/20/17 11:01	02/21/17 18:19	7440-43-9	1c
Chromium	0.57J	ug/L	5.0	0.53	1	02/20/17 11:01	02/21/17 18:19	7440-47-3	1c
Cobalt	5.0 U	ug/L	5.0	0.23	1	02/20/17 11:01	02/21/17 18:19	7440-48-4	1c
Copper	3.0J	ug/L	5.0	1.3	1	02/20/17 11:01	02/21/17 18:19	7440-50-8	1c
Iron	70.0 U	ug/L	70.0	9.8	1	02/20/17 11:01	02/21/17 18:19	7439-89-6	1c
Lead	5.0 U	ug/L	5.0	4.0	1	02/20/17 11:01	02/21/17 18:19	7439-92-1	1c
Manganese	5.0 U	ug/L	5.0	0.71	1	02/20/17 11:01	02/21/17 18:19	7439-96-5	1c
Nickel	10.0 U	ug/L	10.0	0.85	1	02/20/17 11:01	02/21/17 18:19	7440-02-0	1c
Selenium	8.0 U	ug/L	8.0	4.4	1	02/20/17 11:01	02/21/17 18:19	7782-49-2	1c
Silver	6.0 U	ug/L	6.0	0.56	1	02/20/17 11:01	02/21/17 18:19	7440-22-4	1c
Thallium	10.0 U	ug/L	10.0	2.7	1	02/20/17 11:01	02/21/17 18:19	7440-28-0	1c
Vanadium	5.0 U	ug/L	5.0	0.27	1	02/20/17 11:01	02/21/17 18:19	7440-62-2	1c
Zinc	10.0 U	ug/L	10.0	1.1	1	02/20/17 11:01	02/21/17 18:19	7440-66-6	1c
<b>7470 Mercury</b> Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury	0.20 U	ug/L	0.20	0.017	1	02/20/17 12:01	02/21/17 00:03	7439-97-6	
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C									
Acenaphthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	83-32-9	
Acenaphthylene	0.10 U	ug/L	0.10	0.014	1	02/20/17 08:38	02/20/17 22:27	208-96-8	
Anthracene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:27	120-12-7	
Benzo(a)anthracene	0.10 U	ug/L	0.10	0.015	1	02/20/17 08:38	02/20/17 22:27	56-55-3	
Benzo(a)pyrene	0.10 U	ug/L	0.10	0.0072	1	02/20/17 08:38	02/20/17 22:27	50-32-8	
Benzo(b)fluoranthene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	205-99-2	
Benzo(g,h,i)perylene	0.10 U	ug/L	0.10	0.019	1	02/20/17 08:38	02/20/17 22:27	191-24-2	
Benzo(k)fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:27	207-08-9	
Chrysene	0.10 U	ug/L	0.10	0.0076	1	02/20/17 08:38	02/20/17 22:27	218-01-9	
Dibenz(a,h)anthracene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:27	53-70-3	
1,4-Dioxane (p-Dioxane)	0.10 U	ug/L	0.10	0.029	1	02/20/17 08:38	02/20/17 20:52	123-91-1	
Fluoranthene	0.10 U	ug/L	0.10	0.011	1	02/20/17 08:38	02/20/17 22:27	206-44-0	
Fluorene	0.10 U	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	86-73-7	
Indeno(1,2,3-cd)pyrene	0.10 U	ug/L	0.10	0.028	1	02/20/17 08:38	02/20/17 22:27	193-39-5	
2-Methylnaphthalene	0.042J	ug/L	0.10	0.021	1	02/20/17 08:38	02/20/17 22:27	91-57-6	
Naphthalene	0.063J	ug/L	0.10	0.018	1	02/20/17 08:38	02/20/17 22:27	91-20-3	B
Phenanthrene	0.022J	ug/L	0.10	0.016	1	02/20/17 08:38	02/20/17 22:27	85-01-8	
Pyrene	0.10 U	ug/L	0.10	0.013	1	02/20/17 08:38	02/20/17 22:27	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	52	%	19-123		1	02/20/17 08:38	02/20/17 22:27	321-60-8	
Terphenyl-d14 (S)	83	%	58-130		1	02/20/17 08:38	02/20/17 22:27	1718-51-0	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

Sample: Field Blank		Lab ID: 30210854012		Collected: 02/15/17 15:40		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV Organics</b>		Analytical Method: EPA 8270D Preparation Method: EPA 3510C							
Acenaphthene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:22	83-32-9	
Acenaphthylene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:22	208-96-8	
Acetophenone	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	98-86-2	
Anthracene	1.0 U	ug/L	1.0	0.13	1	02/20/17 08:38	02/20/17 20:22	120-12-7	
Benzaldehyde	1.0 U	ug/L	1.0	0.71	1	02/20/17 08:38	02/20/17 20:22	100-52-7	
Benzo(a)anthracene	1.0 U	ug/L	1.0	0.25	1	02/20/17 08:38	02/20/17 20:22	56-55-3	
Benzo(a)pyrene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	50-32-8	
Benzo(b)fluoranthene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:22	205-99-2	
Benzo(g,h,i)perylene	1.0 U	ug/L	1.0	0.16	1	02/20/17 08:38	02/20/17 20:22	191-24-2	
Benzo(k)fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	207-08-9	
Biphenyl (Diphenyl)	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	92-52-4	
Caprolactam	2.5 U	ug/L	2.5	0.15	1	02/20/17 08:38	02/20/17 20:22	105-60-2	
Carbazole	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:22	86-74-8	
4-Chloroaniline	1.0 U	ug/L	1.0	0.34	1	02/20/17 08:38	02/20/17 20:22	106-47-8	
bis(2-Chloroethoxy)methane	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	111-91-1	
bis(2-Chloroethyl) ether	1.0 U	ug/L	1.0	0.33	1	02/20/17 08:38	02/20/17 20:22	111-44-4	
bis(2-Chloroisopropyl) ether	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	108-60-1	
2-Chloronaphthalene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	91-58-7	
2-Chlorophenol	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	95-57-8	
Chrysene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	218-01-9	
Dibenz(a,h)anthracene	1.0 U	ug/L	1.0	0.18	1	02/20/17 08:38	02/20/17 20:22	53-70-3	
3,3'-Dichlorobenzidine	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:22	91-94-1	
2,4-Dichlorophenol	1.0 U	ug/L	1.0	0.32	1	02/20/17 08:38	02/20/17 20:22	120-83-2	
Diethylphthalate	1.0 U	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:22	84-66-2	
2,4-Dimethylphenol	1.0 U	ug/L	1.0	0.47	1	02/20/17 08:38	02/20/17 20:22	105-67-9	
Di-n-butylphthalate	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	84-74-2	
2,4-Dinitrophenol	2.5 U	ug/L	2.5	0.45	1	02/20/17 08:38	02/20/17 20:22	51-28-5	
2,4-Dinitrotoluene	1.0 U	ug/L	1.0	0.70	1	02/20/17 08:38	02/20/17 20:22	121-14-2	
2,6-Dinitrotoluene	1.0 U	ug/L	1.0	0.23	1	02/20/17 08:38	02/20/17 20:22	606-20-2	
Di-n-octylphthalate	1.0 U	ug/L	1.0	0.22	1	02/20/17 08:38	02/20/17 20:22	117-84-0	
bis(2-Ethylhexyl)phthalate	0.25J	ug/L	1.0	0.20	1	02/20/17 08:38	02/20/17 20:22	117-81-7	
Fluoranthene	1.0 U	ug/L	1.0	0.11	1	02/20/17 08:38	02/20/17 20:22	206-44-0	
Fluorene	1.0 U	ug/L	1.0	0.24	1	02/20/17 08:38	02/20/17 20:22	86-73-7	
Hexachloro-1,3-butadiene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	87-68-3	
Hexachlorobenzene	1.0 U	ug/L	1.0	0.12	1	02/20/17 08:38	02/20/17 20:22	118-74-1	
Hexachlorocyclopentadiene	1.0 U	ug/L	1.0	0.61	1	02/20/17 08:38	02/20/17 20:22	77-47-4	
Hexachloroethane	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	67-72-1	
Indeno(1,2,3-cd)pyrene	1.0 U	ug/L	1.0	0.14	1	02/20/17 08:38	02/20/17 20:22	193-39-5	
Isophorone	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	78-59-1	
2-Methylnaphthalene	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:22	91-57-6	
2-Methylphenol(o-Cresol)	1.0 U	ug/L	1.0	0.28	1	02/20/17 08:38	02/20/17 20:22	95-48-7	
3&4-Methylphenol(m&p Cresol)	2.0 U	ug/L	2.0	0.48	1	02/20/17 08:38	02/20/17 20:22		
Naphthalene	1.0 U	ug/L	1.0	0.31	1	02/20/17 08:38	02/20/17 20:22	91-20-3	
2-Nitroaniline	2.5 U	ug/L	2.5	0.59	1	02/20/17 08:38	02/20/17 20:22	88-74-4	
4-Nitroaniline	2.5 U	ug/L	2.5	0.32	1	02/20/17 08:38	02/20/17 20:22	100-01-6	
Nitrobenzene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	98-95-3	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank Lab ID: 30210854012 Collected: 02/15/17 15:40 Received: 02/15/17 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV Organics</b> Analytical Method: EPA 8270D Preparation Method: EPA 3510C									
N-Nitroso-di-n-propylamine	1.0 U	ug/L	1.0	0.29	1	02/20/17 08:38	02/20/17 20:22	621-64-7	
N-Nitrosodiphenylamine	1.0 U	ug/L	1.0	0.39	1	02/20/17 08:38	02/20/17 20:22	86-30-6	
Pentachlorophenol	2.5 U	ug/L	2.5	0.65	1	02/20/17 08:38	02/20/17 20:22	87-86-5	
Phenanthrene	1.0 U	ug/L	1.0	0.15	1	02/20/17 08:38	02/20/17 20:22	85-01-8	
Phenol	1.0 U	ug/L	1.0	0.19	1	02/20/17 08:38	02/20/17 20:22	108-95-2	
Pyrene	1.0 U	ug/L	1.0	0.26	1	02/20/17 08:38	02/20/17 20:22	129-00-0	
1,2,4,5-Tetrachlorobenzene	1.0 U	ug/L	1.0	0.27	1	02/20/17 08:38	02/20/17 20:22	95-94-3	
2,3,4,6-Tetrachlorophenol	1.0 U	ug/L	1.0	0.53	1	02/20/17 08:38	02/20/17 20:22	58-90-2	
2,4,5-Trichlorophenol	2.5 U	ug/L	2.5	0.63	1	02/20/17 08:38	02/20/17 20:22	95-95-4	
2,4,6-Trichlorophenol	1.0 U	ug/L	1.0	0.60	1	02/20/17 08:38	02/20/17 20:22	88-06-2	
<b>Surrogates</b>									
Nitrobenzene-d5 (S)	53	%	16-112		1	02/20/17 08:38	02/20/17 20:22	4165-60-0	
2-Fluorobiphenyl (S)	47	%	18-115		1	02/20/17 08:38	02/20/17 20:22	321-60-8	
Terphenyl-d14 (S)	71	%	54-118		1	02/20/17 08:38	02/20/17 20:22	1718-51-0	
Phenol-d6 (S)	22	%	10-48		1	02/20/17 08:38	02/20/17 20:22	13127-88-3	
2-Fluorophenol (S)	32	%	10-76		1	02/20/17 08:38	02/20/17 20:22	367-12-4	
2,4,6-Tribromophenol (S)	50	%	27-129		1	02/20/17 08:38	02/20/17 20:22	118-79-6	
<b>8260B MSV</b> Analytical Method: EPA 8260B									
Acetone	10.0 U	ug/L	10.0	3.5	1		02/17/17 00:09	67-64-1	
Benzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	71-43-2	
Bromodichloromethane	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:09	75-27-4	
Bromoform	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:09	75-25-2	
Bromomethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:09	74-83-9	
2-Butanone (MEK)	10.0 U	ug/L	10.0	2.4	1		02/17/17 00:09	78-93-3	
Carbon disulfide	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:09	75-15-0	
Carbon tetrachloride	1.0 U	ug/L	1.0	0.47	1		02/17/17 00:09	56-23-5	
Chlorobenzene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:09	108-90-7	
Chloroethane	1.0 U	ug/L	1.0	0.68	1		02/17/17 00:09	75-00-3	
Chloroform	0.95J	ug/L	1.0	0.40	1		02/17/17 00:09	67-66-3	
Chloromethane	1.0 U	ug/L	1.0	0.51	1		02/17/17 00:09	74-87-3	
Cyclohexane	10.0 U	ug/L	10.0	0.59	1		02/17/17 00:09	110-82-7	
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.54	1		02/17/17 00:09	96-12-8	
Dibromochloromethane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:09	124-48-1	
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.22	1		02/17/17 00:09	106-93-4	
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	95-50-1	
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.26	1		02/17/17 00:09	541-73-1	
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	106-46-7	
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	75-71-8	
1,1-Dichloroethane	1.0 U	ug/L	1.0	0.37	1		02/17/17 00:09	75-34-3	
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.30	1		02/17/17 00:09	107-06-2	
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.85	1		02/17/17 00:09	540-59-0	
1,1-Dichloroethene	1.0 U	ug/L	1.0	0.20	1		02/17/17 00:09	75-35-4	
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.56	1		02/17/17 00:09	156-59-2	
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:09	156-60-5	
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.29	1		02/17/17 00:09	78-87-5	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: Field Blank		Lab ID: 30210854012		Collected: 02/15/17 15:40		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b>		Analytical Method: EPA 8260B							
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.14	1		02/17/17 00:09	10061-01-5	
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	10061-02-6	
Ethylbenzene	1.0 U	ug/L	1.0	0.24	1		02/17/17 00:09	100-41-4	
2-Hexanone	10.0 U	ug/L	10.0	0.25	1		02/17/17 00:09	591-78-6	
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.12	1		02/17/17 00:09	98-82-8	
Methyl acetate	5.0 U	ug/L	5.0	0.59	1		02/17/17 00:09	79-20-9	
Methylene Chloride	1.0 U	ug/L	1.0	0.55	1		02/17/17 00:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	0.32	1		02/17/17 00:09	108-10-1	
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	1634-04-4	
Styrene	1.0 U	ug/L	1.0	0.17	1		02/17/17 00:09	100-42-5	
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	79-34-5	
Tetrachloroethene	1.0 U	ug/L	1.0	0.43	1		02/17/17 00:09	127-18-4	
Toluene	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	108-88-3	
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.36	1		02/17/17 00:09	87-61-6	
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.34	1		02/17/17 00:09	120-82-1	
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.53	1		02/17/17 00:09	71-55-6	
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.21	1		02/17/17 00:09	79-00-5	
Trichloroethene	0.22J	ug/L	1.0	0.20	1		02/17/17 00:09	79-01-6	
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.31	1		02/17/17 00:09	75-69-4	
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	0.39	1		02/17/17 00:09	76-13-1	
Vinyl chloride	1.0 U	ug/L	1.0	0.33	1		02/17/17 00:09	75-01-4	
Xylene (Total)	3.0 U	ug/L	3.0	0.47	1		02/17/17 00:09	1330-20-7	
m&p-Xylene	2.0 U	ug/L	2.0	0.28	1		02/17/17 00:09	179601-23-1	
o-Xylene	1.0 U	ug/L	1.0	0.19	1		02/17/17 00:09	95-47-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	78-117		1		02/17/17 00:09	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-128		1		02/17/17 00:09	17060-07-0	
Toluene-d8 (S)	100	%	59-140		1		02/17/17 00:09	2037-26-5	
Dibromofluoromethane (S)	93	%	66-132		1		02/17/17 00:09	1868-53-7	
<b>7196 Chromium, Hexavalent</b>		Analytical Method: EPA 7196A							
Chromium, Hexavalent	10.0 U	ug/L	10.0	1.7	1		02/15/17 23:03	18540-29-9	
<b>9012B Cyanide, Total</b>		Analytical Method: EPA 9012B Preparation Method: EPA 9012B							
Cyanide	0.010 U	mg/L	0.010	0.0018	1	02/21/17 16:28	02/21/17 20:40	57-12-5	

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Sample: RW12-MW(I)		Lab ID: 30210854013		Collected: 02/15/17 15:18		Received: 02/15/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4740</b>	ug/L	300	34.4	100	02/20/17 11:01	02/21/17 21:31	7440-43-9	1c
Zinc	<b>249000</b>	ug/L	1000	108	100	02/20/17 11:01	02/21/17 21:31	7440-66-6	1c, MH

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249769 Analysis Method: EPA 7470A  
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1229081 Matrix: Water  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	0.20 U	0.20	0.017	02/20/17 23:43	

LABORATORY CONTROL SAMPLE: 1229082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1	1.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229084 1229085

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.20 U	2.5	2.5	2.4	2.5	97	101	75-125	4	20	

SAMPLE DUPLICATE: 1229083

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.20 U	0.20 U		20	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249768

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury Dissolved

Associated Lab Samples: 30210854008, 30210854009, 30210854010

METHOD BLANK: 1229076

Matrix: Water

Associated Lab Samples: 30210854008, 30210854009, 30210854010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	0.20 U	0.20	0.017	02/21/17 00:05	

LABORATORY CONTROL SAMPLE: 1229077

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	1	0.91	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229079 1229080

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	0.20 U	2.5	2.5	2.4	2.4	98	94	75-125	4	20	

SAMPLE DUPLICATE: 1229078

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	0.20 U	0.20 U		20	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch:	249761	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30210854001, 30210854002, 30210854003, 30210854004, 30210854005, 30210854006, 30210854007, 30210854008, 30210854009, 30210854010, 30210854012, 30210854013		

METHOD BLANK: 1229011

Matrix: Water

Associated Lab Samples: 30210854001, 30210854002, 30210854003, 30210854004, 30210854005, 30210854006, 30210854007, 30210854008, 30210854009, 30210854010, 30210854012, 30210854013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum	ug/L	50.0 U	50.0	16.8	02/21/17 16:41	1c
Antimony	ug/L	6.0 U	6.0	2.8	02/21/17 16:41	1c
Arsenic	ug/L	5.0 U	5.0	4.0	02/21/17 16:41	1c
Barium	ug/L	10.0 U	10.0	0.53	02/21/17 16:41	1c
Beryllium	ug/L	1.0 U	1.0	0.22	02/21/17 16:41	1c
Cadmium	ug/L	3.0 U	3.0	0.34	02/21/17 16:41	1c
Chromium	ug/L	5.0 U	5.0	0.53	02/21/17 16:41	1c
Cobalt	ug/L	5.0 U	5.0	0.23	02/21/17 16:41	1c
Copper	ug/L	5.0 U	5.0	1.3	02/21/17 16:41	1c
Iron	ug/L	70.0 U	70.0	9.8	02/21/17 16:41	1c
Lead	ug/L	5.0 U	5.0	4.0	02/21/17 16:41	1c
Manganese	ug/L	5.0 U	5.0	0.71	02/21/17 16:41	1c
Nickel	ug/L	10.0 U	10.0	0.85	02/21/17 16:41	1c
Selenium	ug/L	8.0 U	8.0	4.4	02/21/17 16:41	1c
Silver	ug/L	6.0 U	6.0	0.56	02/21/17 16:41	1c
Thallium	ug/L	10.0 U	10.0	2.7	02/21/17 16:41	1c
Vanadium	ug/L	5.0 U	5.0	0.27	02/21/17 16:41	1c
Zinc	ug/L	10.0 U	10.0	1.1	02/21/17 16:41	1c

LABORATORY CONTROL SAMPLE: 1229012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	5120	102	80-120	1c
Antimony	ug/L	500	493	99	80-120	1c
Arsenic	ug/L	500	460	92	80-120	1c
Barium	ug/L	500	518	104	80-120	1c
Beryllium	ug/L	500	526	105	80-120	1c
Cadmium	ug/L	500	488	98	80-120	1c
Chromium	ug/L	500	475	95	80-120	1c
Cobalt	ug/L	500	463	93	80-120	1c
Copper	ug/L	500	521	104	80-120	1c
Iron	ug/L	5000	5240	105	80-120	1c
Lead	ug/L	500	459	92	80-120	1c
Manganese	ug/L	500	519	104	80-120	1c
Nickel	ug/L	500	484	97	80-120	1c
Selenium	ug/L	500	485	97	80-120	1c
Silver	ug/L	250	246	99	80-120	1c
Thallium	ug/L	500	473	95	80-120	1c

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1229012

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Vanadium	ug/L	500	461	92	80-120	1c
Zinc	ug/L	500	493	99	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229014 1229015

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	66.3	5000	5000	5110	5080	101	100	75-125	1	20	1c
Antimony	ug/L	18.8	500	500	504	512	97	99	75-125	2	20	1c
Arsenic	ug/L	7.0	500	500	522	507	103	100	75-125	3	20	1c
Barium	ug/L	31.3	500	500	547	538	103	101	75-125	2	20	1c
Beryllium	ug/L	1.0 U	500	500	526	524	105	105	75-125	0	20	1c
Cadmium	ug/L	54900	500	500	51900	48500	-612	-1290	75-125	7	20	1c,ML
Chromium	ug/L	5.0 U	500	500	479	471	96	94	75-125	2	20	1c
Cobalt	ug/L	444	500	500	975	958	106	103	75-125	2	20	1c
Copper	ug/L	5.0 U	500	500	527	524	105	105	75-125	1	20	1c
Iron	ug/L	377000	5000	5000	380000	358000	60	-376	75-125	6	20	1c,ML
Lead	ug/L	5.0 U	500	500	476	470	95	94	75-125	1	20	1c
Manganese	ug/L	24800	500	500	24600	23000	-42	-358	75-125	7	20	1c,ML
Nickel	ug/L	297	500	500	771	754	95	91	75-125	2	20	1c
Selenium	ug/L	8.0 U	500	500	572	554	114	111	75-125	3	20	1c
Silver	ug/L	5.7J	250	250	269	270	105	106	75-125	0	20	1c
Thallium	ug/L	10.0 U	500	500	431	424	86	85	75-125	1	20	1c
Vanadium	ug/L	25.0 U	500	500	440	433	88	87	75-125	2	20	1c
Zinc	ug/L	600000	500	500	559000	524000	-8360	-15300	75-125	6	20	1c,ML

MATRIX SPIKE SAMPLE: 1229017

Parameter	Units	30210854013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	35.8J	5000	4940	98	75-125	1c
Antimony	ug/L	6.0 U	500	478	96	75-125	1c
Arsenic	ug/L	5.0 U	500	513	103	75-125	1c
Barium	ug/L	10.4	500	488	96	75-125	1c
Beryllium	ug/L	1.0 U	500	538	108	75-125	1c
Cadmium	ug/L	4740	500	5350	122	75-125	1c
Chromium	ug/L	5.0 U	500	490	98	75-125	1c
Cobalt	ug/L	67.6	500	584	103	75-125	1c
Copper	ug/L	5.0 U	500	513	103	75-125	1c
Iron	ug/L	107000	5000	112000	96	75-125	1c
Lead	ug/L	5.0 U	500	468	94	75-125	1c
Manganese	ug/L	9130	500	9660	106	75-125	1c
Nickel	ug/L	58.4	500	521	92	75-125	1c
Selenium	ug/L	8.0 U	500	543	109	75-125	1c
Silver	ug/L	1.6J	250	254	101	75-125	1c

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE SAMPLE: 1229017		30210854013	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Thallium	ug/L	10.0 U	500	432	86	75-125	1c
Vanadium	ug/L	5.0 U	500	467	93	75-125	1c
Zinc	ug/L	249000	500	250000	260	75-125	1c,MH

SAMPLE DUPLICATE: 1229013

Parameter	Units	30210854009	Dup		Max	
		Result	Result	RPD	RPD	Qualifiers
Aluminum	ug/L	66.3	83.6	23	20	1c,D6
Antimony	ug/L	18.8	13.8	30	20	1c,D6
Arsenic	ug/L	7.0	4.5J		20	1c
Barium	ug/L	31.3	31.4	0	20	1c
Beryllium	ug/L	1.0 U	1.0 U		20	1c
Cadmium	ug/L	54900	52300	5	20	1c
Chromium	ug/L	5.0 U	5.0 U		20	1c
Cobalt	ug/L	444	452	2	20	1c
Copper	ug/L	5.0 U	5.0 U		20	1c
Iron	ug/L	377000	361000	4	20	1c
Lead	ug/L	5.0 U	5.0 U		20	1c
Manganese	ug/L	24800	24200	2	20	1c
Nickel	ug/L	297	301	1	20	1c
Selenium	ug/L	8.0 U	8.0 U		20	1c
Silver	ug/L	5.7J	5.8J		20	1c
Thallium	ug/L	10.0 U	10.0 U		20	1c
Vanadium	ug/L	25.0 U	25.0 U		20	1c
Zinc	ug/L	600000	575000	4	20	1c

SAMPLE DUPLICATE: 1229016

Parameter	Units	30210854013	Dup		Max	
		Result	Result	RPD	RPD	Qualifiers
Aluminum	ug/L	35.8J	25.3J		20	1c
Antimony	ug/L	6.0 U	6.0 U		20	1c
Arsenic	ug/L	5.0 U	5.0 U		20	1c
Barium	ug/L	10.4	10.4	0	20	1c
Beryllium	ug/L	1.0 U	1.0 U		20	1c
Cadmium	ug/L	4740	4850	2	20	1c
Chromium	ug/L	5.0 U	5.0 U		20	1c
Cobalt	ug/L	67.6	67.8	0	20	1c
Copper	ug/L	5.0 U	5.0 U		20	1c
Iron	ug/L	107000	108000	1	20	1c
Lead	ug/L	5.0 U	5.0 U		20	1c
Manganese	ug/L	9130	9320	2	20	1c
Nickel	ug/L	58.4	59.1	1	20	1c
Selenium	ug/L	8.0 U	8.0 U		20	1c
Silver	ug/L	1.6J	1.1J		20	1c

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

SAMPLE DUPLICATE: 1229016

Parameter	Units	30210854013 Result	Dup Result	RPD	Max RPD	Qualifiers
Thallium	ug/L	10.0 U	10.0 U		20	1c
Vanadium	ug/L	5.0 U	5.0 U		20	1c
Zinc	ug/L	249000	255000	2	20	1c

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249737 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET Dissolved  
Associated Lab Samples: 30210854008, 30210854009, 30210854010

METHOD BLANK: 1228946 Matrix: Water

Associated Lab Samples: 30210854008, 30210854009, 30210854010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	50.0 U	50.0	16.8	02/20/17 22:55	2c
Antimony, Dissolved	ug/L	6.0 U	6.0	2.8	02/20/17 22:55	2c
Arsenic, Dissolved	ug/L	5.0 U	5.0	4.0	02/20/17 22:55	2c
Barium, Dissolved	ug/L	10.0 U	10.0	0.53	02/20/17 22:55	2c
Beryllium, Dissolved	ug/L	1.0 U	1.0	0.22	02/20/17 22:55	2c
Cadmium, Dissolved	ug/L	3.0 U	3.0	0.34	02/20/17 22:55	2c
Chromium, Dissolved	ug/L	5.0 U	5.0	0.53	02/20/17 22:55	2c
Cobalt, Dissolved	ug/L	5.0 U	5.0	0.23	02/20/17 22:55	2c
Copper, Dissolved	ug/L	5.0 U	5.0	1.3	02/20/17 22:55	2c
Iron, Dissolved	ug/L	70.0 U	70.0	9.8	02/20/17 22:55	2c
Lead, Dissolved	ug/L	5.0 U	5.0	4.0	02/20/17 22:55	2c
Manganese, Dissolved	ug/L	5.0 U	5.0	0.71	02/20/17 22:55	2c
Nickel, Dissolved	ug/L	1.1J	10.0	0.85	02/20/17 22:55	2c
Selenium, Dissolved	ug/L	8.0 U	8.0	4.4	02/20/17 22:55	2c
Silver, Dissolved	ug/L	6.0 U	6.0	0.56	02/20/17 22:55	2c
Thallium, Dissolved	ug/L	10.0 U	10.0	2.7	02/20/17 22:55	2c
Vanadium, Dissolved	ug/L	5.0 U	5.0	0.27	02/20/17 22:55	2c
Zinc, Dissolved	ug/L	2.5J	10.0	1.1	02/20/17 22:55	2c

LABORATORY CONTROL SAMPLE: 1228947

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	5000	4440	89	80-120	2c
Antimony, Dissolved	ug/L	500	465	93	80-120	2c
Arsenic, Dissolved	ug/L	500	451	90	80-120	2c
Barium, Dissolved	ug/L	500	462	92	80-120	2c
Beryllium, Dissolved	ug/L	500	468	94	80-120	2c
Cadmium, Dissolved	ug/L	500	481	96	80-120	2c
Chromium, Dissolved	ug/L	500	475	95	80-120	2c
Cobalt, Dissolved	ug/L	500	452	90	80-120	2c
Copper, Dissolved	ug/L	500	459	92	80-120	2c
Iron, Dissolved	ug/L	5000	4510	90	80-120	2c
Lead, Dissolved	ug/L	500	451	90	80-120	2c
Manganese, Dissolved	ug/L	500	458	92	80-120	2c
Nickel, Dissolved	ug/L	500	479	96	80-120	2c
Selenium, Dissolved	ug/L	500	477	95	80-120	2c
Silver, Dissolved	ug/L	250	236	94	80-120	2c
Thallium, Dissolved	ug/L	500	461	92	80-120	2c
Vanadium, Dissolved	ug/L	500	464	93	80-120	2c
Zinc, Dissolved	ug/L	500	489	98	80-120	2c

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1228949 1228950												
Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	50.0 U	5000	5000	4940	4950	99	99	75-125	0	20	2c
Antimony, Dissolved	ug/L	11.0	500	500	502	507	98	99	75-125	1	20	2c
Arsenic, Dissolved	ug/L	5.0 U	500	500	498	507	99	101	75-125	2	20	2c
Barium, Dissolved	ug/L	33.9	500	500	539	540	101	101	75-125	0	20	2c
Beryllium, Dissolved	ug/L	1.0 U	500	500	507	510	101	102	75-125	1	20	2c
Cadmium, Dissolved	ug/L	66300	500	500	67800	66400	298	22	75-125	2	20	2c,MH, ML
Chromium, Dissolved	ug/L	5.0 U	500	500	489	499	98	100	75-125	2	20	2c
Cobalt, Dissolved	ug/L	417	500	500	928	942	102	105	75-125	2	20	2c
Copper, Dissolved	ug/L	5.0 U	500	500	504	509	101	102	75-125	1	20	2c
Iron, Dissolved	ug/L	484000	5000	5000	499000	482000	302	-24	75-125	3	20	2c,MH, ML
Lead, Dissolved	ug/L	5.0 U	500	500	470	484	94	97	75-125	3	20	2c
Manganese, Dissolved	ug/L	27800	500	500	28800	27800	204	4	75-125	4	20	2c,MH, ML
Nickel, Dissolved	ug/L	293	500	500	764	778	94	97	75-125	2	20	2c
Selenium, Dissolved	ug/L	8.0 U	500	500	542	548	108	110	75-125	1	20	2c
Silver, Dissolved	ug/L	7.9	250	250	269	270	105	105	75-125	0	20	2c
Thallium, Dissolved	ug/L	10.0 U	500	500	426	438	85	88	75-125	3	20	2c
Vanadium, Dissolved	ug/L	25.0 U	500	500	441	450	88	90	75-125	2	20	2c
Zinc, Dissolved	ug/L	677000	500	500	676000	661000	-100	-3120	75-125	2	20	2c,ML

SAMPLE DUPLICATE: 1228948

Parameter	Units	30210854009 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	50.0 U	50.0 U		20	2c
Antimony, Dissolved	ug/L	11.0	11.2	2	20	2c
Arsenic, Dissolved	ug/L	5.0 U	5.0 U		20	2c
Barium, Dissolved	ug/L	33.9	33.0	3	20	2c
Beryllium, Dissolved	ug/L	1.0 U	1.0 U		20	2c
Cadmium, Dissolved	ug/L	66300	69000	4	20	2c
Chromium, Dissolved	ug/L	5.0 U	5.0 U		20	2c
Cobalt, Dissolved	ug/L	417	429	3	20	2c
Copper, Dissolved	ug/L	5.0 U	5.0 U		20	2c
Iron, Dissolved	ug/L	484000	506000	4	20	2c
Lead, Dissolved	ug/L	5.0 U	5.0 U		20	2c
Manganese, Dissolved	ug/L	27800	29200	5	20	2c
Nickel, Dissolved	ug/L	293	301	3	20	2c
Selenium, Dissolved	ug/L	8.0 U	8.0 U		20	2c
Silver, Dissolved	ug/L	7.9	8.1	3	20	2c
Thallium, Dissolved	ug/L	10.0 U	10.0 U		20	2c
Vanadium, Dissolved	ug/L	25.0 U	25.0 U		20	2c
Zinc, Dissolved	ug/L	677000	705000	4	20	2c

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249543 Analysis Method: EPA 8260B  
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854011, 30210854012

METHOD BLANK: 1227273 Matrix: Water  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854011, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	1.0 U	1.0	0.53	02/16/17 17:43	
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
1,1,2-Trichloroethane	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
1,1,2-Trichlorotrifluoroethane	ug/L	50.0 U	50.0	0.39	02/16/17 17:43	
1,1-Dichloroethane	ug/L	1.0 U	1.0	0.37	02/16/17 17:43	
1,1-Dichloroethene	ug/L	1.0 U	1.0	0.20	02/16/17 17:43	
1,2,3-Trichlorobenzene	ug/L	2.0 U	2.0	0.36	02/16/17 17:43	
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0	0.34	02/16/17 17:43	
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	5.0	0.54	02/16/17 17:43	
1,2-Dibromoethane (EDB)	ug/L	1.0 U	1.0	0.22	02/16/17 17:43	
1,2-Dichlorobenzene	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
1,2-Dichloroethane	ug/L	1.0 U	1.0	0.30	02/16/17 17:43	
1,2-Dichloropropane	ug/L	1.0 U	1.0	0.29	02/16/17 17:43	
1,3-Dichlorobenzene	ug/L	1.0 U	1.0	0.26	02/16/17 17:43	
1,4-Dichlorobenzene	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
2-Butanone (MEK)	ug/L	10.0 U	10.0	2.4	02/16/17 17:43	
2-Hexanone	ug/L	10.0 U	10.0	0.25	02/16/17 17:43	
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	10.0	0.32	02/16/17 17:43	
Acetone	ug/L	10.3	10.0	3.5	02/16/17 17:43	C9
Benzene	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
Bromodichloromethane	ug/L	1.0 U	1.0	0.24	02/16/17 17:43	
Bromoform	ug/L	1.0 U	1.0	0.30	02/16/17 17:43	
Bromomethane	ug/L	1.0 U	1.0	0.53	02/16/17 17:43	
Carbon disulfide	ug/L	1.0 U	1.0	0.34	02/16/17 17:43	
Carbon tetrachloride	ug/L	1.0 U	1.0	0.47	02/16/17 17:43	
Chlorobenzene	ug/L	1.0 U	1.0	0.14	02/16/17 17:43	
Chloroethane	ug/L	1.0 U	1.0	0.68	02/16/17 17:43	
Chloroform	ug/L	1.0 U	1.0	0.40	02/16/17 17:43	
Chloromethane	ug/L	1.0 U	1.0	0.51	02/16/17 17:43	
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.56	02/16/17 17:43	
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.14	02/16/17 17:43	
Cyclohexane	ug/L	10.0 U	10.0	0.59	02/16/17 17:43	
Dibromochloromethane	ug/L	1.0 U	1.0	0.29	02/16/17 17:43	
Dichlorodifluoromethane	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
Ethylbenzene	ug/L	1.0 U	1.0	0.24	02/16/17 17:43	
Isopropylbenzene (Cumene)	ug/L	1.0 U	1.0	0.12	02/16/17 17:43	
m&p-Xylene	ug/L	2.0 U	2.0	0.28	02/16/17 17:43	
Methyl acetate	ug/L	5.0 U	5.0	0.59	02/16/17 17:43	
Methyl-tert-butyl ether	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
Methylene Chloride	ug/L	1.6	1.0	0.55	02/16/17 17:43	C9
o-Xylene	ug/L	1.0 U	1.0	0.19	02/16/17 17:43	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

METHOD BLANK: 1227273

Matrix: Water

Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854011, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Styrene	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
Tetrachloroethene	ug/L	1.0 U	1.0	0.43	02/16/17 17:43	
Toluene	ug/L	1.0 U	1.0	0.21	02/16/17 17:43	
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.29	02/16/17 17:43	
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.17	02/16/17 17:43	
Trichloroethene	ug/L	1.0 U	1.0	0.20	02/16/17 17:43	
Trichlorofluoromethane	ug/L	1.0 U	1.0	0.31	02/16/17 17:43	
Vinyl chloride	ug/L	1.0 U	1.0	0.33	02/16/17 17:43	
Xylene (Total)	ug/L	3.0 U	3.0	0.47	02/16/17 17:43	
1,2-Dichloroethane-d4 (S)	%	94	70-128		02/16/17 17:43	
4-Bromofluorobenzene (S)	%	103	78-117		02/16/17 17:43	
Dibromofluoromethane (S)	%	95	66-132		02/16/17 17:43	
Toluene-d8 (S)	%	100	59-140		02/16/17 17:43	

LABORATORY CONTROL SAMPLE: 1227274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.8	89	79-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	64-130	
1,1,2-Trichloroethane	ug/L	20	20.0	100	78-118	
1,1,2-Trichlorotrifluoroethane	ug/L	20	13.8J	69	39-138	
1,1-Dichloroethane	ug/L	20	18.0	90	77-124	
1,1-Dichloroethene	ug/L	20	17.0	85	74-127	
1,2,3-Trichlorobenzene	ug/L	20	21.2	106	73-140	
1,2,4-Trichlorobenzene	ug/L	20	19.7	99	81-130	
1,2-Dibromo-3-chloropropane	ug/L	20	16.3	81	53-133	
1,2-Dibromoethane (EDB)	ug/L	20	18.2	91	69-126	
1,2-Dichlorobenzene	ug/L	20	18.8	94	83-117	
1,2-Dichloroethane	ug/L	20	17.9	89	73-118	
1,2-Dichloropropane	ug/L	20	18.6	93	77-126	
1,3-Dichlorobenzene	ug/L	20	18.6	93	83-119	
1,4-Dichlorobenzene	ug/L	20	18.7	94	83-119	
2-Butanone (MEK)	ug/L	20	17.3	86	55-134	
2-Hexanone	ug/L	20	25.4	127	78-156	
4-Methyl-2-pentanone (MIBK)	ug/L	20	17.6	88	63-121	
Acetone	ug/L	20	19.1	96	51-144	
Benzene	ug/L	20	17.3	87	80-113	
Bromodichloromethane	ug/L	20	19.6	98	78-121	
Bromoform	ug/L	20	17.8	89	71-130	
Bromomethane	ug/L	20	23.5	117	58-154	
Carbon disulfide	ug/L	20	18.5	93	66-152	
Carbon tetrachloride	ug/L	20	17.6	88	69-133	
Chlorobenzene	ug/L	20	19.4	97	85-116	
Chloroethane	ug/L	20	17.6	88	76-136	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1227274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	20	17.5	87	76-118	
Chloromethane	ug/L	20	16.6	83	67-148	
cis-1,2-Dichloroethene	ug/L	20	17.7	89	77-126	
cis-1,3-Dichloropropene	ug/L	20	19.0	95	75-119	
Cyclohexane	ug/L	20	17.9	89	65-146	
Dibromochloromethane	ug/L	20	22.0	110	66-131	
Dichlorodifluoromethane	ug/L	20	11.7	59	10-175	
Ethylbenzene	ug/L	20	18.1	90	80-115	
Isopropylbenzene (Cumene)	ug/L	20	17.4	87	78-114	
m&p-Xylene	ug/L	40	35.9	90	82-116	
Methyl acetate	ug/L	20	18.8	94	56-155	
Methyl-tert-butyl ether	ug/L	20	17.0	85	82-126	
Methylene Chloride	ug/L	20	22.5	112	61-142	
o-Xylene	ug/L	20	17.7	88	81-113	
Styrene	ug/L	20	18.2	91	84-120	
Tetrachloroethene	ug/L	20	19.2	96	82-120	
Toluene	ug/L	20	19.6	98	82-116	
trans-1,2-Dichloroethene	ug/L	20	17.5	87	76-125	
trans-1,3-Dichloropropene	ug/L	20	16.8	84	73-119	
Trichloroethene	ug/L	20	17.9	90	84-116	
Trichlorofluoromethane	ug/L	20	15.7	79	59-138	
Vinyl chloride	ug/L	20	15.7	79	63-133	
Xylene (Total)	ug/L	60	53.6	89	82-115	
1,2-Dichloroethane-d4 (S)	%			94	70-128	
4-Bromofluorobenzene (S)	%			100	78-117	
Dibromofluoromethane (S)	%			101	66-132	
Toluene-d8 (S)	%			106	59-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1227277 1227278

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	1.0 U	20	20	16.5	17.0	83	85	54-140	3	30	
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	20	20	16.3	17.2	82	86	54-124	5	30	
1,1,2-Trichloroethane	ug/L	1.0 U	20	20	17.1	17.8	86	89	58-120	4	30	
1,1,2-Trichlorotrifluoroethane	ug/L	50.0 U	20	20	13.7J	13.5J	68	68	41-186		30	
1,1-Dichloroethane	ug/L	0.70J	20	20	17.8	17.9	86	86	55-133	0	30	
1,1-Dichloroethene	ug/L	0.36J	20	20	17.3	17.8	85	87	48-141	3	30	
1,2,3-Trichlorobenzene	ug/L	2.0 U	20	20	13.3	15.6	66	78	40-123	16	30	
1,2,4-Trichlorobenzene	ug/L	1.0 U	20	20	14.0	15.8	70	79	33-130	12	30	
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	20	20	11.7	12.5	59	63	23-126	7	30	
1,2-Dibromoethane (EDB)	ug/L	1.0 U	20	20	16.4	16.9	82	85	58-115	3	30	
1,2-Dichlorobenzene	ug/L	1.0 U	20	20	16.0	16.6	80	83	57-124	4	30	
1,2-Dichloroethane	ug/L	1.0 U	20	20	16.2	16.3	81	82	58-123	1	30	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1227277 1227278											
Parameter	Units	30210854009		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	Limits	Max
										RPD	RPD
1,2-Dichloropropane	ug/L	1.0 U	20	20	20	16.9	18.0	85	90	55-125	6 30
1,3-Dichlorobenzene	ug/L	1.0 U	20	20	20	16.1	16.8	81	84	62-113	4 30
1,4-Dichlorobenzene	ug/L	1.0 U	20	20	20	16.2	16.5	81	83	61-111	2 30
2-Butanone (MEK)	ug/L	10.0 U	20	20	20	19.9	18.6	88	81	43-128	7 30
2-Hexanone	ug/L	10.0 U	20	20	20	26.0	24.8	130	124	43-135	5 30
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	20	20	20	17.4	16.6	87	83	47-123	5 30
Acetone	ug/L	10.0 U	20	20	20	33.3	30.7	167	153	10-150	8 30 MH
Benzene	ug/L	1.6	20	20	20	17.7	18.1	81	83	63-123	2 30
Bromodichloromethane	ug/L	1.0 U	20	20	20	16.7	17.2	83	86	55-127	3 30
Bromoform	ug/L	1.0 U	20	20	20	12.4	12.8	62	64	44-131	3 30
Bromomethane	ug/L	1.0 U	20	20	20	21.6	22.3	108	112	10-149	3 30
Carbon disulfide	ug/L	1.0 U	20	20	20	18.4	18.1	92	91	47-158	2 30
Carbon tetrachloride	ug/L	1.0 U	20	20	20	15.7	16.5	79	82	44-155	5 30
Chlorobenzene	ug/L	1.0 U	20	20	20	17.0	17.8	85	89	57-121	5 30
Chloroethane	ug/L	1.0 U	20	20	20	19.5	18.1	97	91	57-156	7 30
Chloroform	ug/L	0.59J	20	20	20	16.6	17.1	80	82	56-132	3 30
Chloromethane	ug/L	1.0 U	20	20	20	18.8	18.6	94	93	42-163	1 30
cis-1,2-Dichloroethene	ug/L	1.3	20	20	20	17.6	18.1	82	84	46-139	3 30
cis-1,3-Dichloropropene	ug/L	1.0 U	20	20	20	15.6	16.2	78	81	55-119	4 30
Cyclohexane	ug/L	10.0 U	20	20	20	18.6	18.5	93	92	24-167	1 30
Dibromochloromethane	ug/L	1.0 U	20	20	20	16.2	17.4	81	87	52-129	7 30
Dichlorodifluoromethane	ug/L	1.0 U	20	20	20	13.1	11.8	66	59	10-175	11 30
Ethylbenzene	ug/L	1.0 U	20	20	20	16.0	17.0	80	85	70-120	6 30
Isopropylbenzene (Cumene)	ug/L	1.0 U	20	20	20	15.6	16.1	78	81	71-129	3 30
m&p-Xylene	ug/L	2.0 U	40	40	40	32.6	34.4	81	86	70-123	5 30
Methyl acetate	ug/L	5.0 U	20	20	20	15.4	14.4	77	72	25-127	7 30
Methyl-tert-butyl ether	ug/L	1.0 U	20	20	20	16.3	15.7	81	79	63-143	3 30
Methylene Chloride	ug/L	1.0 U	20	20	20	20.6	20.6	103	103	38-134	0 30
o-Xylene	ug/L	1.0 U	20	20	20	15.8	17.0	79	85	68-122	7 30
Styrene	ug/L	1.0 U	20	20	20	16.1	17.0	80	85	49-135	6 30
Tetrachloroethene	ug/L	1.0 U	20	20	20	16.6	17.7	83	89	53-125	6 30
Toluene	ug/L	0.27J	20	20	20	16.9	17.9	83	88	66-124	6 30
trans-1,2-Dichloroethene	ug/L	1.0 U	20	20	20	17.4	17.7	86	87	52-136	1 30
trans-1,3-Dichloropropene	ug/L	1.0 U	20	20	20	13.4	14.3	67	71	54-118	6 30
Trichloroethene	ug/L	1.2	20	20	20	17.7	18.4	83	86	50-127	4 30
Trichlorofluoromethane	ug/L	1.0 U	20	20	20	16.2	16.2	81	81	63-167	1 30
Vinyl chloride	ug/L	0.52J	20	20	20	17.7	16.8	86	82	54-149	5 30
Xylene (Total)	ug/L	3.0 U	60	60	60	48.4	51.4	81	86	68-123	6 30
1,2-Dichloroethane-d4 (S)	%							97	94	70-128	
4-Bromofluorobenzene (S)	%							102	100	78-117	
Dibromofluoromethane (S)	%							100	96	66-132	
Toluene-d8 (S)	%							101	103	59-140	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW  
Pace Project No.: 30210854

QC Batch: 249730 Analysis Method: EPA 8270D by SIM  
QC Batch Method: EPA 3510C Analysis Description: 8270D Water PAH by SIM MSSV  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1228917 Matrix: Water  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.10 U	0.10	0.029	02/20/17 18:49	
2-Methylnaphthalene	ug/L	0.10 U	0.10	0.021	02/20/17 21:17	
Acenaphthene	ug/L	0.10 U	0.10	0.016	02/20/17 21:17	
Acenaphthylene	ug/L	0.10 U	0.10	0.014	02/20/17 21:17	
Anthracene	ug/L	0.10 U	0.10	0.012	02/20/17 21:17	
Benzo(a)anthracene	ug/L	0.10 U	0.10	0.014	02/20/17 21:17	
Benzo(a)pyrene	ug/L	0.10 U	0.10	0.0071	02/20/17 21:17	
Benzo(b)fluoranthene	ug/L	0.10 U	0.10	0.016	02/20/17 21:17	
Benzo(g,h,i)perylene	ug/L	0.10 U	0.10	0.019	02/20/17 21:17	
Benzo(k)fluoranthene	ug/L	0.10 U	0.10	0.011	02/20/17 21:17	
Chrysene	ug/L	0.10 U	0.10	0.0075	02/20/17 21:17	
Dibenz(a,h)anthracene	ug/L	0.10 U	0.10	0.028	02/20/17 21:17	
Fluoranthene	ug/L	0.10 U	0.10	0.010	02/20/17 21:17	
Fluorene	ug/L	0.10 U	0.10	0.016	02/20/17 21:17	
Indeno(1,2,3-cd)pyrene	ug/L	0.10 U	0.10	0.027	02/20/17 21:17	
Naphthalene	ug/L	0.057J	0.10	0.018	02/20/17 21:17	
Phenanthrene	ug/L	0.10 U	0.10	0.015	02/20/17 21:17	
Pyrene	ug/L	0.10 U	0.10	0.012	02/20/17 21:17	
2-Fluorobiphenyl (S)	%	63	19-123		02/20/17 21:17	
Terphenyl-d14 (S)	%	93	58-130		02/20/17 21:17	

LABORATORY CONTROL SAMPLE: 1228918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/L	2	1.2	61	47-103	
Acenaphthene	ug/L	2	1.2	61	48-104	
Acenaphthylene	ug/L	2	1.2	61	44-109	
Anthracene	ug/L	2	1.3	63	49-112	
Benzo(a)anthracene	ug/L	2	1.8	90	63-109	
Benzo(a)pyrene	ug/L	2	1.8	89	51-98	
Benzo(b)fluoranthene	ug/L	2	2.0	99	41-139	
Benzo(g,h,i)perylene	ug/L	2	1.8	92	44-124	
Benzo(k)fluoranthene	ug/L	2	1.7	87	58-125	
Chrysene	ug/L	2	1.8	88	62-115	
Dibenz(a,h)anthracene	ug/L	2	1.8	91	55-124	
Fluoranthene	ug/L	2	1.5	75	65-112	
Fluorene	ug/L	2	1.3	64	49-108	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.8	91	54-125	
Naphthalene	ug/L	2	1.2	62	42-107	
Phenanthrene	ug/L	2	1.3	63	50-109	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1228918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Pyrene	ug/L	2	1.5	75	64-109	
2-Fluorobiphenyl (S)	%			60	19-123	
Terphenyl-d14 (S)	%			85	58-130	

LABORATORY CONTROL SAMPLE: 1228919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	0.58	29	10-79	
2-Fluorobiphenyl (S)	%			55	19-123	
Terphenyl-d14 (S)	%			87	58-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1228920 1228921

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	ug/L	1.5	2	2	1.3	1.2	-12	-14	47-103	4	20	ML
Acenaphthene	ug/L	0.60	2	2	1.0	1.1	22	23	48-104	2	20	ML
Acenaphthylene	ug/L	1.2	2	2	1.4	1.4	10	11	44-109	2	20	ML
Anthracene	ug/L	0.034J	2	2	1.4	1.3	65	65	49-112	1	20	
Benzo(a)anthracene	ug/L	0.10 U	2	2	2.0	1.8	96	91	63-109	6	20	
Benzo(a)pyrene	ug/L	0.10 U	2	2	1.8	1.7	89	85	51-98	5	20	
Benzo(b)fluoranthene	ug/L	0.10 U	2	2	1.8	1.7	91	83	41-139	10	20	
Benzo(g,h,i)perylene	ug/L	0.10 U	2	2	1.6	1.6	79	79	44-124	1	20	
Benzo(k)fluoranthene	ug/L	0.10 U	2	2	1.7	1.6	84	77	58-125	9	20	
Chrysene	ug/L	0.10 U	2	2	1.8	1.6	86	82	62-115	6	20	
Dibenz(a,h)anthracene	ug/L	0.10 U	2	2	1.6	1.6	78	78	55-124	1	20	
Fluoranthene	ug/L	0.10 U	2	2	1.8	1.8	91	86	65-112	5	20	
Fluorene	ug/L	0.10 U	2	2	1.2	1.3	58	63	49-108	8	20	
Indeno(1,2,3-cd)pyrene	ug/L	0.10 U	2	2	1.6	1.5	77	76	54-125	1	20	
Naphthalene	ug/L	6.6	2	2	5.9	6.1	-32	-21	42-107	4	20	ML
Phenanthrene	ug/L	0.019J	2	2	1.4	1.4	68	66	50-109	3	20	
Pyrene	ug/L	0.10 U	2	2	1.8	1.7	88	84	64-109	5	20	
2-Fluorobiphenyl (S)	%						48	49	19-123		20	
Terphenyl-d14 (S)	%						86	81	58-130		20	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249729 Analysis Method: EPA 8270D  
QC Batch Method: EPA 3510C Analysis Description: 8270D Water MSSV  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1228913 Matrix: Water  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	1.0 U	1.0	0.27	02/20/17 17:29	
2,3,4,6-Tetrachlorophenol	ug/L	1.0 U	1.0	0.52	02/20/17 17:29	
2,4,5-Trichlorophenol	ug/L	2.5 U	2.5	0.62	02/20/17 17:29	
2,4,6-Trichlorophenol	ug/L	1.0 U	1.0	0.59	02/20/17 17:29	
2,4-Dichlorophenol	ug/L	1.0 U	1.0	0.32	02/20/17 17:29	
2,4-Dimethylphenol	ug/L	1.0 U	1.0	0.46	02/20/17 17:29	
2,4-Dinitrophenol	ug/L	2.5 U	2.5	0.44	02/20/17 17:29	
2,4-Dinitrotoluene	ug/L	1.0 U	1.0	0.69	02/20/17 17:29	
2,6-Dinitrotoluene	ug/L	1.0 U	1.0	0.23	02/20/17 17:29	
2-Chloronaphthalene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
2-Chlorophenol	ug/L	1.0 U	1.0	0.28	02/20/17 17:29	
2-Methylnaphthalene	ug/L	1.0 U	1.0	0.28	02/20/17 17:29	
2-Methylphenol(o-Cresol)	ug/L	1.0 U	1.0	0.28	02/20/17 17:29	
2-Nitroaniline	ug/L	2.5 U	2.5	0.58	02/20/17 17:29	
3&4-Methylphenol(m&p Cresol)	ug/L	2.0 U	2.0	0.47	02/20/17 17:29	
3,3'-Dichlorobenzidine	ug/L	1.0 U	1.0	0.59	02/20/17 17:29	
4-Chloroaniline	ug/L	1.0 U	1.0	0.33	02/20/17 17:29	
4-Nitroaniline	ug/L	2.5 U	2.5	0.32	02/20/17 17:29	
Acenaphthene	ug/L	1.0 U	1.0	0.23	02/20/17 17:29	
Acenaphthylene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
Acetophenone	ug/L	1.0 U	1.0	0.29	02/20/17 17:29	
Anthracene	ug/L	1.0 U	1.0	0.13	02/20/17 17:29	
Benzaldehyde	ug/L	1.0 U	1.0	0.70	02/20/17 17:29	
Benzo(a)anthracene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
Benzo(a)pyrene	ug/L	1.0 U	1.0	0.11	02/20/17 17:29	
Benzo(b)fluoranthene	ug/L	1.0 U	1.0	0.18	02/20/17 17:29	
Benzo(g,h,i)perylene	ug/L	1.0 U	1.0	0.16	02/20/17 17:29	
Benzo(k)fluoranthene	ug/L	1.0 U	1.0	0.11	02/20/17 17:29	
Biphenyl (Diphenyl)	ug/L	1.0 U	1.0	0.29	02/20/17 17:29	
bis(2-Chloroethoxy)methane	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
bis(2-Chloroethyl) ether	ug/L	1.0 U	1.0	0.33	02/20/17 17:29	
bis(2-Chloroisopropyl) ether	ug/L	1.0 U	1.0	0.27	02/20/17 17:29	
bis(2-Ethylhexyl)phthalate	ug/L	1.0 U	1.0	0.20	02/20/17 17:29	
Caprolactam	ug/L	2.5 U	2.5	0.14	02/20/17 17:29	
Carbazole	ug/L	1.0 U	1.0	0.13	02/20/17 17:29	
Chrysene	ug/L	1.0 U	1.0	0.27	02/20/17 17:29	
Di-n-butylphthalate	ug/L	1.0 U	1.0	0.11	02/20/17 17:29	
Di-n-octylphthalate	ug/L	1.0 U	1.0	0.22	02/20/17 17:29	
Dibenz(a,h)anthracene	ug/L	1.0 U	1.0	0.18	02/20/17 17:29	
Diethylphthalate	ug/L	1.0 U	1.0	0.20	02/20/17 17:29	
Fluoranthene	ug/L	1.0 U	1.0	0.10	02/20/17 17:29	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

METHOD BLANK: 1228913

Matrix: Water

Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluorene	ug/L	1.0 U	1.0	0.24	02/20/17 17:29	
Hexachloro-1,3-butadiene	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
Hexachlorobenzene	ug/L	1.0 U	1.0	0.12	02/20/17 17:29	
Hexachlorocyclopentadiene	ug/L	1.0 U	1.0	0.60	02/20/17 17:29	
Hexachloroethane	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
Indeno(1,2,3-cd)pyrene	ug/L	1.0 U	1.0	0.14	02/20/17 17:29	
Isophorone	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
N-Nitroso-di-n-propylamine	ug/L	1.0 U	1.0	0.29	02/20/17 17:29	
N-Nitrosodiphenylamine	ug/L	1.0 U	1.0	0.39	02/20/17 17:29	
Naphthalene	ug/L	1.0 U	1.0	0.31	02/20/17 17:29	
Nitrobenzene	ug/L	1.0 U	1.0	0.25	02/20/17 17:29	
Pentachlorophenol	ug/L	2.5 U	2.5	0.64	02/20/17 17:29	
Phenanthrene	ug/L	1.0 U	1.0	0.15	02/20/17 17:29	
Phenol	ug/L	1.0 U	1.0	0.19	02/20/17 17:29	
Pyrene	ug/L	1.0 U	1.0	0.26	02/20/17 17:29	
2,4,6-Tribromophenol (S)	%	48	27-129		02/20/17 17:29	
2-Fluorobiphenyl (S)	%	47	18-115		02/20/17 17:29	
2-Fluorophenol (S)	%	37	10-76		02/20/17 17:29	
Nitrobenzene-d5 (S)	%	51	16-112		02/20/17 17:29	
Phenol-d6 (S)	%	26	10-48		02/20/17 17:29	
Terphenyl-d14 (S)	%	68	54-118		02/20/17 17:29	

LABORATORY CONTROL SAMPLE: 1228914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4,5-Tetrachlorobenzene	ug/L	10	5.0	50	47-107	
2,3,4,6-Tetrachlorophenol	ug/L	10	6.2	62	42-141	
2,4,5-Trichlorophenol	ug/L	10	7.3	73	50-132	
2,4,6-Trichlorophenol	ug/L	10	5.4	54	41-142	
2,4-Dichlorophenol	ug/L	10	5.5	55	40-90	
2,4-Dimethylphenol	ug/L	10	5.2	52	34-84	
2,4-Dinitrophenol	ug/L	10	7.0	70	10-156	
2,4-Dinitrotoluene	ug/L	10	7.3	73	59-137	
2,6-Dinitrotoluene	ug/L	10	6.5	65	52-139	
2-Chloronaphthalene	ug/L	10	5.2	52	42-120	
2-Chlorophenol	ug/L	10	5.6	56	39-109	
2-Methylnaphthalene	ug/L	10	4.5	45	36-78	
2-Methylphenol(o-Cresol)	ug/L	10	6.0	60	35-105	
2-Nitroaniline	ug/L	10	6.9	69	51-139	
3&4-Methylphenol(m&p Cresol)	ug/L	10	6.1	61	35-102	
3,3'-Dichlorobenzidine	ug/L	10	7.4	74	51-138	
4-Chloroaniline	ug/L	10	5.0	50	22-98	
4-Nitroaniline	ug/L	10	9.6	96	50-165	
Acenaphthene	ug/L	10	5.9	59	48-120	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

LABORATORY CONTROL SAMPLE: 1228914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthylene	ug/L	10	5.9	59	46-119	
Acetophenone	ug/L	10	6.3	63	45-109	
Anthracene	ug/L	10	6.7	67	56-124	
Benzaldehyde	ug/L	10	7.7	77	10-175	
Benzo(a)anthracene	ug/L	10	8.2	82	63-130	
Benzo(a)pyrene	ug/L	10	8.2	82	61-128	
Benzo(b)fluoranthene	ug/L	10	8.4	84	60-142	
Benzo(g,h,i)perylene	ug/L	10	8.4	84	27-157	
Benzo(k)fluoranthene	ug/L	10	9.3	93	55-145	
Biphenyl (Diphenyl)	ug/L	10	5.6	56	46-113	
bis(2-Chloroethoxy)methane	ug/L	10	5.4	54	40-91	
bis(2-Chloroethyl) ether	ug/L	10	6.9	69	39-111	
bis(2-Chloroisopropyl) ether	ug/L	10	7.5	75	30-123	
bis(2-Ethylhexyl)phthalate	ug/L	10	11.0	110	52-145	
Caprolactam	ug/L	10	3.5	35	12-41	
Carbazole	ug/L	10	8.8	88	58-133	
Chrysene	ug/L	10	8.5	85	61-133	
Di-n-butylphthalate	ug/L	10	9.5	95	60-140	
Di-n-octylphthalate	ug/L	10	11.9	119	43-152	
Dibenz(a,h)anthracene	ug/L	10	9.0	90	38-153	
Diethylphthalate	ug/L	10	7.5	75	58-133	
Fluoranthene	ug/L	10	8.3	83	63-129	
Fluorene	ug/L	10	6.2	62	51-123	
Hexachloro-1,3-butadiene	ug/L	10	4.0	40	30-87	
Hexachlorobenzene	ug/L	10	6.6	66	52-137	
Hexachlorocyclopentadiene	ug/L	10	3.2	32	20-96	
Hexachloroethane	ug/L	10	4.6	46	30-101	
Indeno(1,2,3-cd)pyrene	ug/L	10	8.7	87	37-154	
Isophorone	ug/L	10	5.4	54	40-94	
N-Nitroso-di-n-propylamine	ug/L	10	6.9	69	42-122	
N-Nitrosodiphenylamine	ug/L	10	5.1	51	38-105	
Naphthalene	ug/L	10	4.4	44	36-83	
Nitrobenzene	ug/L	10	5.2	52	38-91	
Pentachlorophenol	ug/L	10	8.8	88	22-151	
Phenanthrene	ug/L	10	6.6	66	55-126	
Phenol	ug/L	10	3.4	34	17-57	
Pyrene	ug/L	10	8.1	81	57-136	
2,4,6-Tribromophenol (S)	%			64	27-129	
2-Fluorobiphenyl (S)	%			53	18-115	
2-Fluorophenol (S)	%			38	10-76	
Nitrobenzene-d5 (S)	%			47	16-112	
Phenol-d6 (S)	%			30	10-48	
Terphenyl-d14 (S)	%			77	54-118	

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1228915 1228916											
Parameter	Units	30210854009		MS	MSD	MS		MSD	% Rec		Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
1,2,4,5-Tetrachlorobenzene	ug/L	1.0 U	10.2	10.2	10.2	3.7	3.4	36	33	47-107	8 25 ML
2,3,4,6-Tetrachlorophenol	ug/L	1.0 U	10.2	10.2	10.2	6.0	5.6	59	55	42-141	7 25
2,4,5-Trichlorophenol	ug/L	2.5 U	10.2	10.2	10.2	5.8	5.6	57	55	50-132	4 25
2,4,6-Trichlorophenol	ug/L	1.0 U	10.2	10.2	10.2	4.9	4.2	48	41	41-142	17 25
2,4-Dichlorophenol	ug/L	1.0 U	10.2	10.2	10.2	4.9	4.5	48	44	40-90	10 25
2,4-Dimethylphenol	ug/L	1.0J	10.2	10.2	10.2	5.6	5.1	45	40	34-84	10 25
2,4-Dinitrophenol	ug/L	2.5 U	10.2	10.2	10.2	7.9	6.6	78	65	10-156	19 25
2,4-Dinitrotoluene	ug/L	1.0 U	10.2	10.2	10.2	6.4	5.7	63	56	59-137	13 25 ML
2,6-Dinitrotoluene	ug/L	1.0 U	10.2	10.2	10.2	5.5	4.6	54	45	52-139	18 25 ML
2-Chloronaphthalene	ug/L	1.0 U	10.2	10.2	10.2	4.2	3.7	41	37	42-120	11 25 ML
2-Chlorophenol	ug/L	1.0 U	10.2	10.2	10.2	5.0	4.6	49	45	39-109	8 25
2-Methylnaphthalene	ug/L	1.0 U	10.2	10.2	10.2	3.6	3.2	35	30	36-78	13 25 ML
2-Methylphenol(o-Cresol)	ug/L	1.0 U	10.2	10.2	10.2	4.9	4.5	48	45	35-105	8 25
2-Nitroaniline	ug/L	2.5 U	10.2	10.2	10.2	6.4	5.4	63	53	51-139	16 25
3&4-Methylphenol(m&p Cresol)	ug/L	4.6	10.2	10.2	10.2	9.5	11.1	48	64	35-102	16 25
3,3'-Dichlorobenzidine	ug/L	1.0 U	10.2	10.2	10.2	1.2	1.3	12	13	51-138	11 25 ML
4-Chloroaniline	ug/L	1.0 U	10.2	10.2	10.2	3.9	3.7	39	36	22-98	7 25
4-Nitroaniline	ug/L	2.5 U	10.2	10.2	10.2	9.2	8.0	90	78	50-165	14 25
Acenaphthene	ug/L	1.0 U	10.2	10.2	10.2	4.5	4.0	45	39	48-120	13 25 ML
Acenaphthylene	ug/L	1.0 U	10.2	10.2	10.2	4.6	4.0	45	40	46-119	14 25 ML
Acetophenone	ug/L	1.0 U	10.2	10.2	10.2	5.5	5.4	53	52	45-109	2 25
Anthracene	ug/L	1.0 U	10.2	10.2	10.2	5.6	5.4	54	53	56-124	3 25 ML
Benzaldehyde	ug/L	1.0 U	10.2	10.2	10.2	6.4	5.5	61	52	10-175	15 25
Benzo(a)anthracene	ug/L	1.0 U	10.2	10.2	10.2	7.4	7.1	72	70	63-130	3 25
Benzo(a)pyrene	ug/L	1.0 U	10.2	10.2	10.2	7.2	6.9	70	68	61-128	3 25
Benzo(b)fluoranthene	ug/L	1.0 U	10.2	10.2	10.2	7.4	7.2	72	71	60-142	2 25
Benzo(g,h,i)perylene	ug/L	1.0 U	10.2	10.2	10.2	7.7	7.7	76	75	27-157	1 25
Benzo(k)fluoranthene	ug/L	1.0 U	10.2	10.2	10.2	7.2	6.8	71	67	55-145	6 25
Biphenyl (Diphenyl)	ug/L	1.0 U	10.2	10.2	10.2	4.2	3.8	41	37	46-113	12 25 ML
bis(2-Chloroethoxy)methane	ug/L	1.0 U	10.2	10.2	10.2	4.6	4.2	45	42	40-91	8 25
bis(2-Chloroethyl) ether	ug/L	1.0 U	10.2	10.2	10.2	5.7	5.0	56	49	39-111	12 25
bis(2-Chloroisopropyl) ether	ug/L	1.0 U	10.2	10.2	10.2	6.1	5.5	60	54	30-123	11 25
bis(2-Ethylhexyl)phthalate	ug/L	1.0 U	10.2	10.2	10.2	9.0	9.1	86	88	52-145	1 25
Caprolactam	ug/L	2.5 U	10.2	10.2	10.2	2.9	2.9	29	29	12-41	0 25
Carbazole	ug/L	0.14J	10.2	10.2	10.2	8.5	8.1	82	78	58-133	5 25
Chrysene	ug/L	1.0 U	10.2	10.2	10.2	7.1	6.8	70	67	61-133	4 25
Di-n-butylphthalate	ug/L	1.0 U	10.2	10.2	10.2	8.2	8.0	79	78	60-140	2 25
Di-n-octylphthalate	ug/L	1.0 U	10.2	10.2	10.2	9.3	9.3	91	91	43-152	0 25
Dibenz(a,h)anthracene	ug/L	1.0 U	10.2	10.2	10.2	7.7	7.8	76	77	38-153	1 25
Diethylphthalate	ug/L	0.26J	10.2	10.2	10.2	6.6	6.0	62	56	58-133	11 25 ML
Fluoranthene	ug/L	1.0 U	10.2	10.2	10.2	7.1	6.8	70	67	63-129	5 25
Fluorene	ug/L	1.0 U	10.2	10.2	10.2	4.9	4.2	48	41	51-123	15 25 ML
Hexachloro-1,3-butadiene	ug/L	1.0 U	10.2	10.2	10.2	2.6	2.3	26	23	30-87	11 25 ML
Hexachlorobenzene	ug/L	1.0 U	10.2	10.2	10.2	5.1	4.6	50	45	52-137	12 25 ML
Hexachlorocyclopentadiene	ug/L	1.0 U	10.2	10.2	10.2	2.6	2.1	26	21	20-96	22 25

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1228915 1228916											
Parameter	Units	30210854009		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	Limits	Max
											RPD
Hexachloroethane	ug/L	1.0 U	10.2	10.2	10.2	3.1	2.7	30	27	30-101	13
Indeno(1,2,3-cd)pyrene	ug/L	1.0 U	10.2	10.2	10.2	7.8	7.6	76	75	37-154	2
Isophorone	ug/L	1.0 U	10.2	10.2	10.2	4.5	4.1	44	41	40-94	9
N-Nitroso-di-n-propylamine	ug/L	1.0 U	10.2	10.2	10.2	6.0	6.1	59	60	42-122	2
N-Nitrosodiphenylamine	ug/L	1.0 U	10.2	10.2	10.2	4.7	4.2	46	41	38-105	10
Naphthalene	ug/L	5.5	10.2	10.2	10.2	7.8	6.8	23	13	36-83	14
Nitrobenzene	ug/L	1.0 U	10.2	10.2	10.2	4.6	4.2	45	41	38-91	10
Pentachlorophenol	ug/L	2.5 U	10.2	10.2	10.2	8.8	8.5	87	84	22-151	4
Phenanthrene	ug/L	1.0 U	10.2	10.2	10.2	6.2	5.4	60	53	55-126	13
Phenol	ug/L	0.27J	10.2	10.2	10.2	2.7	2.4	23	21	17-57	12
Pyrene	ug/L	1.0 U	10.2	10.2	10.2	6.8	6.7	67	66	57-136	2
2,4,6-Tribromophenol (S)	%							62	58	27-129	
2-Fluorobiphenyl (S)	%							40	36	18-115	
2-Fluorophenol (S)	%							30	28	10-76	
Nitrobenzene-d5 (S)	%							42	39	16-112	
Phenol-d6 (S)	%							21	19	10-48	
Terphenyl-d14 (S)	%							63	62	54-118	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249461 Analysis Method: EPA 7196A  
QC Batch Method: EPA 7196A Analysis Description: 7196 Chromium, Hexavalent  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1226998 Matrix: Water  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	10.0 U	10.0	1.7	02/15/17 23:00	

LABORATORY CONTROL SAMPLE: 1226999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	250	259	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1227000 1227001

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	ug/L	23000J	2500000	2500000	2480000	2460000	98	98	75-125	1	20	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

QC Batch: 249924 Analysis Method: EPA 9012B  
QC Batch Method: EPA 9012B Analysis Description: 9012B Cyanide, Total  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

METHOD BLANK: 1229718 Matrix: Water  
Associated Lab Samples: 30210854008, 30210854009, 30210854010, 30210854012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	mg/L	0.010 U	0.010	0.0018	02/21/17 20:27	

LABORATORY CONTROL SAMPLE: 1229719

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.2	0.20	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229835 1229836

Parameter	Units	30210854009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	0.010 U	.1	.1	0.10	0.098	100	98	90-110	2	20	

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## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 249814

[1] Serial dilution failed for Ni and Zinc

Batch: 249839

[1] Cd and Zn failed for the serial dilution.

### ANALYTE QUALIFIERS

1c Cd and Zn failed for the serial dilution.

2c Serial dilution failed for Ni and Zinc

B Analyte was detected in the associated method blank.

C9 Common Laboratory Contaminant.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30210854

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30210854001	RW16-MW(S)	EPA 3005A	249761	EPA 6010C	249839
30210854002	RW16-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854003	RW15-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854004	RW15-MW(S)	EPA 3005A	249761	EPA 6010C	249839
30210854005	RW19-MW(S)	EPA 3005A	249761	EPA 6010C	249839
30210854006	RW19-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854007	RW18-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854008	RW10-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854009	RW13-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854010	Duplicate	EPA 3005A	249761	EPA 6010C	249839
30210854012	Field Blank	EPA 3005A	249761	EPA 6010C	249839
30210854013	RW12-MW(I)	EPA 3005A	249761	EPA 6010C	249839
30210854008	RW10-MW(I)	EPA 3005A	249737	EPA 6010C	249814
30210854009	RW13-MW(I)	EPA 3005A	249737	EPA 6010C	249814
30210854010	Duplicate	EPA 3005A	249737	EPA 6010C	249814
30210854008	RW10-MW(I)	EPA 7470A	249769	EPA 7470A	249791
30210854009	RW13-MW(I)	EPA 7470A	249769	EPA 7470A	249791
30210854010	Duplicate	EPA 7470A	249769	EPA 7470A	249791
30210854012	Field Blank	EPA 7470A	249769	EPA 7470A	249791
30210854008	RW10-MW(I)	EPA 7470A	249768	EPA 7470A	249790
30210854009	RW13-MW(I)	EPA 7470A	249768	EPA 7470A	249790
30210854010	Duplicate	EPA 7470A	249768	EPA 7470A	249790
30210854008	RW10-MW(I)	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854009	RW13-MW(I)	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854010	Duplicate	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854012	Field Blank	EPA 3510C	249730	EPA 8270D by SIM	249815
30210854008	RW10-MW(I)	EPA 3510C	249729	EPA 8270D	249841
30210854009	RW13-MW(I)	EPA 3510C	249729	EPA 8270D	249841
30210854010	Duplicate	EPA 3510C	249729	EPA 8270D	249841
30210854012	Field Blank	EPA 3510C	249729	EPA 8270D	249841
30210854008	RW10-MW(I)	EPA 8260B	249543		
30210854009	RW13-MW(I)	EPA 8260B	249543		
30210854010	Duplicate	EPA 8260B	249543		
30210854011	Trip Blank	EPA 8260B	249543		
30210854012	Field Blank	EPA 8260B	249543		
30210854008	RW10-MW(I)	EPA 7196A	249461		
30210854009	RW13-MW(I)	EPA 7196A	249461		
30210854010	Duplicate	EPA 7196A	249461		
30210854012	Field Blank	EPA 7196A	249461		
30210854008	RW10-MW(I)	EPA 9012B	249924	EPA 9012B	249999
30210854009	RW13-MW(I)	EPA 9012B	249924	EPA 9012B	249999
30210854010	Duplicate	EPA 9012B	249924	EPA 9012B	249999
30210854012	Field Blank	EPA 9012B	249924	EPA 9012B	249999

## REPORT OF LABORATORY ANALYSIS

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REVISED

OMB 2110-17

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a legal document. All relevant fields must be completed accurately.

Page: 2 of 2

## Section B

### Required Project Information:

Report To: James Calenda

Copy To:

## Section C

### Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Phone:

Reference:

Project Manager: Samantha Bayura

Phone:

## REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

MD

STATE:

## Requested Analysis Filtered (Y/N)

Valid Matrix Codes  
MATRIX CODE  
DRINKING WATER DW: WT  
WASTE WATER WW  
PRODUCT P  
SOL/SOLID SL  
OIL OL  
WIFE WF  
AIR AR  
OTHER OT  
TISSUE TS

MATRIX CODE (use valid codes to left)  
SAMPLE TYPE (G=GRAB C=COMP)  
DATE TIME DATE TIME  
SAMPLE TEMP AT COLLECTION  
# OF CONTAINERS

## COLLECTED

COMPOSITE START

COMPOSITE END/GRAB

## Preservatives

Unpreserved

H<sub>2</sub>SO<sub>4</sub>

HNO<sub>3</sub>

HCl

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Methanol

Other

Y/N

Analysis Test

VOC/8260B

SVOC 8270D

DRO/8015B

GRO/8015B

PCB/8082 (soil)

METALS/6010C

Oil and Grease/9071B (soil)

Mercury/7471A or 7470A

Hexavalent Chromium/7196A

Total Cyanide/9012A

Oil and Grease/1664A (aq)

PCB/680 (aq)

Residual Chlorine (Y/N)

Page Project No./ Lab I.D.

30210854

011

## ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

Required? (Y/N):

Required? (Y/N):

Required, attach data package checklist.

## SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed

(MM/DD/YY):

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

## Sample Condition Upon Receipt Pittsburgh

30210854

Client Name: Sparrows

Project # \_\_\_\_\_

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_Tracking #: NACustody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ noThermometer Used 7 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 2.2/1.0 °C Correction Factor: -0.1 °C Final Temp: 2.1/0.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: PC 2-15-17

## Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. <u>Sample times &amp; Sample IDs do not match COC. No sample RWIS-mw(I) Received.</u>
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time::	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. <u>-NE Rec'd two labeled</u>
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. <u>RWIS-mw(s)</u>
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. <u>L7 see email for clarification</u>
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>PC</u> Date/time of preservation: <u>2-15-17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>PC</u> Date: <u>2-15-17</u>

## Client Notification/ Resolution:

Person Contacted: Lisa Perrin Date/Time: 2/16 & 2/17 Contacted By: SMB

Comments/ Resolution: Contacted for clarification on analysis. Requested  
Also Requested Revised COC and clarification on sample collection  
time due to discrepancies between COC and bottles  
- Revised COC Rec'd via email 2/16/17  
- no package needed.

☒ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

untitled

sparrows project 30210854 presented the following problems:

7 sample times did not match COC/labels

2 samples came in marked RW15-MW(S) and no samples were marked RW15-MW(I)

	Sample Time	COC/Label Time
RW16-MW(S)	0915	0838
RW16-MW(I)	1005	0925
RW15-MW(I)	-	-
RW15-MW(S)	1055	1020
	1150	1105
RW19-MW(S)	1235	1200
RW19-MW(I)	1315	1241
RW18-MW(I)	1530	1450

Handwritten notes: An arrow points from 1055 to 1020. Another arrow points from 1150 to 1105. To the right of these arrows are handwritten 'I' and 'S' with superscripts '3' and '4' respectively.

February 22, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel AB GW  
Pace Project No.: 30211148

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30211148001	RW11-MW (I)	Water	02/16/17 09:40	02/17/17 22:00
30211148002	RW06-MW (I)	Water	02/16/17 11:00	02/17/17 22:00
30211148003	RW05-MW (I)	Water	02/16/17 12:08	02/17/17 22:00
30211148004	RW21-PZM 023	Water	02/16/17 13:40	02/17/17 22:00
30211148005	RW20-PZM 020	Water	02/16/17 14:38	02/17/17 22:00
30211148006	RW17-PZM 019	Water	02/16/17 15:34	02/17/17 22:00
30211148007	RW01-PZM 020	Water	02/16/17 16:20	02/17/17 22:00
30211148008	RW13-PZM 020	Water	02/17/17 09:43	02/17/17 22:00
30211148009	RW24-50 ft	Water	02/17/17 11:00	02/17/17 22:00
30211148010	RW23-50 ft	Water	02/17/17 12:00	02/17/17 22:00
30211148011	RW10-PZM 020	Water	02/17/17 12:55	02/17/17 22:00

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30211148001	RW11-MW (I)	EPA 6010C	PJD	2
30211148002	RW06-MW (I)	EPA 6010C	PJD	2
30211148003	RW05-MW (I)	EPA 6010C	PJD	2
30211148004	RW21-PZM 023	EPA 6010C	PJD	2
30211148005	RW20-PZM 020	EPA 6010C	PJD	2
30211148006	RW17-PZM 019	EPA 6010C	PJD	2
30211148007	RW01-PZM 020	EPA 6010C	PJD	2
30211148008	RW13-PZM 020	EPA 6010C	PJD	2
30211148009	RW24-50 ft	EPA 6010C	PJD	2
30211148010	RW23-50 ft	EPA 6010C	PJD	2
30211148011	RW10-PZM 020	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel AB GW  
Pace Project No.: 30211148

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** February 22, 2017

### General Information:

11 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

#### Batch Comments:

Serial dilution failed for Cd and Zn

- QC Batch: 249840

PDS failed for Zn

- QC Batch: 249840

#### Analyte Comments:

QC Batch: 249763

1c: PDS failed for Zn

- BLANK (Lab ID: 1229034)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1229036)
  - Cadmium

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## PROJECT NARRATIVE

Project: Area A Parcel AB GW

Pace Project No.: 30211148

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249763

1c: PDS failed for Zn

- DUP (Lab ID: 1229036)
  - Zinc
- DUP (Lab ID: 1229039)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1229035)
  - Cadmium
  - Zinc
- MS (Lab ID: 1229037)
  - Cadmium
  - Zinc
- MS (Lab ID: 1229040)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1229038)
  - Cadmium
  - Zinc
- RW01-PZM 020 (Lab ID: 30211148007)
  - Cadmium
  - Zinc
- RW05-MW (I) (Lab ID: 30211148003)
  - Cadmium
  - Zinc
- RW06-MW (I) (Lab ID: 30211148002)
  - Cadmium
  - Zinc
- RW10-PZM 020 (Lab ID: 30211148011)
  - Cadmium
  - Zinc
- RW11-MW (I) (Lab ID: 30211148001)
  - Cadmium
  - Zinc
- RW13-PZM 020 (Lab ID: 30211148008)
  - Cadmium
  - Zinc
- RW17-PZM 019 (Lab ID: 30211148006)
  - Cadmium
  - Zinc
- RW20-PZM 020 (Lab ID: 30211148005)
  - Cadmium
  - Zinc
- RW21-PZM 023 (Lab ID: 30211148004)
  - Cadmium

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## PROJECT NARRATIVE

Project: Area A Parcel AB GW

Pace Project No.: 30211148

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249763

1c: PDS failed for Zn

- RW21-PZM 023 (Lab ID: 30211148004)
  - Zinc
- RW23-50 ft (Lab ID: 30211148010)
  - Cadmium
  - Zinc
- RW24-50 ft (Lab ID: 30211148009)
  - Cadmium
  - Zinc

2c: Serial dilution failed for Cd and Zn

- BLANK (Lab ID: 1229034)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1229036)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1229039)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1229035)
  - Cadmium
  - Zinc
- MS (Lab ID: 1229037)
  - Cadmium
  - Zinc
- MS (Lab ID: 1229040)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1229038)
  - Cadmium
  - Zinc
- RW01-PZM 020 (Lab ID: 30211148007)
  - Cadmium
  - Zinc
- RW05-MW (I) (Lab ID: 30211148003)
  - Cadmium
  - Zinc
- RW06-MW (I) (Lab ID: 30211148002)
  - Cadmium
  - Zinc
- RW10-PZM 020 (Lab ID: 30211148011)
  - Cadmium
  - Zinc

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## PROJECT NARRATIVE

Project: Area A Parcel AB GW

Pace Project No.: 30211148

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** February 22, 2017

Analyte Comments:

QC Batch: 249763

2c: Serial dilution failed for Cd and Zn

- RW11-MW (I) (Lab ID: 30211148001)
  - Cadmium
  - Zinc
- RW13-PZM 020 (Lab ID: 30211148008)
  - Cadmium
  - Zinc
- RW17-PZM 019 (Lab ID: 30211148006)
  - Cadmium
  - Zinc
- RW20-PZM 020 (Lab ID: 30211148005)
  - Cadmium
  - Zinc
- RW21-PZM 023 (Lab ID: 30211148004)
  - Cadmium
  - Zinc
- RW23-50 ft (Lab ID: 30211148010)
  - Cadmium
  - Zinc
- RW24-50 ft (Lab ID: 30211148009)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW11-MW (I)		Lab ID: 30211148001		Collected: 02/16/17 09:40		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1690</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:32	7440-43-9	1c,2c
Zinc	<b>368000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 02:43	7440-66-6	1c,2c, ML

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW06-MW (I)		Lab ID: 30211148002		Collected: 02/16/17 11:00		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.5</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:47	7440-43-9	1c,2c
Zinc	<b>1900</b>	ug/L	10.0	1.1	1	02/20/17 11:04	02/21/17 01:47	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW05-MW (I)		Lab ID: 30211148003		Collected: 02/16/17 12:08		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1070</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 01:50	7440-43-9	1c,2c
Zinc	<b>22900</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 02:57	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

<b>Sample: RW21-PZM 023</b>		<b>Lab ID: 30211148004</b>		Collected: 02/16/17 13:40		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1170</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:07	7440-43-9	1c,2c
Zinc	<b>12300</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:00	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

<b>Sample: RW20-PZM 020</b>		<b>Lab ID: 30211148005</b>		Collected: 02/16/17 14:38		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>7.2</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:09	7440-43-9	1c,2c
Zinc	<b>5250</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:02	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

<b>Sample: RW17-PZM 019</b>		<b>Lab ID: 30211148006</b>		Collected: 02/16/17 15:34		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7580</b>	ug/L	300	34.4	100	02/20/17 11:04	02/21/17 03:05	7440-43-9	1c,2c
Zinc	<b>198000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:05	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

<b>Sample: RW01-PZM 020</b>		<b>Lab ID: 30211148007</b>		Collected: 02/16/17 16:20		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>91.5</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:14	7440-43-9	1c,2c
Zinc	<b>113000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:12	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

<b>Sample: RW13-PZM 020</b>		<b>Lab ID: 30211148008</b>		Collected: 02/17/17 09:43		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>115</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:16	7440-43-9	1c,2c
Zinc	<b>44300</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:14	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

<b>Sample: RW24-50 ft</b>		<b>Lab ID: 30211148009</b>		Collected: 02/17/17 11:00		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>23600</b>	ug/L	300	34.4	100	02/20/17 11:04	02/21/17 03:17	7440-43-9	1c,2c
Zinc	<b>561000</b>	ug/L	10000	1080	1000	02/20/17 11:04	02/21/17 03:29	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW23-50 ft		Lab ID: 30211148010		Collected: 02/17/17 12:00		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3410</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:21	7440-43-9	1c,2c
Zinc	<b>176000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:19	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Sample: RW10-PZM 020		Lab ID: 30211148011		Collected: 02/17/17 12:55		Received: 02/17/17 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>71.6</b>	ug/L	3.0	0.34	1	02/20/17 11:04	02/21/17 02:24	7440-43-9	1c,2c
Zinc	<b>150000</b>	ug/L	1000	108	100	02/20/17 11:04	02/21/17 03:22	7440-66-6	1c,2c, MH

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel AB GW

Pace Project No.: 30211148

QC Batch:	249763	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30211148001, 30211148002, 30211148003, 30211148004, 30211148005, 30211148006, 30211148007, 30211148008, 30211148009, 30211148010, 30211148011		

METHOD BLANK:	1229034	Matrix:	Water
Associated Lab Samples:	30211148001, 30211148002, 30211148003, 30211148004, 30211148005, 30211148006, 30211148007, 30211148008, 30211148009, 30211148010, 30211148011		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	02/21/17 01:28	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	02/21/17 01:28	1c,2c

LABORATORY CONTROL SAMPLE: 1229035

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	520	104	80-120	1c,2c
Zinc	ug/L	500	514	103	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229037 1229038

Parameter	Units	30211148001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1690	500	500	2140	2080	89	77	75-125	3	20	1c,2c
Zinc	ug/L	368000	500	500	346000	351000	-4480	-3420	75-125	2	20	1c,2c, ML

MATRIX SPIKE SAMPLE: 1229040

Parameter	Units	30211148011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	71.6	500	570	100	75-125	1c,2c
Zinc	ug/L	150000	500	151000	320	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1229036

Parameter	Units	30211148001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1690	1730	2	20	1c,2c
Zinc	ug/L	368000	366000	1	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Area A Parcel AB GW

Pace Project No.: 30211148

SAMPLE DUPLICATE: 1229039

Parameter	Units	30211148011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	71.6	71.2	1	20	1c, 2c
Zinc	ug/L	150000	156000	4	20	1c, 2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel AB GW

Pace Project No.: 30211148

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 249840

[1] Serial dilution failed for Cd and Zn

[2] PDS failed for Zn

### ANALYTE QUALIFIERS

1c PDS failed for Zn

2c Serial dilution failed for Cd and Zn

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel AB GW

Pace Project No.: 30211148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30211148001	RW11-MW (I)	EPA 3005A	249763	EPA 6010C	249840
30211148002	RW06-MW (I)	EPA 3005A	249763	EPA 6010C	249840
30211148003	RW05-MW (I)	EPA 3005A	249763	EPA 6010C	249840
30211148004	RW21-PZM 023	EPA 3005A	249763	EPA 6010C	249840
30211148005	RW20-PZM 020	EPA 3005A	249763	EPA 6010C	249840
30211148006	RW17-PZM 019	EPA 3005A	249763	EPA 6010C	249840
30211148007	RW01-PZM 020	EPA 3005A	249763	EPA 6010C	249840
30211148008	RW13-PZM 020	EPA 3005A	249763	EPA 6010C	249840
30211148009	RW24-50 ft	EPA 3005A	249763	EPA 6010C	249840
30211148010	RW23-50 ft	EPA 3005A	249763	EPA 6010C	249840
30211148011	RW10-PZM 020	EPA 3005A	249763	EPA 6010C	249840

## REPORT OF LABORATORY ANALYSIS

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## Sample Condition Upon Receipt Pittsburgh

30211148



Client Name:

Sparrows

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: NA

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Thermometer Used

7

Type of Ice: Wet Blue None

Cooler Temperature

Observed Temp

2.4 °C

Correction Factor: -0.1 °C

Final Temp: 2.3 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: PC 2-17-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: WJ				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed PC Date/time of preservation 2-17-17
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed PC Date: 2-17-17

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

March 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW  
Pace Project No.: 30212070

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on February 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30212070001	RW13-MWI	Water	02/28/17 11:24	02/28/17 22:10

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30212070001	RW13-MWI	EPA 8270D by SIM	TMK	3

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW  
Pace Project No.: 30212070

---

**Method:** EPA 8270D by SIM  
**Description:** 8270D MSSV PAH by SIM  
**Client:** EnviroAnalytics Group, LLC  
**Date:** March 08, 2017

### General Information:

1 sample was analyzed for EPA 8270D by SIM. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 250912

S0: Surrogate recovery outside laboratory control limits.

- RW13-MWI (Lab ID: 30212070001)
- Terphenyl-d14 (S)

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

Analyte Comments:

QC Batch: 250912

1c: This sample was re-extracted. Surrogate recovery in the re-extract was acceptable and the re-extract results were comparable to the original results. The original, in hold, results are reported.

- RW13-MWI (Lab ID: 30212070001)
- Terphenyl-d14 (S)

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

---

**Method:** EPA 8270D by SIM

**Description:** 8270D MSSV PAH by SIM

**Client:** EnviroAnalytics Group, LLC

**Date:** March 08, 2017

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

Sample: RW13-MWI		Lab ID: 30212070001		Collected: 02/28/17 11:24		Received: 02/28/17 22:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV PAH by SIM</b>		Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C							
1,4-Dioxane (p-Dioxane)	<b>0.65</b>	ug/L	0.10	0.030	1	03/03/17 09:06	03/03/17 17:29	123-91-1	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	42	%	19-123		1	03/03/17 09:06	03/03/17 17:29	321-60-8	
Terphenyl-d14 (S)	48	%	58-130		1	03/03/17 09:06	03/03/17 17:29	1718-51-0	1c, S0

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW  
Pace Project No.: 30212070

QC Batch:	250912	Analysis Method:	EPA 8270D by SIM
QC Batch Method:	EPA 3510C	Analysis Description:	8270D Water PAH by SIM MSSV
Associated Lab Samples:	30212070001		

METHOD BLANK: 1234494 Matrix: Water  
Associated Lab Samples: 30212070001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	0.10 U	0.10	0.029	03/03/17 16:44	
2-Fluorobiphenyl (S)	%	64	19-123		03/03/17 16:44	
Terphenyl-d14 (S)	%	90	58-130		03/03/17 16:44	

LABORATORY CONTROL SAMPLE: 1234495

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	2	0.40	20	10-79	
2-Fluorobiphenyl (S)	%			61	19-123	
Terphenyl-d14 (S)	%			73	58-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1234496 1234497

Parameter	Units	30212070001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,4-Dioxane (p-Dioxane)	ug/L	0.65	2.1	2	1.0	1.0	18	18	10-79	1	20	
2-Fluorobiphenyl (S)	%						53	54	19-123		20	
Terphenyl-d14 (S)	%						70	58	58-130		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

- |    |  |
|----|--|
| 1c | This sample was re-extracted. Surrogate recovery in the re-extract was acceptable and the re-extract results were comparable to the original results. The original, in hold, results are reported. |
| S0 | Surrogate recovery outside laboratory control limits.  |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30212070

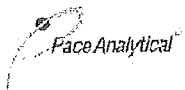
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30212070001	RW13-MWI	EPA 3510C	250912	EPA 8270D by SIM	251052

## REPORT OF LABORATORY ANALYSIS

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[illegible]

# Sample Condition Upon Receipt Pittsburgh



Client Name: Sparrows

Project # 30212070

BLM

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 6 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 0.8 °C Correction Factor: 10.2 °C Final Temp: 1.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: BLM 3-1-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>BLM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 03, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline  
Pace Project No.: 30214343

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214343001	RW01-MWI	Water	03/27/17 10:44	03/27/17 22:20
30214343002	RW01-MWS	Water	03/27/17 12:16	03/27/17 22:20
30214343003	RW02-MWI	Water	03/27/17 13:40	03/27/17 22:20
30214343004	RW02-MWS	Water	03/27/17 14:49	03/27/17 22:20
30214343005	RW03-MWI	Water	03/27/17 16:13	03/27/17 22:20

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214343001	RW01-MWI	EPA 6010C	PJD	2
30214343002	RW01-MWS	EPA 6010C	PJD	2
30214343003	RW02-MWI	EPA 6010C	PJD	2
30214343004	RW02-MWS	EPA 6010C	PJD	2
30214343005	RW03-MWI	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214343

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 03, 2017

### General Information:

5 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30214343001</b>		Collected: 03/27/17 10:44		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1060</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:42	7440-43-9	
Zinc	<b>17800</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:19	7440-66-6	MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Sample: RW01-MWS		Lab ID: 30214343002		Collected: 03/27/17 12:16		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.9J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:56	7440-43-9	
Zinc	<b>10800</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:33	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

<b>Sample: RW02-MWI</b>		<b>Lab ID: 30214343003</b>		Collected: 03/27/17 13:40		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>284</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 21:59	7440-43-9	
Zinc	<b>9110</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:36	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Sample: RW02-MWS		Lab ID: 30214343004		Collected: 03/27/17 14:49		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.1</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:07	7440-43-9	
Zinc	<b>34600</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:38	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

<b>Sample: RW03-MWI</b>		<b>Lab ID: 30214343005</b>		Collected: 03/27/17 16:13		Received: 03/27/17 22:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>196</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:09	7440-43-9	
Zinc	<b>9240</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:41	7440-66-6	

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## QUALITY CONTROL DATA

Project: Parcel A3 Baseline

Pace Project No.: 30214343

QC Batch: 253957 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30214343001, 30214343002, 30214343003, 30214343004, 30214343005

METHOD BLANK: 1250131 Matrix: Water  
Associated Lab Samples: 30214343001, 30214343002, 30214343003, 30214343004, 30214343005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	03/31/17 21:38	
Zinc	ug/L	10.0 U	10.0	1.1	03/31/17 21:38	

LABORATORY CONTROL SAMPLE: 1250132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250134 1250135

Parameter	Units	30214343001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1060	500	500	1610	1620	110	112	75-125	0	20	
Zinc	ug/L	17800	500	500	18400	18700	122	174	75-125	1	20 MH	

MATRIX SPIKE SAMPLE: 1250137

Parameter	Units	30214454006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	11.0	500	526	103	75-125	
Zinc	ug/L	8710	500	9270	112	75-125	

SAMPLE DUPLICATE: 1250133

Parameter	Units	30214343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1060	1080	1	20	
Zinc	ug/L	17800	18100	2	20	

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.0	11.1	1	20	
Zinc	ug/L	8710	8840	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Parcel A3 Baseline

Pace Project No.: 30214343

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline

Pace Project No.: 30214343

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214343001	RW01-MWI	EPA 3005A	253957	EPA 6010C	254032
30214343002	RW01-MWS	EPA 3005A	253957	EPA 6010C	254032
30214343003	RW02-MWI	EPA 3005A	253957	EPA 6010C	254032
30214343004	RW02-MWS	EPA 3005A	253957	EPA 6010C	254032
30214343005	RW03-MWI	EPA 3005A	253957	EPA 6010C	254032

## REPORT OF LABORATORY ANALYSIS

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**Section A**  
Required Client Information:  
Company: EnviroAnalytics Group  
Address: 1430 Sparrows Point Blvd  
Sparrows Point, MD 21219  
Email To: lcalenda@enviroanalyticsgroup.com  
Phone: 314-620-3056 Fax:  
Requested Due Date/TAT: 5-DAY 4-3-17

**Section B**  
Required Project Information:  
Report To: James Calenda  
Copy To:  
Company Name: EnviroAnalytics Group  
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Quote Reference:  
Pace Project Manager: Samantha Bayura  
Pace Profile #:  
Project Name: Parcel A3 Baseline  
Project Number: 160236M

**Section C**  
REGULATORY AGENCY  
NPDES ☐ GROUND WATER ☐ DRINKING WATER  
UST ☐ RCRA ☐ OTHER ☐  
Site Location: MD  
STATE:   
Page: / of /

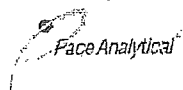
ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WASTE WATER P SL OL WP AR OT IS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.		
					COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	DI Water		VOC/8260B	SVOC 8270D	DRO/8015B	GRO/8015B	METALS/6010C	Mercury/747A or 7470A	Hexavalent Chromium/7196A	Total Cyanide/9012A	PCB/8082 (soil)	Total Zinc/6010C	Oil and Grease/1664A (ad)	Oil and Grease/9071B (soil)		Residual Chlorine (Y/N)	
1	Rw01 - MWS		W G			3/23/17	1044	1																			001					
2	Rw01 - MWS						1216	1																			002					
3	Rw02 - MWS						1340	1																			003					
4	Rw02 - MWS						1449	1																			004					
5	Rw03 - MWS						1613	1																			005					
6																																
7																																
8																																
9																																
10																																
11																																
12																																
Section D Required Client Information			Valid Matrix Codes MATRIX CODE DW WT WASTE WATER P SL OL WP AR OT IS		COLLECTED COMPOSITE START COMPOSITE END/GRAB		SAMPLE TEMP AT COLLECTION		Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol DI Water								Analysis Test Y/N		Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.	
SAMPLE ID (A-Z, 0-9, /, -)			SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED COMPOSITE START COMPOSITE END/GRAB		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS								Analysis Test Y/N		Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.	
Data Package Required? (Y/N)			RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION								DATE		TIME		SAMPLE CONDITIONS											
Data Validation Required? (Y/N)			RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION								DATE		TIME		SAMPLE CONDITIONS											
If data package is required, attach data package checklist.			RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION								DATE		TIME		SAMPLE CONDITIONS											

**Section E**  
Additional Comments: (Y/N)  
Data Package Required? (Y/N)  
Data Validation Required? (Y/N)  
If data package is required, attach data package checklist.

**Section F**  
SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER: Charles Burger  
SIGNATURE of SAMPLER: Charles A. Burger  
DATE Signed (MM/DD/YY): 3/27/17

**Section G**  
Temp in °C  
Received on  
Cooler (Y/N)  
Custody Sealed  
Samples Intact (Y/N)

# Sample Condition Upon Receipt Pittsburgh



Client Name: SWANSON

Project # 30214343

*Handwritten signature/initials*

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 6 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 0.8 °C Correction Factor: +0.0 °C Final Temp: 0.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JRM 3/28/17

Comments:	Yes	No	N/A
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-Includes date/time/ID Matrix: <u>WT</u>			
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
exceptions: VOA, coliform, TOC, O&G, Phenolics			
Initial when completed <u>JRM</u> Date/time of preservation			
Lot # of added preservative			
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Initial when completed: _____ Date: _____			

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 03, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline  
Pace Project No.: 30214454

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## SAMPLE SUMMARY

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214454001	RW03-MWS	Water	03/28/17 09:32	03/28/17 23:30
30214454002	RW06-MWI	Water	03/28/17 11:08	03/28/17 23:30
30214454003	RW07-MWI	Water	03/28/17 12:48	03/28/17 23:30
30214454004	RW07-MWS	Water	03/28/17 13:38	03/28/17 23:30
30214454005	RW08-MWI	Water	03/28/17 14:46	03/28/17 23:30
30214454006	RW08-MWS	Water	03/28/17 15:25	03/28/17 23:30
30214454007	RW09-MWS	Water	03/28/17 16:17	03/28/17 23:30

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## SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214454001	RW03-MWS	EPA 6010C	PJD	2
30214454002	RW06-MWI	EPA 6010C	PJD	2
30214454003	RW07-MWI	EPA 6010C	PJD	2
30214454004	RW07-MWS	EPA 6010C	PJD	2
30214454005	RW08-MWI	EPA 6010C	PJD	2
30214454006	RW08-MWS	EPA 6010C	PJD	2
30214454007	RW09-MWS	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214454

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 03, 2017

**General Information:**

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW03-MWS		Lab ID: 30214454001		Collected: 03/28/17 09:32		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.7</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:12	7440-43-9	
Zinc	<b>6510</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:49	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

<b>Sample: RW06-MWI</b>		<b>Lab ID: 30214454002</b>		Collected: 03/28/17 11:08		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>9.2</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:14	7440-43-9	
Zinc	<b>1680</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

<b>Sample: RW07-MWI</b>		<b>Lab ID: 30214454003</b>		Collected: 03/28/17 12:48		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>4.6</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:16	7440-43-9	
Zinc	<b>1210</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:16	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW07-MWS		Lab ID: 30214454004		Collected: 03/28/17 13:38		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:19	7440-43-9	
Zinc	<b>74.8</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:19	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

<b>Sample: RW08-MWI</b>		<b>Lab ID: 30214454005</b>		Collected: 03/28/17 14:46		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>0.39J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:21	7440-43-9	
Zinc	<b>44.6</b>	ug/L	10.0	1.1	1	03/31/17 08:28	03/31/17 22:21	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

**Sample: RW08-MWS**      **Lab ID: 30214454006**      Collected: 03/28/17 15:25      Received: 03/28/17 23:30      Matrix: Water

Comments: • Sample ID, collection date and time not listed on sample container

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>11.0</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:24	7440-43-9	
Zinc	<b>8710</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:51	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Sample: RW09-MWS		Lab ID: 30214454007		Collected: 03/28/17 16:17		Received: 03/28/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.5</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:36	7440-43-9	
Zinc	<b>12400</b>	ug/L	100	10.8	10	03/31/17 08:28	03/31/17 23:59	7440-66-6	

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## QUALITY CONTROL DATA

Project: Parcel A3 Baseline  
Pace Project No.: 30214454

QC Batch: 253957 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30214454001, 30214454002, 30214454003, 30214454004, 30214454005, 30214454006, 30214454007

METHOD BLANK: 1250131 Matrix: Water  
Associated Lab Samples: 30214454001, 30214454002, 30214454003, 30214454004, 30214454005, 30214454006, 30214454007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	03/31/17 21:38	
Zinc	ug/L	10.0 U	10.0	1.1	03/31/17 21:38	

LABORATORY CONTROL SAMPLE: 1250132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1250134 1250135

Parameter	Units	30214343001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1060	500	500	1610	1620	110	112	75-125	0	20	
Zinc	ug/L	17800	500	500	18400	18700	122	174	75-125	1	20 MH	

MATRIX SPIKE SAMPLE: 1250137

Parameter	Units	30214454006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	11.0	500	526	103	75-125	
Zinc	ug/L	8710	500	9270	112	75-125	

SAMPLE DUPLICATE: 1250133

Parameter	Units	30214343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1060	1080	1	20	
Zinc	ug/L	17800	18100	2	20	

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.0	11.1	1	20	
Zinc	ug/L	8710	8840	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Parcel A3 Baseline  
Pace Project No.: 30214454

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline

Pace Project No.: 30214454

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214454001	RW03-MWS	EPA 3005A	253957	EPA 6010C	254032
30214454002	RW06-MWI	EPA 3005A	253957	EPA 6010C	254032
30214454003	RW07-MWI	EPA 3005A	253957	EPA 6010C	254032
30214454004	RW07-MWS	EPA 3005A	253957	EPA 6010C	254032
30214454005	RW08-MWI	EPA 3005A	253957	EPA 6010C	254032
30214454006	RW08-MWS	EPA 3005A	253957	EPA 6010C	254032
30214454007	RW09-MWS	EPA 3005A	253957	EPA 6010C	254032

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

30214454

Page: / of /

## Section A Required Client Information:

Company:	EnviroAnalytics Group
Address:	1430 Sparrows Point Blvd
	Sparrows Point, MD 21219
Email To:	icalenda@enviroanalyticsgroup.com
Phone:	314-620-3056
Fax:	
Requested Due Date/TAT:	5-DAY TAT

## Section B Required Project Information:

Report To:	James Calenda
Copy To:	
PO Number:	Quoting PO
Project Name:	Parcel A3 Baseline
Project Number:	160236M

## Section C Invoice Information:

Attention:	Laura Sargent
Company Name:	EnviroAnalytics Group
Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Pace Quote Reference:	
Pace Project Manager:	Samantha Bayura
Pace Profile #:	

## REGULATORY AGENCY

<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER
Site Location	MD	
STATE:		

ITEM #	Section D Required Client Information		Valid Matrix Codes		MATRIX CODE (see valid codes to left)		SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		Preservatives		Analysis Test		Requested Analysis Filtered (Y/N)		Pace Project No. / Lab I.D.	
	MATRIX	CODE	DRINKING WATER	DW	WASTE WATER	WT	WASTE WATER	WW	PRODUCT	P	SOIL/SOLID	SL	WIFE	WP	WIFE	WP	OTHER	OT	TS	Oil and Grease/1664A (ad)	Oil and Grease/9071B (soil)	Residual Chlorine (Y/N)
1	Rw03 - MWS																					001
2	Rw06 - MWT																					002
3	Rw07 - MWT																					003
4	Rw07 - MWS																					004
5	Rw08 - MWT																					005
6	Rw08 - MWS																					006
7	Rw09 - MWS																					007
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
Data Package Required? (Y/N)		Charles A. B...		3/29/17		17:10		David J. H...		3/29/17		17:10			
Data Validation Required? (Y/N)		David J. H...		3/29/17		19:10		David J. H...		3/29/17		19:10			
If data package is required, attach data package		David J. H...		3/29/17		23:30		David J. H...		3/29/17		23:30		Y N Y	
WO# : 30214454															
Barcode															
30214454															
SAMPLER NAME AND SIGNATURE		Charles A. B...													
PRINT Name of SAMPLER:		Charles A. B...													
SIGNATURE of SAMPLER:		Charles A. B...													
DATE Signed (MM/DD/YY):		3/29/17													
Received on															
Cooler (Y/N)															
Samples Intact (Y/N)															

## Sample Condition Upon Receipt Pittsburgh



Client Name:

SPARROWS

Project #

30214454

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

 Thermometer Used \_\_\_\_\_ Type of Ice: ☒ Wet ☐ Blue ☐ None

 Cooler Temperature Observed Temp 1.2 °C Correction Factor: +0.0 °C Final Temp: 1.2 °C

Temp should be above freezing to 6°C

 Date and Initials of person examining contents: AKL 3/29/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Sample ooc has no I.D./date/time on bottle. All others matched.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>AKM</u> Date/time of preservation _____
				Lot # of added preservative _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 03, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline  
Pace Project No.: 30214572

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## SAMPLE SUMMARY

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214572001	RW09-MWI	Water	03/29/17 08:51	03/29/17 22:40
30214572002	RW11-MWS	Water	03/29/17 09:55	03/29/17 22:40
30214572003	RW11-MWI	Water	03/29/17 10:57	03/29/17 22:40
30214572004	RW12-MWI	Water	03/29/17 12:20	03/29/17 22:40
30214572005	RW16-MWI	Water	03/29/17 13:29	03/29/17 22:40
30214572006	RW16-MWS	Water	03/29/17 14:17	03/29/17 22:40
30214572007	RW19-MWI	Water	03/29/17 15:15	03/29/17 22:40
30214572008	RW19-MWS	Water	03/29/17 16:00	03/29/17 22:40

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## SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214572001	RW09-MWI	EPA 6010C	PJD	2
30214572002	RW11-MWS	EPA 6010C	PJD	2
30214572003	RW11-MWI	EPA 6010C	PJD	2
30214572004	RW12-MWI	EPA 6010C	PJD	2
30214572005	RW16-MWI	EPA 6010C	PJD	2
30214572006	RW16-MWS	EPA 6010C	PJD	2
30214572007	RW19-MWI	EPA 6010C	PJD	2
30214572008	RW19-MWS	EPA 6010C	PJD	2

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## PROJECT NARRATIVE

Project: Parcel A3 Baseline

Pace Project No.: 30214572

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 03, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30214572001</b>		Collected: 03/29/17 08:51		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>4.0</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:38	7440-43-9	
Zinc	<b>51900</b>	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:01	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW11-MWS		Lab ID: 30214572002		Collected: 03/29/17 09:55		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:40	7440-43-9	
Zinc	<b>10500</b>	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:03	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

<b>Sample: RW11-MWI</b>		<b>Lab ID: 30214572003</b>		Collected: 03/29/17 10:57		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1490</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:43	7440-43-9	
Zinc	<b>301000</b>	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:06	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

<b>Sample: RW12-MWI</b>		<b>Lab ID: 30214572004</b>		Collected: 03/29/17 12:20		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3530</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:45	7440-43-9	
Zinc	<b>216000</b>	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:08	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

<b>Sample: RW16-MWI</b>		<b>Lab ID: 30214572005</b>		Collected: 03/29/17 13:29		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>28.6</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:48	7440-43-9	
Zinc	<b>90300</b>	ug/L	1000	108	100	03/31/17 08:28	04/01/17 00:11	7440-66-6	

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW16-MWS		Lab ID: 30214572006		Collected: 03/29/17 14:17		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.5</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:50	7440-43-9	
Zinc	<b>4320</b>	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

<b>Sample: RW19-MWI</b>		<b>Lab ID: 30214572007</b>		Collected: 03/29/17 15:15		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3450</b>	ug/L	300	34.4	100	03/31/17 08:28	04/01/17 00:21	7440-43-9	
Zinc	<b>4650000</b>	ug/L	100000	10800	10000	03/31/17 08:28	04/01/17 00:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Sample: RW19-MWS		Lab ID: 30214572008		Collected: 03/29/17 16:00		Received: 03/29/17 22:40		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>6.9</b>	ug/L	3.0	0.34	1	03/31/17 08:28	03/31/17 22:55	7440-43-9	
Zinc	<b>7100</b>	ug/L	100	10.8	10	03/31/17 08:28	04/01/17 00:23	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Parcel A3 Baseline

Pace Project No.: 30214572

QC Batch:	253957	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30214572001, 30214572002, 30214572003, 30214572004, 30214572005, 30214572006, 30214572007, 30214572008		

METHOD BLANK:	1250131	Matrix:	Water
Associated Lab Samples:	30214572001, 30214572002, 30214572003, 30214572004, 30214572005, 30214572006, 30214572007, 30214572008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	03/31/17 21:38	
Zinc	ug/L	10.0 U	10.0	1.1	03/31/17 21:38	

LABORATORY CONTROL SAMPLE: 1250132						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	515	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 12501341250135												
Parameter	Units	30214343001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.								Result
Cadmium	ug/L	1060	500	500	1610	1620	110	112	75-125	0	20	
Zinc	ug/L	17800	500	500	18400	18700	122	174	75-125	1	20 MH	

MATRIX SPIKE SAMPLE: 1250137							
Parameter	Units	30214454006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		11.0	500	526	103	75-125
Zinc	ug/L		8710	500	9270	112	75-125

SAMPLE DUPLICATE: 1250133						
Parameter	Units	30214343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1060	1080	1	20	
Zinc	ug/L	17800	18100	2	20	

SAMPLE DUPLICATE: 1250136						
Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.0	11.1	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Parcel A3 Baseline

Pace Project No.: 30214572

SAMPLE DUPLICATE: 1250136

Parameter	Units	30214454006 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	8710	8840	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Parcel A3 Baseline  
Pace Project No.: 30214572

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline

Pace Project No.: 30214572

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214572001	RW09-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572002	RW11-MWS	EPA 3005A	253957	EPA 6010C	254032
30214572003	RW11-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572004	RW12-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572005	RW16-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572006	RW16-MWS	EPA 3005A	253957	EPA 6010C	254032
30214572007	RW19-MWI	EPA 3005A	253957	EPA 6010C	254032
30214572008	RW19-MWS	EPA 3005A	253957	EPA 6010C	254032

## REPORT OF LABORATORY ANALYSIS

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# Sample Condition Upon Receipt Pittsburgh



Client Name: SPARROWS

Project # 30214572

*ARM*

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 60 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.0 °C Correction Factor: +0.0 °C Final Temp: 1.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 3/30/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>W1</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>ARM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 06, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Parcel A3 Baseline GW  
Pace Project No.: 30214700

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on March 30, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30214700001	RW05-MWI	Water	03/30/17 10:05	03/30/17 23:15
30214700002	RW15-MWI	Water	03/30/17 11:12	03/30/17 23:15
30214700003	RW18-MWI	Water	03/30/17 12:22	03/30/17 23:15
30214700004	RW13-MWI	Water	03/30/17 13:37	03/30/17 23:15
30214700005	RW10-MWI	Water	03/30/17 14:35	03/30/17 23:15

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## SAMPLE ANALYTE COUNT

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30214700001	RW05-MWI	EPA 6010C	PJD	2
30214700002	RW15-MWI	EPA 6010C	PJD	2
30214700003	RW18-MWI	EPA 6010C	PJD	2
30214700004	RW13-MWI	EPA 6010C	PJD	2
30214700005	RW10-MWI	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Parcel A3 Baseline GW  
Pace Project No.: 30214700

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** April 06, 2017

### General Information:

5 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

#### Batch Comments:

The serial dilution exceeded the limits for Zn.

- QC Batch: 254323

#### Analyte Comments:

QC Batch: 254242

1c: The serial dilution exceeded the limits for Zn.

- BLANK (Lab ID: 1251907)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1251909)
  - Cadmium
  - Zinc

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## PROJECT NARRATIVE

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 06, 2017

Analyte Comments:

QC Batch: 254242

1c: The serial dilution exceeded the limits for Zn.

- LCS (Lab ID: 1251908)
  - Cadmium
  - Zinc
- MS (Lab ID: 1251910)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1251911)
  - Cadmium
  - Zinc
- RW05-MWI (Lab ID: 30214700001)
  - Cadmium
  - Zinc
- RW10-MWI (Lab ID: 30214700005)
  - Cadmium
  - Zinc
- RW13-MWI (Lab ID: 30214700004)
  - Cadmium
  - Zinc
- RW15-MWI (Lab ID: 30214700002)
  - Cadmium
  - Zinc
- RW18-MWI (Lab ID: 30214700003)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

<b>Sample: RW05-MWI</b>		<b>Lab ID: 30214700001</b>		Collected: 03/30/17 10:05		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>791</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:34	7440-43-9	1c
Zinc	<b>34200</b>	ug/L	1000	108	100	04/04/17 11:12	04/05/17 01:05	7440-66-6	1c,ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

<b>Sample: RW15-MWI</b>		<b>Lab ID: 30214700002</b>		Collected: 03/30/17 11:12		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>74.1</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:47	7440-43-9	1c
Zinc	<b>95600</b>	ug/L	1000	108	100	04/04/17 11:12	04/05/17 01:20	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

<b>Sample: RW18-MWI</b>		<b>Lab ID: 30214700003</b>		Collected: 03/30/17 12:22		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>63.8</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 00:50	7440-43-9	1c
Zinc	<b>592000</b>	ug/L	10000	1080	1000	04/04/17 11:12	04/05/17 02:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

<b>Sample: RW13-MWI</b>		<b>Lab ID: 30214700004</b>		Collected: 03/30/17 13:37		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>633</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 01:00	7440-43-9	1c
Zinc	<b>58200</b>	ug/L	1000	108	100	04/04/17 11:12	04/05/17 01:31	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

<b>Sample: RW10-MWI</b>		<b>Lab ID: 30214700005</b>		Collected: 03/30/17 14:35		Received: 03/30/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	04/04/17 11:12	04/05/17 01:03	7440-43-9	1c
Zinc	<b>20.4</b>	ug/L	10.0	1.1	1	04/04/17 11:12	04/05/17 01:03	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Parcel A3 Baseline GW  
Pace Project No.: 30214700

QC Batch: 254242 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30214700001, 30214700002, 30214700003, 30214700004, 30214700005

METHOD BLANK: 1251907 Matrix: Water  
Associated Lab Samples: 30214700001, 30214700002, 30214700003, 30214700004, 30214700005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	04/05/17 00:29	1c
Zinc	ug/L	10.0 U	10.0	1.1	04/05/17 00:29	1c

LABORATORY CONTROL SAMPLE: 1251908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c
Zinc	ug/L	500	525	105	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1251910 1251911

Parameter	Units	30214700001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	791	500	500	1320	1310	105	104	75-125	0	20	1c
Zinc	ug/L	34200	500	500	33800	34100	-88	-34	75-125	1	20	1c,ML

SAMPLE DUPLICATE: 1251909

Parameter	Units	30214700001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	791	815	3	20	1c
Zinc	ug/L	34200	34300	0	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Parcel A3 Baseline GW  
Pace Project No.: 30214700

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 254323

[1] The serial dilution exceeded the limits for Zn.

### ANALYTE QUALIFIERS

1c The serial dilution exceeded the limits for Zn.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 Baseline GW

Pace Project No.: 30214700

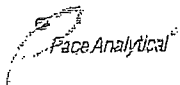
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30214700001	RW05-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700002	RW15-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700003	RW18-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700004	RW13-MWI	EPA 3005A	254242	EPA 6010C	254323
30214700005	RW10-MWI	EPA 3005A	254242	EPA 6010C	254323

## REPORT OF LABORATORY ANALYSIS

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# Sample Condition Upon Receipt Pittsburgh



Client Name: SPARRANS

Project # 30214700

*Handwritten initials*

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used (2) Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.8 °C Correction Factor: +0.0 °C Final Temp: 1.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 3/31/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>ARM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 28, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 Baseline  
Pace Project No.: 30217069

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 25, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217069001	RW08-MWS	Water	04/25/17 09:18	04/25/17 23:15
30217069002	RW06-MWI	Water	04/25/17 10:43	04/25/17 23:15
30217069003	RW08-MWI	Water	04/25/17 09:58	04/25/17 23:15
30217069004	RW03-MWS	Water	04/25/17 11:37	04/25/17 23:15
30217069005	RW03-MWI	Water	04/25/17 12:07	04/25/17 23:15
30217069006	RW02-MWS	Water	04/25/17 13:09	04/25/17 23:15
30217069007	RW01-MWS	Water	04/25/17 15:56	04/25/17 23:15
30217069008	RW02-MWI	Water	04/25/17 13:58	04/25/17 23:15

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217069001	RW08-MWS	EPA 6010C	PJD	2
30217069002	RW06-MWI	EPA 6010C	PJD	2
30217069003	RW08-MWI	EPA 6010C	PJD	2
30217069004	RW03-MWS	EPA 6010C	PJD	2
30217069005	RW03-MWI	EPA 6010C	PJD	2
30217069006	RW02-MWS	EPA 6010C	PJD	2
30217069007	RW01-MWS	EPA 6010C	PJD	2
30217069008	RW02-MWI	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 28, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zinc PDS failed.

- QC Batch: 256680

Analyte Comments:

QC Batch: 256626

1c: Cd and Zinc PDS failed.

- BLANK (Lab ID: 1263894)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1263896)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 28, 2017

Analyte Comments:

QC Batch: 256626

1c: Cd and Zinc PDS failed.

- LCS (Lab ID: 1263895)
  - Cadmium
  - Zinc
- MS (Lab ID: 1263897)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1263898)
  - Cadmium
  - Zinc
- RW01-MWS (Lab ID: 30217069007)
  - Cadmium
  - Zinc
- RW02-MWI (Lab ID: 30217069008)
  - Cadmium
  - Zinc
- RW02-MWS (Lab ID: 30217069006)
  - Cadmium
  - Zinc
- RW03-MWI (Lab ID: 30217069005)
  - Cadmium
  - Zinc
- RW03-MWS (Lab ID: 30217069004)
  - Cadmium
  - Zinc
- RW06-MWI (Lab ID: 30217069002)
  - Cadmium
  - Zinc
- RW08-MWI (Lab ID: 30217069003)
  - Cadmium
  - Zinc
- RW08-MWS (Lab ID: 30217069001)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Sample: RW08-MWS		Lab ID: 30217069001		Collected: 04/25/17 09:18		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.8</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:23	7440-43-9	1c
Zinc	<b>9520</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 22:59	7440-66-6	1c, MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

<b>Sample: RW06-MWI</b>		<b>Lab ID: 30217069002</b>		Collected: 04/25/17 10:43		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>14.0</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:37	7440-43-9	1c
Zinc	<b>1420</b>	ug/L	10.0	1.1	1	04/27/17 08:06	04/27/17 22:37	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

<b>Sample: RW08-MWI</b>		<b>Lab ID: 30217069003</b>		Collected: 04/25/17 09:58		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:39	7440-43-9	1c
Zinc	<b>85.0</b>	ug/L	10.0	1.1	1	04/27/17 08:06	04/27/17 22:39	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

<b>Sample: RW03-MWS</b>		<b>Lab ID: 30217069004</b>		Collected: 04/25/17 11:37		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.2</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:47	7440-43-9	1c
Zinc	<b>4860</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:21	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

<b>Sample: RW03-MWI</b>		<b>Lab ID: 30217069005</b>		Collected: 04/25/17 12:07		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>192</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:49	7440-43-9	1c
Zinc	<b>7830</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:34	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Sample: RW02-MWS		Lab ID: 30217069006		Collected: 04/25/17 13:09		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.8</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:52	7440-43-9	1c
Zinc	<b>47700</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:37	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

<b>Sample: RW01-MWS</b>		<b>Lab ID: 30217069007</b>		Collected: 04/25/17 15:56		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	04/27/17 08:06	04/27/17 22:54	7440-43-9	1c
Zinc	<b>11500</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:39	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

<b>Sample: RW02-MWI</b>		<b>Lab ID: 30217069008</b>		Collected: 04/25/17 13:58		Received: 04/25/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>296</b>	ug/L	15.0	1.7	5	04/27/17 08:06	04/27/17 23:19	7440-43-9	1c
Zinc	<b>10700</b>	ug/L	1000	108	100	04/27/17 08:06	04/27/17 23:41	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

QC Batch: 256626 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30217069001, 30217069002, 30217069003, 30217069004, 30217069005, 30217069006, 30217069007, 30217069008

METHOD BLANK: 1263894 Matrix: Water  
Associated Lab Samples: 30217069001, 30217069002, 30217069003, 30217069004, 30217069005, 30217069006, 30217069007, 30217069008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	04/27/17 22:18	1c
Zinc	ug/L	10.0 U	10.0	1.1	04/27/17 22:18	1c

LABORATORY CONTROL SAMPLE: 1263895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	1c
Zinc	ug/L	500	516	103	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1263897 1263898

Parameter	Units	30217069001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	7.8	500	500	513	515	101	101	75-125	0	20	1c
Zinc	ug/L	9520	500	500	10400	10200	170	140	75-125	1	20	1c, MH

SAMPLE DUPLICATE: 1263896

Parameter	Units	30217069001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	7.8	7.8	0	20	1c
Zinc	ug/L	9520	9220	3	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 256680

[1] Cd and Zinc PDS failed.

### ANALYTE QUALIFIERS

1c Cd and Zinc PDS failed.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217069

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217069001	RW08-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069002	RW06-MWI	EPA 3005A	256626	EPA 6010C	256680
30217069003	RW08-MWI	EPA 3005A	256626	EPA 6010C	256680
30217069004	RW03-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069005	RW03-MWI	EPA 3005A	256626	EPA 6010C	256680
30217069006	RW02-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069007	RW01-MWS	EPA 3005A	256626	EPA 6010C	256680
30217069008	RW02-MWI	EPA 3005A	256626	EPA 6010C	256680

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219			Address:	1850 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	jcalenda@enviroanalyticsgroup.com	PO Number:	Awaiting PO #	Pace Quote Reference:	
Phone:	314-620-3056	Project Name:	Avg A-Pare 1A3 Baseline	Pace Project Manager:	
Requested Due Date/TAI:	5-day 5/11/17	Project Number:	170206M	Pace Profile #:	

ITEM #	Valid Matrix Codes MATRIX CODE DW WT DRINKING WATER WW WASTE WATER P PRODUCT SL SOLID OL OIL WIPE AR OTHER TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	Preservatives						Analysis Test ↑	Y/N ↑	Requested Analysis Filtered (Y/N)
				COMPOSITE START	COMPOSITE END/GRAB				H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol			
1	RW08-MWS	WTG		DATE	TIME	DATE	TIME										
2	RW06-MWI	WTG		4/25/17	918			1									
3	RW08-MWI	WTG			1043			1									
4	RW03-MWS	WTG			958			1									
5	RW03-MWI	WTG			1137			1									
6	RW02-MWS	WTG			1207			1									
7	RW01-MWS	WTG			1309			1									
8	RW02-MWI	WTG			1556			1									
9					1358			1									
10																	
11																	
12																	

WO#: 30217069

ITEM #	Residue	Pace Project No./ Lab I.D.
1		001
2		002
3		003
4		004
5		005
6		006
7		007
8		008

<b>Section D</b> Required Client Information:		<b>Section E</b> Requested Analysis Filtered (Y/N)		<b>Section F</b> Requested Analysis Filtered (Y/N)	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219			Address:	1850 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	jcalenda@enviroanalyticsgroup.com	PO Number:	Awaiting PO #	Pace Quote Reference:	
Phone:	314-620-3056	Project Name:	Avg A-Pare 1A3 Baseline	Pace Project Manager:	
Requested Due Date/TAI:	5-day 5/11/17	Project Number:	170206M	Pace Profile #:	

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4/25/17	1207	4/25/17	2305	4/25/17	

## Sample Condition Upon Receipt Pittsburgh

30 2 17 0 6 9

ANL

Pace Analytical

Client Name:

Enviro Ana

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 2.3 °C Correction Factor: 10.0 °C Final Temp: 2.3 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 04/18/17

## Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix:	X			
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed 04/18/17 Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 03, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 Baseline  
Pace Project No.: 30217178

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 26, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
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## CERTIFICATIONS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217178001	RW01-MWI	Water	04/26/17 11:30	04/26/17 23:50
30217178002	RW07-MWS	Water	04/26/17 12:18	04/26/17 23:50
30217178003	RW07-MWI	Water	04/26/17 13:07	04/26/17 23:50
30217178004	RW09-MWS	Water	04/26/17 13:50	04/26/17 23:50
30217178005	RW09-MWI	Water	04/26/17 14:17	04/26/17 23:50
30217178006	RW12-MWI	Water	04/26/17 15:28	04/26/17 23:50

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217178001	RW01-MWI	EPA 6010C	PJD	2
30217178002	RW07-MWS	EPA 6010C	PJD	2
30217178003	RW07-MWI	EPA 6010C	PJD	2
30217178004	RW09-MWS	EPA 6010C	PJD	2
30217178005	RW09-MWI	EPA 6010C	PJD	2
30217178006	RW12-MWI	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 03, 2017

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zn failed the PDS

- QC Batch: 257167

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- BLANK (Lab ID: 1266420)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1266422)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 03, 2017

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- DUP (Lab ID: 1266425)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1266421)
  - Cadmium
  - Zinc
- MS (Lab ID: 1266423)
  - Cadmium
  - Zinc
- MS (Lab ID: 1266426)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1266424)
  - Cadmium
  - Zinc
- RW01-MWI (Lab ID: 30217178001)
  - Cadmium
  - Zinc
- RW07-MWI (Lab ID: 30217178003)
  - Cadmium
  - Zinc
- RW07-MWS (Lab ID: 30217178002)
  - Cadmium
  - Zinc
- RW09-MWI (Lab ID: 30217178005)
  - Cadmium
  - Zinc
- RW09-MWS (Lab ID: 30217178004)
  - Cadmium
  - Zinc
- RW12-MWI (Lab ID: 30217178006)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30217178001</b>		Collected: 04/26/17 11:30		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>859</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:11	7440-43-9	1c
Zinc	<b>17400</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:23	7440-66-6	1c, MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

<b>Sample: RW07-MWS</b>		<b>Lab ID: 30217178002</b>		Collected: 04/26/17 12:18		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.4J</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:25	7440-43-9	1c
Zinc	<b>86.4</b>	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 22:25	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

<b>Sample: RW07-MWI</b>		<b>Lab ID: 30217178003</b>		Collected: 04/26/17 13:07		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:27	7440-43-9	1c
Zinc	<b>364</b>	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 22:27	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

<b>Sample: RW09-MWS</b>		<b>Lab ID: 30217178004</b>		Collected: 04/26/17 13:50		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>16.6</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:37	7440-43-9	1c
Zinc	<b>12900</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:38	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30217178005</b>		Collected: 04/26/17 14:17		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.0</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:40	7440-43-9	1c
Zinc	<b>57500</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:45	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

<b>Sample: RW12-MWI</b>		<b>Lab ID: 30217178006</b>		Collected: 04/26/17 15:28		Received: 04/26/17 23:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2730</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:42	7440-43-9	1c
Zinc	<b>188000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:48	7440-66-6	1c

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

QC Batch:	257096	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30217178001, 30217178002, 30217178003, 30217178004, 30217178005, 30217178006			

METHOD BLANK:	1266420	Matrix:	Water
Associated Lab Samples: 30217178001, 30217178002, 30217178003, 30217178004, 30217178005, 30217178006			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/02/17 22:06	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/02/17 22:06	1c

LABORATORY CONTROL SAMPLE: 1266421						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	522	104	80-120	1c
Zinc	ug/L	500	528	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266423 1266424												
Parameter	Units	30217178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	859	500	500	1450	1420	118	111	75-125	2	20	1c
Zinc	ug/L	17400	500	500	18100	18100	132	134	75-125	0	20	1c, MH

MATRIX SPIKE SAMPLE: 1266426							
Parameter	Units	30217316005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3380	500	4140	152	75-125	1c, MH
Zinc	ug/L	7010000	500	7420000	81400	75-125	1c, MH

SAMPLE DUPLICATE: 1266422						
Parameter	Units	30217178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	859	842	2	20	1c
Zinc	ug/L	17400	17400	0	20	1c

SAMPLE DUPLICATE: 1266425						
Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3380	3430	1	20	1c
Zinc	ug/L	7010000	7060000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 257167

[1] Cd and Zn failed the PDS

### ANALYTE QUALIFIERS

1c Cd and Zn failed the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 Baseline

Pace Project No.: 30217178

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217178001	RW01-MWI	EPA 3005A	257096	EPA 6010C	257167
30217178002	RW07-MWS	EPA 3005A	257096	EPA 6010C	257167
30217178003	RW07-MWI	EPA 3005A	257096	EPA 6010C	257167
30217178004	RW09-MWS	EPA 3005A	257096	EPA 6010C	257167
30217178005	RW09-MWI	EPA 3005A	257096	EPA 6010C	257167
30217178006	RW12-MWI	EPA 3005A	257096	EPA 6010C	257167

## REPORT OF LABORATORY ANALYSIS

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## Sample Condition Upon Receipt Pittsburgh

AM

Pace Analytical

Client Name:

Enviro Ana.

Project #

30 2 17 178

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 7 Type of Ice: ☒ Wet ☐ Blue ☐ NoneCooler Temperature Observed Temp 4.6 °C Correction Factor: 10.0 °C Final Temp: 4.6 °C

Temp should be above freezing to 5°C

Date and Initials of person examining contents: QAHA 4-27-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>QAHA</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 03, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Parcel A3 GW Baseline  
Pace Project No.: 30217316

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 27, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217316001	RW11-MWI	Water	04/27/17 09:08	04/27/17 23:20
30217316002	RW11-MWS	Water	04/27/17 10:05	04/27/17 23:20
30217316003	RW18-MWI	Water	04/27/17 11:15	04/27/17 23:20
30217316004	RW19-MWS	Water	04/27/17 11:52	04/27/17 23:20
30217316005	RW19-MWI	Water	04/27/17 12:17	04/27/17 23:20
30217316006	RW16-MWS	Water	04/27/17 14:07	04/27/17 23:20
30217316007	RW16-MWI	Water	04/27/17 14:40	04/27/17 23:20
30217316008	RW15-MWI	Water	04/27/17 15:20	04/27/17 23:20

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## SAMPLE ANALYTE COUNT

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217316001	RW11-MWI	EPA 6010C	PJD	2
30217316002	RW11-MWS	EPA 6010C	PJD	2
30217316003	RW18-MWI	EPA 6010C	PJD	2
30217316004	RW19-MWS	EPA 6010C	PJD	2
30217316005	RW19-MWI	EPA 6010C	PJD	2
30217316006	RW16-MWS	EPA 6010C	PJD	2
30217316007	RW16-MWI	EPA 6010C	PJD	2
30217316008	RW15-MWI	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Parcel A3 GW Baseline  
Pace Project No.: 30217316

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** May 03, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cd and Zn failed the PDS
- QC Batch: 257167

Analyte Comments:

QC Batch: 257096

- 1c: Cd and Zn failed the PDS
- BLANK (Lab ID: 1266420)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1266422)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 03, 2017

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- DUP (Lab ID: 1266425)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1266421)
  - Cadmium
  - Zinc
- MS (Lab ID: 1266423)
  - Cadmium
  - Zinc
- MS (Lab ID: 1266426)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1266424)
  - Cadmium
  - Zinc
- RW11-MWI (Lab ID: 30217316001)
  - Cadmium
  - Zinc
- RW11-MWS (Lab ID: 30217316002)
  - Cadmium
  - Zinc
- RW15-MWI (Lab ID: 30217316008)
  - Cadmium
  - Zinc
- RW16-MWI (Lab ID: 30217316007)
  - Cadmium
  - Zinc
- RW16-MWS (Lab ID: 30217316006)
  - Cadmium
  - Zinc
- RW18-MWI (Lab ID: 30217316003)
  - Cadmium
  - Zinc
- RW19-MWI (Lab ID: 30217316005)
  - Cadmium
  - Zinc
- RW19-MWS (Lab ID: 30217316004)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW11-MWI		Lab ID: 30217316001		Collected: 04/27/17 09:08		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1800</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:45	7440-43-9	1c
Zinc	<b>288000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:50	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW11-MWS		Lab ID: 30217316002		Collected: 04/27/17 10:05		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.3</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:47	7440-43-9	1c
Zinc	<b>13100</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:53	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

<b>Sample: RW18-MWI</b>		<b>Lab ID: 30217316003</b>		Collected: 04/27/17 11:15		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>119</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:49	7440-43-9	1c
Zinc	<b>633000</b>	ug/L	10000	1080	1000	05/02/17 08:25	05/03/17 02:32	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

<b>Sample: RW19-MWS</b>		<b>Lab ID: 30217316004</b>		Collected: 04/27/17 11:52		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>8.5</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 22:52	7440-43-9	1c
Zinc	<b>6260</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 01:57	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Sample: RW19-MWI		Lab ID: 30217316005		Collected: 04/27/17 12:17		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3380</b>	ug/L	300	34.4	100	05/02/17 08:25	05/03/17 02:00	7440-43-9	1c,MH
Zinc	<b>7010000</b>	ug/L	100000	10800	10000	05/02/17 08:25	05/03/17 02:35	7440-66-6	1c,MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

<b>Sample: RW16-MWS</b>		<b>Lab ID: 30217316006</b>		Collected: 04/27/17 14:07		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.9</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:15	7440-43-9	1c
Zinc	<b>3350</b>	ug/L	10.0	1.1	1	05/02/17 08:25	05/02/17 23:15	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

<b>Sample: RW16-MWI</b>		<b>Lab ID: 30217316007</b>		Collected: 04/27/17 14:40		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>194</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:18	7440-43-9	1c
Zinc	<b>314000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:07	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

<b>Sample: RW15-MWI</b>		<b>Lab ID: 30217316008</b>		Collected: 04/27/17 15:20		Received: 04/27/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>109</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:20	7440-43-9	1c
Zinc	<b>122000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:22	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Parcel A3 GW Baseline  
Pace Project No.: 30217316

QC Batch: 257096 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30217316001, 30217316002, 30217316003, 30217316004, 30217316005, 30217316006, 30217316007, 30217316008

METHOD BLANK: 1266420 Matrix: Water  
Associated Lab Samples: 30217316001, 30217316002, 30217316003, 30217316004, 30217316005, 30217316006, 30217316007, 30217316008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/02/17 22:06	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/02/17 22:06	1c

LABORATORY CONTROL SAMPLE: 1266421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	522	104	80-120	1c
Zinc	ug/L	500	528	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266423 1266424

Parameter	Units	30217178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	859	500	500	1450	1420	118	111	75-125	2	20	1c
Zinc	ug/L	17400	500	500	18100	18100	132	134	75-125	0	20	1c, MH

MATRIX SPIKE SAMPLE: 1266426

Parameter	Units	30217316005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3380	500	4140	152	75-125	1c, MH
Zinc	ug/L	7010000	500	7420000	81400	75-125	1c, MH

SAMPLE DUPLICATE: 1266422

Parameter	Units	30217178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	859	842	2	20	1c
Zinc	ug/L	17400	17400	0	20	1c

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3380	3430	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	7010000	7060000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Parcel A3 GW Baseline  
Pace Project No.: 30217316

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above adjusted reporting limit.  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 257167

[1] Cd and Zn failed the PDS

### ANALYTE QUALIFIERS

1c Cd and Zn failed the PDS  
MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Parcel A3 GW Baseline

Pace Project No.: 30217316

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217316001	RW11-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316002	RW11-MWS	EPA 3005A	257096	EPA 6010C	257167
30217316003	RW18-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316004	RW19-MWS	EPA 3005A	257096	EPA 6010C	257167
30217316005	RW19-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316006	RW16-MWS	EPA 3005A	257096	EPA 6010C	257167
30217316007	RW16-MWI	EPA 3005A	257096	EPA 6010C	257167
30217316008	RW15-MWI	EPA 3005A	257096	EPA 6010C	257167

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.



<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Page: <u>1</u> of <u>1</u>																																																																																																																						
Company: EnviroAnalytics Group		Report To: James Calenda		Attention: Laura Sargent																																																																																																																								
Address: 1430 Sparrows Point Blvd		Copy To:		Company Name: EnviroAnalytics Group																																																																																																																								
Sparrows Point, MD 21219		PO Number: <u>Awaiting PO</u>		Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131																																																																																																																								
Email To: jcalenda@enviroanalyticsgroup.com		Project Name: <u>Parcel A3 GW Baseline</u>		Pace Quote Reference: <u>MD</u>																																																																																																																								
Phone: 314-620-3056		Project Number: <u>413/2017 (5 Day TAT)</u>		Pace Project Manager: <u>Samantha Bayura</u>																																																																																																																								
Requested Due Date/TAT: <u>4/3/2017 (5 Day TAT)</u>				Pace Profile #:																																																																																																																								
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="width:20%;">Section D Required Client Information</th> <th colspan="2" style="width:20%;">Valid Matrix Codes</th> <th colspan="2" style="width:20%;">Requested Analysis Filtered (Y/N)</th> <th colspan="2" style="width:20%;">Pace Project No./ Lab I.D.</th> </tr> <tr> <td rowspan="2" style="width:10%;">ITEM #</td> <td rowspan="2" style="width:10%;">Sample ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE</td> <td rowspan="2" style="width:10%;">MATRIX CODE</td> <td rowspan="2" style="width:10%;">SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)</td> <td colspan="2" style="width:10%;">COLLECTED</td> <td colspan="2" style="width:10%;">ANALYSIS TEST</td> </tr> <tr> <td>COMPOSITE START</td> <td>COMPOSITE END/GRAB</td> <td>DATE</td> <td>TIME</td> <td>DATE</td> <td>TIME</td> </tr> <tr> <td>1</td> <td>RW11-MW1</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>908</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>RW11-MW5</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1005</td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>RW18-MW7</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1115</td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>RW19-MW5</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1152</td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>RW19-MW1</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1217</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td>RW16-MW5</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1407</td> <td></td> <td></td> </tr> <tr> <td>7</td> <td>RW16-MW1</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1440</td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>RW15-MW1</td> <td>WT G</td> <td>G</td> <td>4/12/16</td> <td>1520</td> <td></td> <td></td> </tr> <tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>12</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>							Section D Required Client Information		Valid Matrix Codes		Requested Analysis Filtered (Y/N)		Pace Project No./ Lab I.D.		ITEM #	Sample ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	COLLECTED		ANALYSIS TEST		COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME	1	RW11-MW1	WT G	G	4/12/16	908			2	RW11-MW5	WT G	G	4/12/16	1005			3	RW18-MW7	WT G	G	4/12/16	1115			4	RW19-MW5	WT G	G	4/12/16	1152			5	RW19-MW1	WT G	G	4/12/16	1217			6	RW16-MW5	WT G	G	4/12/16	1407			7	RW16-MW1	WT G	G	4/12/16	1440			8	RW15-MW1	WT G	G	4/12/16	1520			9								10								11								12							
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<b>ADDITIONAL COMMENTS</b> Data Package Required? (Y/N): <u>(N)</u> Data Validation Required? (Y/N): <u>(N)</u> If data package is required, attach data package checklist.				RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION																																																																																																																						
				DATE		DATE																																																																																																																						
Data Package Required? (Y/N): <u>(N)</u> Data Validation Required? (Y/N): <u>(N)</u> If data package is required, attach data package checklist.				Daniel J. Halligan-Pace 4/27/17 1640 4/27/17 1840 4/27/17 2320		Daniel J. Halligan-Pace 4/27/17 1640 4/27/17 2025 4/27/17 2320																																																																																																																						
WO#: 30217316 				SAMPALER NAME AND SIGNATURE PRINT Name of SAMPALER: <u>Lisa Perrin</u> SIGNATURE of SAMPALER: <u>[Signature]</u> DATE Signed (MM/DD/YY): <u>4/27/17</u>		Received on Ice (Y/N) Sealed Cooler (Y/N) Samples Intact (Y/N)																																																																																																																						

## Sample Condition Upon Receipt Pittsburgh

30 2 17 3 1 6

AM

Pace Analytical

Client Name:

EnviroAna

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

4.6

°C

Correction Factor:

+0.0

°C

Final Temp:

4.6

°C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 09/13/4-28-97

## Comments:

Yes No N/A

Chain of Custody Present:

X

1.

Chain of Custody Filled Out:

X

2.

Chain of Custody Relinquished:

X

3.

Sampler Name &amp; Signature on COC:

X

4.

Sample Labels match COC:

X

5.

-Includes date/time/ID

Matrix:

WT

Samples Arrived within Hold Time:

X

6.

Short Hold Time Analysis (&lt;72hr remaining):

X

7.

Rush Turn Around Time Requested:

X

8.

Sufficient Volume:

X

9.

Correct Containers Used:

X

10.

-Pace Containers Used:

X

Containers Intact:

X

11.

Orthophosphate field filtered

X

12.

Organic Samples checked for dechlorination:

X

13.

Filtered volume received for Dissolved tests

X

14.

All containers have been checked for preservation.

X

15.

All containers needing preservation are found to be in compliance with EPA recommendation.

exceptions: VOA, coliform, TOC, O&amp;G, Phenolics

Initial when completed

09/13/4-28-97

Date/time of preservation

Lot # of added preservative

Headspace in VOA Vials (&gt;6mm):

X

16.

Trip Blank Present:

X

17.

Trip Blank Custody Seals Present

X

Rad Aqueous Samples Screened &gt; 0.5 mrem/hr

X

Initial when completed:

Date:

## Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 03, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Area A Parcel A3 GW  
Pace Project No.: 30217500

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30217500001	RW05-MWI	Water	04/28/17 00:00	04/28/17 22:45
30217500002	RW10-MWI	Water	04/28/17 13:12	04/28/17 22:45
30217500003	RW13-MWI	Water	04/28/17 14:03	04/28/17 22:45

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30217500001	RW05-MWI	EPA 6010C	PJD	2
30217500002	RW10-MWI	EPA 6010C	PJD	2
30217500003	RW13-MWI	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 03, 2017

### General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zn failed the PDS

- QC Batch: 257167

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- BLANK (Lab ID: 1266420)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1266422)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 03, 2017

Analyte Comments:

QC Batch: 257096

1c: Cd and Zn failed the PDS

- DUP (Lab ID: 1266425)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1266421)
  - Cadmium
  - Zinc
- MS (Lab ID: 1266423)
  - Cadmium
  - Zinc
- MS (Lab ID: 1266426)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1266424)
  - Cadmium
  - Zinc
- RW05-MWI (Lab ID: 30217500001)
  - Cadmium
  - Zinc
- RW10-MWI (Lab ID: 30217500002)
  - Cadmium
  - Zinc
- RW13-MWI (Lab ID: 30217500003)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

**Sample:** RW05-MWI **Lab ID:** 30217500001 Collected: 04/28/17 00:00 Received: 04/28/17 22:45 Matrix: Water

Comments: • Collection time not provided on COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1600</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:23	7440-43-9	1c
Zinc	<b>25000</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:25	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

**Sample:** RW10-MWI **Lab ID:** 30217500002 Collected: 04/28/17 13:12 Received: 04/28/17 22:45 Matrix: Water

Comments: • Collection time not provided on COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>198</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:25	7440-43-9	1c
Zinc	<b>75800</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:27	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

**Sample:** RW13-MWI **Lab ID:** 30217500003 Collected: 04/28/17 14:03 Received: 04/28/17 22:45 Matrix: Water

Comments: • Collection time not provided on COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1370</b>	ug/L	3.0	0.34	1	05/02/17 08:25	05/02/17 23:28	7440-43-9	1c
Zinc	<b>70500</b>	ug/L	1000	108	100	05/02/17 08:25	05/03/17 02:30	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

QC Batch: 257096 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30217500001, 30217500002, 30217500003

METHOD BLANK: 1266420 Matrix: Water

Associated Lab Samples: 30217500001, 30217500002, 30217500003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/02/17 22:06	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/02/17 22:06	1c

LABORATORY CONTROL SAMPLE: 1266421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	522	104	80-120	1c
Zinc	ug/L	500	528	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1266423 1266424

Parameter	Units	30217178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	859	500	500	1450	1420	118	111	75-125	2	20	1c
Zinc	ug/L	17400	500	500	18100	18100	132	134	75-125	0	20	1c, MH

MATRIX SPIKE SAMPLE: 1266426

Parameter	Units	30217316005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3380	500	4140	152	75-125	1c, MH
Zinc	ug/L	7010000	500	7420000	81400	75-125	1c, MH

SAMPLE DUPLICATE: 1266422

Parameter	Units	30217178001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	859	842	2	20	1c
Zinc	ug/L	17400	17400	0	20	1c

SAMPLE DUPLICATE: 1266425

Parameter	Units	30217316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3380	3430	1	20	1c
Zinc	ug/L	7010000	7060000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Area A Parcel A3 GW  
Pace Project No.: 30217500

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above adjusted reporting limit.  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 257167  
[1] Cd and Zn failed the PDS

### ANALYTE QUALIFIERS

1c Cd and Zn failed the PDS  
MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Area A Parcel A3 GW

Pace Project No.: 30217500

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30217500001	RW05-MWI	EPA 3005A	257096	EPA 6010C	257167
30217500002	RW10-MWI	EPA 3005A	257096	EPA 6010C	257167
30217500003	RW13-MWI	EPA 3005A	257096	EPA 6010C	257167

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b>		<b>Section B</b>		<b>Section C</b>		<b>Section D</b>	
Required Client Information:		Required Project Information:		Invoice Information:		Requested Analysis Filtered (Y/N)	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent	Company Name:	EnviroAnalytics Group
Address:	1430 Sparrows Point Blvd	Copy To:		Company Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131	Regulatory Agency:	
	Sparrows Point, MD 21219	PO Number:		Address:		NPDES	<input type="checkbox"/>
Email To:	jcalenda@enviroanalyticsgroup.com	Project Name:	Area A Parcel A3 GW	Pace Quote Reference:		GROUND WATER	<input type="checkbox"/>
Phone:	314-620-3056	Project Number:	5/4/17	Pace Project Manager:		UST	<input type="checkbox"/>
Requested Due Date/TAT:	3-day			Pace Profile #:		RCRA	<input type="checkbox"/>
						OTHER	<input type="checkbox"/>

30217500

Page: 1 of 1

ITEM #	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOLIDS SL OL WP WC OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↑	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>			
1	RW05-MWI	WTG	G	4/20/17	4/20/17	1	1									001	
2	RW10-MWI	WTG	G	4/25/17	4/25/17	1	1									002	
3	RW13-MWI	WTG	G	4/28/17	4/28/17	1	1									003	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

WO#: 30217500



<b>Section E</b>		<b>Section F</b>		<b>Section G</b>		<b>Section H</b>	
Additional Comments (Y/N)		Relinquished By / Affiliation		Accepted By / Affiliation		Sample Conditions	
Data Package Required? (Y/N)		4/20/17 1400 David Sargent		4/20/17 1400 David Sargent		Temp in °C	
Data Validation Required? (Y/N)		4/25/17 1900 David Sargent		4/25/17 1900 David Sargent		Received on Ice (Y/N)	
If data package is required, attach data package checklist.		4/28/17 2200 David Sargent		4/28/17 2200 David Sargent		Custody Sealed (Y/N)	
		4/28/17 2200 David Sargent		4/28/17 2200 David Sargent		Samples Intact (Y/N)	

## Sample Condition Upon Receipt Pittsburgh

Face Analytical

Client Name: SPARANSProject # 30217500Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 12 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 1.1 °C Correction Factor: +0.0 °C Final Temp: 1.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JKU 4/29/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. No time on 001, time on 002 is 1312, 003, 131403
-Includes date/time/ID Matrix: <u>WTT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>JKU</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 30, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: R&W A3 GW Sampling  
Pace Project No.: 30219509

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on May 22, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219509001	Trip Blank 1	Water	05/22/17 00:01	05/22/17 22:50
30219509002	RW-19-MW(I)	Water	05/22/17 08:41	05/22/17 22:50
30219509003	RW-19-MW(S)	Water	05/22/17 09:21	05/22/17 22:50
30219509004	RW-18-MW(I)	Water	05/22/17 10:02	05/22/17 22:50
30219509005	RW-15-MW(I)	Water	05/22/17 10:39	05/22/17 22:50
30219509006	RW-16-MW(I)	Water	05/22/17 11:18	05/22/17 22:50
30219509007	RW-16-MW(S)	Water	05/22/17 11:47	05/22/17 22:50
30219509008	RW-13-MW(I)	Water	05/22/17 12:32	05/22/17 22:50
30219509009	RW-12-MW(I)	Water	05/22/17 13:25	05/22/17 22:50
30219509010	RW-11-MW(I)	Water	05/22/17 14:17	05/22/17 22:50
30219509011	RW-11-MW(S)	Water	05/22/17 14:36	05/22/17 22:50
30219509012	RW-10-MW(I)	Water	05/22/17 15:32	05/22/17 22:50
30219509013	RW-05-MW(I)	Water	05/22/17 16:21	05/22/17 22:50

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219509002	RW-19-MW(I)	EPA 6010C	PJD	2
30219509003	RW-19-MW(S)	EPA 6010C	PJD	2
30219509004	RW-18-MW(I)	EPA 6010C	PJD	2
30219509005	RW-15-MW(I)	EPA 6010C	PJD	2
30219509006	RW-16-MW(I)	EPA 6010C	PJD	2
30219509007	RW-16-MW(S)	EPA 6010C	PJD	2
30219509008	RW-13-MW(I)	EPA 6010C	PJD	2
30219509009	RW-12-MW(I)	EPA 6010C	PJD	2
30219509010	RW-11-MW(I)	EPA 6010C	PJD	2
30219509011	RW-11-MW(S)	EPA 6010C	PJD	2
30219509012	RW-10-MW(I)	EPA 6010C	PJD	2
30219509013	RW-05-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: R&W A3 GW Sampling  
Pace Project No.: 30219509

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** May 30, 2017

### General Information:

12 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zn failed for the PDS.

- QC Batch: 259895

Zn failed on the serial dilution

- QC Batch: 259895

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- BLANK (Lab ID: 1279742)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1279744)
  - Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 30, 2017

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- DUP (Lab ID: 1279744)
  - Zinc
- DUP (Lab ID: 1279747)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1279743)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279745)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279748)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1279746)
  - Cadmium
  - Zinc
- RW-05-MW(I) (Lab ID: 30219509013)
  - Cadmium
  - Zinc
- RW-10-MW(I) (Lab ID: 30219509012)
  - Cadmium
  - Zinc
- RW-11-MW(I) (Lab ID: 30219509010)
  - Cadmium
  - Zinc
- RW-11-MW(S) (Lab ID: 30219509011)
  - Cadmium
  - Zinc
- RW-12-MW(I) (Lab ID: 30219509009)
  - Cadmium
  - Zinc
- RW-13-MW(I) (Lab ID: 30219509008)
  - Cadmium
  - Zinc
- RW-15-MW(I) (Lab ID: 30219509005)
  - Cadmium
  - Zinc
- RW-16-MW(I) (Lab ID: 30219509006)
  - Cadmium
  - Zinc
- RW-16-MW(S) (Lab ID: 30219509007)
  - Cadmium

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## PROJECT NARRATIVE

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 30, 2017

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- RW-16-MW(S) (Lab ID: 30219509007)
  - Zinc
- RW-18-MW(I) (Lab ID: 30219509004)
  - Cadmium
  - Zinc
- RW-19-MW(I) (Lab ID: 30219509002)
  - Cadmium
  - Zinc
- RW-19-MW(S) (Lab ID: 30219509003)
  - Cadmium
  - Zinc

2c: Zn failed on the serial dilution

- BLANK (Lab ID: 1279742)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1279744)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1279747)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1279743)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279745)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279748)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1279746)
  - Cadmium
  - Zinc
- RW-05-MW(I) (Lab ID: 30219509013)
  - Cadmium
  - Zinc
- RW-10-MW(I) (Lab ID: 30219509012)
  - Cadmium
  - Zinc
- RW-11-MW(I) (Lab ID: 30219509010)
  - Cadmium
  - Zinc

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## PROJECT NARRATIVE

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 30, 2017

Analyte Comments:

QC Batch: 259796

2c: Zn failed on the serial dilution

- RW-11-MW(S) (Lab ID: 30219509011)
  - Cadmium
  - Zinc
- RW-12-MW(I) (Lab ID: 30219509009)
  - Cadmium
  - Zinc
- RW-13-MW(I) (Lab ID: 30219509008)
  - Cadmium
  - Zinc
- RW-15-MW(I) (Lab ID: 30219509005)
  - Cadmium
  - Zinc
- RW-16-MW(I) (Lab ID: 30219509006)
  - Cadmium
  - Zinc
- RW-16-MW(S) (Lab ID: 30219509007)
  - Cadmium
  - Zinc
- RW-18-MW(I) (Lab ID: 30219509004)
  - Cadmium
  - Zinc
- RW-19-MW(I) (Lab ID: 30219509002)
  - Cadmium
  - Zinc
- RW-19-MW(S) (Lab ID: 30219509003)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-19-MW(I)		Lab ID: 30219509002		Collected: 05/22/17 08:41		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2770</b>	ug/L	300	34.4	100	05/26/17 09:20	05/27/17 02:44	7440-43-9	1c,2c
Zinc	<b>5370000</b>	ug/L	100000	10800	10000	05/26/17 09:20	05/27/17 04:03	7440-66-6	1c,2c, ML

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-19-MW(S)		Lab ID: 30219509003		Collected: 05/22/17 09:21		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.6</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:33	7440-43-9	1c,2c
Zinc	<b>4860</b>	ug/L	100	10.8	10	05/26/17 09:20	05/27/17 02:58	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-18-MW(I)		Lab ID: 30219509004		Collected: 05/22/17 10:02		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>92.0</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:36	7440-43-9	1c,2c
Zinc	<b>246000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:01	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-15-MW(I)		Lab ID: 30219509005		Collected: 05/22/17 10:39		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>91.1</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:48	7440-43-9	1c,2c
Zinc	<b>100000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:03	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-16-MW(I)		Lab ID: 30219509006		Collected: 05/22/17 11:18		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>73.9</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:50	7440-43-9	1c,2c
Zinc	<b>207000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:06	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-16-MW(S)		Lab ID: 30219509007		Collected: 05/22/17 11:47		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>64.1</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:53	7440-43-9	1c,2c
Zinc	<b>15800</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:13	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-13-MW(I)		Lab ID: 30219509008		Collected: 05/22/17 12:32		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5370</b>	ug/L	300	34.4	100	05/26/17 09:20	05/27/17 03:16	7440-43-9	1c,2c
Zinc	<b>163000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:16	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-12-MW(I)		Lab ID: 30219509009		Collected: 05/22/17 13:25		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3820</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 01:58	7440-43-9	1c,2c
Zinc	<b>232000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:18	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-11-MW(I)		Lab ID: 30219509010		Collected: 05/22/17 14:17		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2600</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:00	7440-43-9	1c,2c
Zinc	<b>336000</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:20	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-11-MW(S)		Lab ID: 30219509011		Collected: 05/22/17 14:36		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.8J</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:03	7440-43-9	1c,2c
Zinc	<b>12500</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:23	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-10-MW(I)		Lab ID: 30219509012		Collected: 05/22/17 15:32		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.5J</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:05	7440-43-9	1c,2c
Zinc	<b>1150</b>	ug/L	10.0	1.1	1	05/26/17 09:20	05/27/17 02:05	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Sample: RW-05-MW(I)		Lab ID: 30219509013		Collected: 05/22/17 16:21		Received: 05/22/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>397</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:18	7440-43-9	1c,2c
Zinc	<b>38800</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:25	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: R&W A3 GW Sampling  
Pace Project No.: 30219509

QC Batch:	259796	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30219509002, 30219509003, 30219509004, 30219509005, 30219509006, 30219509007, 30219509008, 30219509009, 30219509010, 30219509011, 30219509012, 30219509013		

METHOD BLANK:	1279742	Matrix:	Water
Associated Lab Samples:	30219509002, 30219509003, 30219509004, 30219509005, 30219509006, 30219509007, 30219509008, 30219509009, 30219509010, 30219509011, 30219509012, 30219509013		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/27/17 01:12	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	05/27/17 01:12	1c,2c

LABORATORY CONTROL SAMPLE: 1279743						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	513	103	80-120	1c,2c
Zinc	ug/L	500	526	105	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:												
1279745					1279746							
Parameter	Units	30219509002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	2770	500	500	3390	3310	123	108	75-125	2	20	1c,2c
Zinc	ug/L	5370000	500	500	5330000	5800000	-7000	86800	75-125	8	20	1c,2c, ML

MATRIX SPIKE SAMPLE:	1279748						
		30219509012	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	2.5J	500	516	103	75-125	1c,2c
Zinc	ug/L	1150	500	1640	97	75-125	1c,2c

SAMPLE DUPLICATE: 1279744						
Parameter	Units	30219509002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2770	2770	0	20	1c,2c
Zinc	ug/L	5370000	5730000	6	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

SAMPLE DUPLICATE: 1279747

Parameter	Units	30219509012 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2.5J	2.8J		20	1c, 2c
Zinc	ug/L	1150	1180	3	20	1c, 2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: R&W A3 GW Sampling  
Pace Project No.: 30219509

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 259895

[1] Cd and Zn failed for the PDS.

[2] Zn failed on the serial dilution

### ANALYTE QUALIFIERS

1c Cd and Zn failed for the PDS.

2c Zn failed on the serial dilution

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: R&W A3 GW Sampling

Pace Project No.: 30219509

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30219509002	RW-19-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509003	RW-19-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219509004	RW-18-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509005	RW-15-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509006	RW-16-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509007	RW-16-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219509008	RW-13-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509009	RW-12-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509010	RW-11-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509011	RW-11-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219509012	RW-10-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219509013	RW-05-MW(I)	EPA 3005A	259796	EPA 6010C	259895

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Page: 1 of 32

Section A  
Required Client Information:

Company: EnviroAnalytics Group  
Address: 1430 Sparrows Point Blvd  
Sparrows Point, MD 21219  
Email To: [calenda@enviroanalyticsgroup.com](mailto:calenda@enviroanalyticsgroup.com)  
Phone: 314-620-3056  
Requested Due Date: 5 days

Section B  
Required Project Information:

Report To: James Calenda  
Copy To:  
Project Name: 1430 Sparrows Point Blvd  
Project Number: 140236M  
Project Name: EnviroAnalytics Group  
Address: 1850 Des Peres Road, Suite 303 St. Louis, MO 63131  
Reference: Pace Quote  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

ITEM #	Valid Matrix Codes MATRIX CODE DW WATER WASTEWATER PRODUCT SOLID OIL WIRE AIR OTHER TISSE	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G-GRAB C-COMP)	MATRIX CODE (see valid codes to left)	DATE	TIME	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Temp in °C	Received on	Custody Sealed	Samples Intact
			COMPOSITE START	COMPOSITE END/GRAB														
1		TRIP B / mwe 1			WT G		5/22/17	1645										
2		RW19 - mwe(I)			WT G		5/22/17	1645										
3		RW19 - mwe(I)			WT G		5/22/17	1645										
4		RW18 - mwe(I)			WT G		5/22/17	1645										
5		RW15 - mwe(I)			WT G		5/22/17	1645										
6		RW14 - mwe(I)			WT G		5/22/17	1645										
7		RW14 - mwe(I)			WT G		5/22/17	1645										
8		RW13 - mwe(I)			WT G		5/22/17	1645										
9		RW12 - mwe(I)			WT G		5/22/17	1645										
10		RW11 - mwe(I)			WT G		5/22/17	1645										
11		RW11 - mwe(I)			WT G		5/22/17	1645										
12		RW10 - mwe(I)			WT G		5/22/17	1645										
Data Package Required? (Y/N):																		
Data Validation Required? (Y/N):																		
If data package is required, attach data package checklist.																		
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Robert Bantz SIGNATURE of SAMPLER: [Signature] DATE Signed (MM/DD/YYYY): 05/22/17																		

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

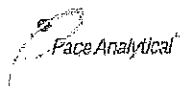
F-ALL-Q-020rev.06, 2-Feb-2007



## Sample Condition Upon Receipt Pittsburgh

KH

30219509

Client Name: EnviroAnalytics

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no
Thermometer Used 7 Type of Ice: Water Blue NoneCooler Temperature Observed Temp 1.9 °C Correction Factor: 0.0 °C Final Temp: 1.9 °C

Temp should be above freezing to 6°C

 Date and initials of person examining contents: KH 5/23/17

## Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: <u>W+</u>				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Organic Samples checked for dechlorination:			/	13.
Filtered volume received for Dissolved tests			/	14.
All containers have been checked for preservation.	/			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics				
				Initial when completed <u>KH</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		/		16.
Trip Blank Present:	/			17.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 01, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod & Wire GW Sampling A3  
Pace Project No.: 30219635

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219635001	Trip Blank 1	Water	05/23/17 00:01	05/23/17 23:15
30219635002	RW01-MW-(I)	Water	05/23/17 08:54	05/23/17 23:15
30219635003	RW01-MW-(S)	Water	05/23/17 09:27	05/23/17 23:15
30219635004	RW02-MW-(I)	Water	05/23/17 10:06	05/23/17 23:15
30219635005	RW02-MW-(S)	Water	05/23/17 11:00	05/23/17 23:15
30219635006	RW03-MW-(I)	Water	05/23/17 12:05	05/23/17 23:15
30219635007	RW03-MW-(S)	Water	05/23/17 12:38	05/23/17 23:15
30219635008	RW06-MW-(I)	Water	05/23/17 13:27	05/23/17 23:15
30219635009	RW07-MW-(I)	Water	05/23/17 14:13	05/23/17 23:15
30219635010	RW07-MW-(S)	Water	05/23/17 14:54	05/23/17 23:15
30219635011	RW08-MW-(I)	Water	05/23/17 15:50	05/23/17 23:15

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219635001	Trip Blank 1	EPA 8260B	JAS	55
30219635002	RW01-MW-(I)	EPA 6010C	PJD	2
30219635003	RW01-MW-(S)	EPA 6010C	PJD	2
30219635004	RW02-MW-(I)	EPA 6010C	PJD	2
30219635005	RW02-MW-(S)	EPA 6010C	PJD	2
30219635006	RW03-MW-(I)	EPA 6010C	PJD	2
30219635007	RW03-MW-(S)	EPA 6010C	PJD	2
30219635008	RW06-MW-(I)	EPA 6010C	PJD	2
30219635009	RW07-MW-(I)	EPA 6010C	PJD	2
30219635010	RW07-MW-(S)	EPA 6010C	PJD	2
30219635011	RW08-MW-(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 01, 2017

### General Information:

10 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Zn failed for the PDS.

- QC Batch: 260280

Analyte Comments:

QC Batch: 260163

1c: Zn failed for the PDS.

- BLANK (Lab ID: 1281567)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1281569)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 01, 2017

Analyte Comments:

QC Batch: 260163

1c: Zn failed for the PDS.

- LCS (Lab ID: 1281568)
  - Cadmium
  - Zinc
- MS (Lab ID: 1281570)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1281571)
  - Cadmium
  - Zinc
- RW01-MW-(I) (Lab ID: 30219635002)
  - Cadmium
  - Zinc
- RW01-MW-(S) (Lab ID: 30219635003)
  - Cadmium
  - Zinc
- RW02-MW-(I) (Lab ID: 30219635004)
  - Cadmium
  - Zinc
- RW02-MW-(S) (Lab ID: 30219635005)
  - Cadmium
  - Zinc
- RW03-MW-(I) (Lab ID: 30219635006)
  - Cadmium
  - Zinc
- RW03-MW-(S) (Lab ID: 30219635007)
  - Cadmium
  - Zinc
- RW06-MW-(I) (Lab ID: 30219635008)
  - Cadmium
  - Zinc
- RW07-MW-(I) (Lab ID: 30219635009)
  - Cadmium
  - Zinc
- RW07-MW-(S) (Lab ID: 30219635010)
  - Cadmium
  - Zinc
- RW08-MW-(I) (Lab ID: 30219635011)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

---

**Method:** EPA 8260B

**Description:** 8260B MSV

**Client:** EnviroAnalytics Group, LLC

**Date:** June 01, 2017

### General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 259645

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

**Sample:** Trip Blank 1 **Lab ID:** 30219635001 **Collected:** 05/23/17 00:01 **Received:** 05/23/17 23:15 **Matrix:** Water

**Comments:** • Trip Blank not needed as no samples are being analyzed for VOC analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b> Analytical Method: EPA 8260B									
Acetone	29.9	ug/L	10.0	3.8	1		05/25/17 11:59	67-64-1	M5
Benzene	1.0 U	ug/L	1.0	0.35	1		05/25/17 11:59	71-43-2	M5
Bromodichloromethane	1.0 U	ug/L	1.0	0.43	1		05/25/17 11:59	75-27-4	M5
Bromoform	1.0 U	ug/L	1.0	0.40	1		05/25/17 11:59	75-25-2	M5
Bromomethane	1.0 U	ug/L	1.0	0.90	1		05/25/17 11:59	74-83-9	IH,M5
2-Butanone (MEK)	10.0 U	ug/L	10.0	5.5	1		05/25/17 11:59	78-93-3	IH,M5
Carbon disulfide	1.0 U	ug/L	1.0	0.25	1		05/25/17 11:59	75-15-0	M5
Carbon tetrachloride	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	56-23-5	M5
Chlorobenzene	1.0 U	ug/L	1.0	0.19	1		05/25/17 11:59	108-90-7	M5
Chloroethane	1.0 U	ug/L	1.0	0.42	1		05/25/17 11:59	75-00-3	M5
Chloroform	1.0 U	ug/L	1.0	0.33	1		05/25/17 11:59	67-66-3	M5
Chloromethane	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	74-87-3	M5
Cyclohexane	10.0 U	ug/L	10.0	1.6	1		05/25/17 11:59	110-82-7	M5
1,2-Dibromo-3-chloropropane	5.0 U	ug/L	5.0	0.43	1		05/25/17 11:59	96-12-8	M5
Dibromochloromethane	1.0 U	ug/L	1.0	0.35	1		05/25/17 11:59	124-48-1	M5
1,2-Dibromoethane (EDB)	1.0 U	ug/L	1.0	0.48	1		05/25/17 11:59	106-93-4	M5
1,2-Dichlorobenzene	1.0 U	ug/L	1.0	0.37	1		05/25/17 11:59	95-50-1	M5
1,3-Dichlorobenzene	1.0 U	ug/L	1.0	0.21	1		05/25/17 11:59	541-73-1	M5
1,4-Dichlorobenzene	1.0 U	ug/L	1.0	0.44	1		05/25/17 11:59	106-46-7	M5
Dichlorodifluoromethane	1.0 U	ug/L	1.0	0.31	1		05/25/17 11:59	75-71-8	M5
1,1-Dichloroethane	1.0 U	ug/L	1.0	0.34	1		05/25/17 11:59	75-34-3	M5
1,2-Dichloroethane	1.0 U	ug/L	1.0	0.36	1		05/25/17 11:59	107-06-2	M5
1,2-Dichloroethene (Total)	2.0 U	ug/L	2.0	0.80	1		05/25/17 11:59	540-59-0	M5
1,1-Dichloroethene	1.0 U	ug/L	1.0	0.20	1		05/25/17 11:59	75-35-4	M5
cis-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.48	1		05/25/17 11:59	156-59-2	M5
trans-1,2-Dichloroethene	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	156-60-5	M5
1,2-Dichloropropane	1.0 U	ug/L	1.0	0.62	1		05/25/17 11:59	78-87-5	M5
cis-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.37	1		05/25/17 11:59	10061-01-5	M5
trans-1,3-Dichloropropene	1.0 U	ug/L	1.0	0.74	1		05/25/17 11:59	10061-02-6	M5
Ethylbenzene	1.0 U	ug/L	1.0	0.21	1		05/25/17 11:59	100-41-4	M5
2-Hexanone	10.0 U	ug/L	10.0	1.7	1		05/25/17 11:59	591-78-6	M5
Isopropylbenzene (Cumene)	1.0 U	ug/L	1.0	0.25	1		05/25/17 11:59	98-82-8	M5
Methyl acetate	5.0 U	ug/L	5.0	0.42	1		05/25/17 11:59	79-20-9	M5
Methylene Chloride	1.0 U	ug/L	1.0	0.59	1		05/25/17 11:59	75-09-2	M5
4-Methyl-2-pentanone (MIBK)	10.0 U	ug/L	10.0	1.7	1		05/25/17 11:59	108-10-1	M5
Methyl-tert-butyl ether	1.0 U	ug/L	1.0	0.27	1		05/25/17 11:59	1634-04-4	M5
Styrene	1.0 U	ug/L	1.0	0.18	1		05/25/17 11:59	100-42-5	M5
1,1,2,2-Tetrachloroethane	1.0 U	ug/L	1.0	0.19	1		05/25/17 11:59	79-34-5	M5
Tetrachloroethene	1.0 U	ug/L	1.0	0.33	1		05/25/17 11:59	127-18-4	M5
Toluene	1.0 U	ug/L	1.0	0.29	1		05/25/17 11:59	108-88-3	M5
1,2,3-Trichlorobenzene	2.0 U	ug/L	2.0	0.55	1		05/25/17 11:59	87-61-6	M5
1,2,4-Trichlorobenzene	1.0 U	ug/L	1.0	0.39	1		05/25/17 11:59	120-82-1	M5
1,1,1-Trichloroethane	1.0 U	ug/L	1.0	0.22	1		05/25/17 11:59	71-55-6	M5
1,1,2-Trichloroethane	1.0 U	ug/L	1.0	0.45	1		05/25/17 11:59	79-00-5	M5
Trichloroethene	1.0 U	ug/L	1.0	0.50	1		05/25/17 11:59	79-01-6	M5

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

**Sample:** Trip Blank 1 **Lab ID:** 30219635001 **Collected:** 05/23/17 00:01 **Received:** 05/23/17 23:15 **Matrix:** Water

**Comments:** • Trip Blank not needed as no samples are being analyzed for VOC analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV</b> Analytical Method: EPA 8260B									
Trichlorofluoromethane	1.0 U	ug/L	1.0	0.32	1		05/25/17 11:59	75-69-4	M5
1,1,2-Trichlorotrifluoroethane	50.0 U	ug/L	50.0	1.4	1		05/25/17 11:59	76-13-1	M5
Vinyl chloride	1.0 U	ug/L	1.0	0.21	1		05/25/17 11:59	75-01-4	M5
Xylene (Total)	3.0 U	ug/L	3.0	1.1	1		05/25/17 11:59	1330-20-7	M5
m&p-Xylene	2.0 U	ug/L	2.0	0.70	1		05/25/17 11:59	179601-23-1	M5
o-Xylene	1.0 U	ug/L	1.0	0.37	1		05/25/17 11:59	95-47-6	M5
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	78-117		1		05/25/17 11:59	460-00-4	M5
1,2-Dichloroethane-d4 (S)	97	%	70-128		1		05/25/17 11:59	17060-07-0	M5
Toluene-d8 (S)	100	%	59-140		1		05/25/17 11:59	2037-26-5	M5
Dibromofluoromethane (S)	97	%	66-132		1		05/25/17 11:59	1868-53-7	M5

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW01-MW-(I)		Lab ID: 30219635002		Collected: 05/23/17 08:54		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>526</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 22:53	7440-43-9	1c
Zinc	<b>14900</b>	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:34	7440-66-6	1c, MH

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW01-MW-(S)		Lab ID: 30219635003		Collected: 05/23/17 09:27		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:07	7440-43-9	1c
Zinc	<b>6120</b>	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:53	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

<b>Sample: RW02-MW-(I)</b>		<b>Lab ID: 30219635004</b>		Collected: 05/23/17 10:06		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>24.4</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:10	7440-43-9	1c
Zinc	<b>2520</b>	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:10	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW02-MW-(S)		Lab ID: 30219635005		Collected: 05/23/17 11:00		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.2</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:17	7440-43-9	1c
Zinc	<b>47800</b>	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:55	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

<b>Sample: RW03-MW-(I)</b>		<b>Lab ID: 30219635006</b>		Collected: 05/23/17 12:05		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>84.0</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:19	7440-43-9	1c
Zinc	<b>2960</b>	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:19	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

<b>Sample: RW03-MW-(S)</b>		<b>Lab ID: 30219635007</b>		Collected: 05/23/17 12:38		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.9</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:22	7440-43-9	1c
Zinc	<b>5380</b>	ug/L	1000	108	100	05/31/17 10:07	05/31/17 23:58	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

<b>Sample: RW06-MW-(I)</b>		<b>Lab ID: 30219635008</b>		Collected: 05/23/17 13:27		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>20.4</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:24	7440-43-9	1c
Zinc	<b>999</b>	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:24	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

<b>Sample: RW07-MW-(I)</b>		<b>Lab ID: 30219635009</b>		Collected: 05/23/17 14:13		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:26	7440-43-9	1c
Zinc	<b>298</b>	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:26	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Sample: RW07-MW-(S)		Lab ID: 30219635010		Collected: 05/23/17 14:54		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.9J</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:29	7440-43-9	1c
Zinc	<b>102</b>	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:29	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

<b>Sample: RW08-MW-(I)</b>		<b>Lab ID: 30219635011</b>		Collected: 05/23/17 15:50		Received: 05/23/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.5J</b>	ug/L	3.0	0.34	1	05/31/17 10:07	05/31/17 23:31	7440-43-9	1c
Zinc	<b>188</b>	ug/L	10.0	1.1	1	05/31/17 10:07	05/31/17 23:31	7440-66-6	1c

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## QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

QC Batch:	260163	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30219635002, 30219635003, 30219635004, 30219635005, 30219635006, 30219635007, 30219635008, 30219635009, 30219635010, 30219635011		

METHOD BLANK:	1281567	Matrix:	Water
Associated Lab Samples:	30219635002, 30219635003, 30219635004, 30219635005, 30219635006, 30219635007, 30219635008, 30219635009, 30219635010, 30219635011		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/31/17 22:48	1c
Zinc	ug/L	10.0 U	10.0	1.1	05/31/17 22:48	1c

LABORATORY CONTROL SAMPLE: 1281568						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	509	102	80-120	1c
Zinc	ug/L	500	515	103	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281570 1281571												
Parameter	Units	30219635002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	526	500	500	1040	1070	103	109	75-125	3	20	1c
Zinc	ug/L	14900	500	500	15300	15800	78	180	75-125	3	20	1c,MH

SAMPLE DUPLICATE: 1281569						
Parameter	Units	30219635002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	526	520	1	20	1c
Zinc	ug/L	14900	14800	1	20	1c

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## QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

QC Batch: 259645

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260B MSV

Associated Lab Samples: 30219635001

METHOD BLANK: 1279045

Matrix: Water

Associated Lab Samples: 30219635001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	1.0 U	1.0	0.22	05/25/17 11:05	M5
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0	0.19	05/25/17 11:05	M5
1,1,2-Trichloroethane	ug/L	1.0 U	1.0	0.45	05/25/17 11:05	M5
1,1,2-Trichlorotrifluoroethane	ug/L	50.0 U	50.0	1.4	05/25/17 11:05	M5
1,1-Dichloroethane	ug/L	1.0 U	1.0	0.34	05/25/17 11:05	M5
1,1-Dichloroethene	ug/L	1.0 U	1.0	0.20	05/25/17 11:05	M5
1,2,3-Trichlorobenzene	ug/L	2.0 U	2.0	0.55	05/25/17 11:05	M5
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0	0.39	05/25/17 11:05	M5
1,2-Dibromo-3-chloropropane	ug/L	5.0 U	5.0	0.43	05/25/17 11:05	M5
1,2-Dibromoethane (EDB)	ug/L	1.0 U	1.0	0.48	05/25/17 11:05	M5
1,2-Dichlorobenzene	ug/L	1.0 U	1.0	0.37	05/25/17 11:05	M5
1,2-Dichloroethane	ug/L	1.0 U	1.0	0.36	05/25/17 11:05	M5
1,2-Dichloroethene (Total)	ug/L	2.0 U	2.0	0.80	05/25/17 11:05	M5
1,2-Dichloropropane	ug/L	1.0 U	1.0	0.62	05/25/17 11:05	M5
1,3-Dichlorobenzene	ug/L	1.0 U	1.0	0.21	05/25/17 11:05	M5
1,4-Dichlorobenzene	ug/L	1.0 U	1.0	0.44	05/25/17 11:05	M5
2-Butanone (MEK)	ug/L	10.0 U	10.0	5.5	05/25/17 11:05	M5
2-Hexanone	ug/L	10.0 U	10.0	1.7	05/25/17 11:05	M5
4-Methyl-2-pentanone (MIBK)	ug/L	10.0 U	10.0	1.7	05/25/17 11:05	M5
Acetone	ug/L	10.0 U	10.0	3.8	05/25/17 11:05	M5
Benzene	ug/L	1.0 U	1.0	0.35	05/25/17 11:05	M5
Bromodichloromethane	ug/L	1.0 U	1.0	0.43	05/25/17 11:05	M5
Bromoform	ug/L	1.0 U	1.0	0.40	05/25/17 11:05	M5
Bromomethane	ug/L	1.0 U	1.0	0.90	05/25/17 11:05	M5
Carbon disulfide	ug/L	1.0 U	1.0	0.25	05/25/17 11:05	M5
Carbon tetrachloride	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
Chlorobenzene	ug/L	1.0 U	1.0	0.19	05/25/17 11:05	M5
Chloroethane	ug/L	1.0 U	1.0	0.42	05/25/17 11:05	M5
Chloroform	ug/L	1.0 U	1.0	0.33	05/25/17 11:05	M5
Chloromethane	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.48	05/25/17 11:05	M5
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.37	05/25/17 11:05	M5
Cyclohexane	ug/L	10.0 U	10.0	1.6	05/25/17 11:05	M5
Dibromochloromethane	ug/L	1.0 U	1.0	0.35	05/25/17 11:05	M5
Dichlorodifluoromethane	ug/L	1.0 U	1.0	0.31	05/25/17 11:05	M5
Ethylbenzene	ug/L	1.0 U	1.0	0.21	05/25/17 11:05	M5
Isopropylbenzene (Cumene)	ug/L	1.0 U	1.0	0.25	05/25/17 11:05	M5
m&p-Xylene	ug/L	2.0 U	2.0	0.70	05/25/17 11:05	M5
Methyl acetate	ug/L	5.0 U	5.0	0.42	05/25/17 11:05	M5
Methyl-tert-butyl ether	ug/L	1.0 U	1.0	0.27	05/25/17 11:05	M5
Methylene Chloride	ug/L	1.0 U	1.0	0.59	05/25/17 11:05	M5

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

METHOD BLANK: 1279045

Matrix: Water

Associated Lab Samples: 30219635001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
o-Xylene	ug/L	1.0 U	1.0	0.37	05/25/17 11:05	M5
Styrene	ug/L	1.0 U	1.0	0.18	05/25/17 11:05	M5
Tetrachloroethene	ug/L	1.0 U	1.0	0.33	05/25/17 11:05	M5
Toluene	ug/L	1.0 U	1.0	0.29	05/25/17 11:05	M5
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0	0.74	05/25/17 11:05	M5
Trichloroethene	ug/L	1.0 U	1.0	0.50	05/25/17 11:05	M5
Trichlorofluoromethane	ug/L	1.0 U	1.0	0.32	05/25/17 11:05	M5
Vinyl chloride	ug/L	1.0 U	1.0	0.21	05/25/17 11:05	M5
Xylene (Total)	ug/L	3.0 U	3.0	1.1	05/25/17 11:05	M5
1,2-Dichloroethane-d4 (S)	%	96	70-128		05/25/17 11:05	M5
4-Bromofluorobenzene (S)	%	106	78-117		05/25/17 11:05	M5
Dibromofluoromethane (S)	%	94	66-132		05/25/17 11:05	M5
Toluene-d8 (S)	%	100	59-140		05/25/17 11:05	M5

LABORATORY CONTROL SAMPLE: 1279046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.6	88	79-125	M5
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	64-130	M5
1,1,2-Trichloroethane	ug/L	20	20.0	100	78-118	M5
1,1,2-Trichlorotrifluoroethane	ug/L	20	24.4J	122	39-138	M5
1,1-Dichloroethane	ug/L	20	19.4	97	77-124	M5
1,1-Dichloroethene	ug/L	20	19.5	98	74-127	M5
1,2,3-Trichlorobenzene	ug/L	20	18.5	92	73-140	M5
1,2,4-Trichlorobenzene	ug/L	20	19.3	97	81-130	M5
1,2-Dibromo-3-chloropropane	ug/L	20	19.9	99	53-133	M5
1,2-Dibromoethane (EDB)	ug/L	20	20.6	103	69-126	M5
1,2-Dichlorobenzene	ug/L	20	19.1	96	83-117	M5
1,2-Dichloroethane	ug/L	20	17.1	86	73-118	M5
1,2-Dichloroethene (Total)	ug/L	40	36.6	92	70-130	M5
1,2-Dichloropropane	ug/L	20	18.0	90	77-126	M5
1,3-Dichlorobenzene	ug/L	20	19.5	97	83-119	M5
1,4-Dichlorobenzene	ug/L	20	19.5	98	83-119	M5
2-Butanone (MEK)	ug/L	20	25.5	127	55-134	M5
2-Hexanone	ug/L	20	22.0	110	78-156	M5
4-Methyl-2-pentanone (MIBK)	ug/L	20	20.3	102	63-121	M5
Acetone	ug/L	20	16.4	82	51-144	M5
Benzene	ug/L	20	19.0	95	80-113	M5
Bromodichloromethane	ug/L	20	18.9	94	78-121	M5
Bromoform	ug/L	20	20.8	104	71-130	M5
Bromomethane	ug/L	20	29.0	145	58-154	M5
Carbon disulfide	ug/L	20	21.4	107	66-152	M5
Carbon tetrachloride	ug/L	20	17.5	88	69-133	M5

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## QUALITY CONTROL DATA

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

LABORATORY CONTROL SAMPLE: 1279046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	20	19.6	98	85-116	M5
Chloroethane	ug/L	20	18.4	92	76-136	M5
Chloroform	ug/L	20	18.4	92	76-118	M5
Chloromethane	ug/L	20	14.1	71	67-148	M5
cis-1,2-Dichloroethene	ug/L	20	18.2	91	77-126	M5
cis-1,3-Dichloropropene	ug/L	20	18.8	94	75-119	M5
Cyclohexane	ug/L	20	25.6	128	65-146	M5
Dibromochloromethane	ug/L	20	20.2	101	66-131	M5
Dichlorodifluoromethane	ug/L	20	15.2	76	10-175	M5
Ethylbenzene	ug/L	20	19.4	97	80-115	M5
Isopropylbenzene (Cumene)	ug/L	20	21.1	105	78-114	M5
m&p-Xylene	ug/L	40	39.5	99	82-116	M5
Methyl acetate	ug/L	20	12.2	61	56-155	M5
Methyl-tert-butyl ether	ug/L	20	20.9	105	82-126	M5
Methylene Chloride	ug/L	20	18.2	91	61-142	M5
o-Xylene	ug/L	20	20.4	102	81-113	M5
Styrene	ug/L	20	19.8	99	84-120	M5
Tetrachloroethene	ug/L	20	18.9	95	82-120	M5
Toluene	ug/L	20	20.2	101	82-116	M5
trans-1,2-Dichloroethene	ug/L	20	18.4	92	76-125	M5
trans-1,3-Dichloropropene	ug/L	20	20.4	102	73-119	M5
Trichloroethene	ug/L	20	18.3	92	84-116	M5
Trichlorofluoromethane	ug/L	20	17.1	86	59-138	M5
Vinyl chloride	ug/L	20	19.3	97	63-133	M5
Xylene (Total)	ug/L	60	60.0	100	82-115	M5
1,2-Dichloroethane-d4 (S)	%			91	70-128	M5
4-Bromofluorobenzene (S)	%			104	78-117	M5
Dibromofluoromethane (S)	%			93	66-132	M5
Toluene-d8 (S)	%			106	59-140	M5

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## QUALIFIERS

Project: Rod & Wire GW Sampling A3  
Pace Project No.: 30219635

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
 ND - Not Detected at or above adjusted reporting limit.  
 J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
 MDL - Adjusted Method Detection Limit.  
 PQL - Practical Quantitation Limit.  
 RL - Reporting Limit.  
 S - Surrogate  
 1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
 Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
 LCS(D) - Laboratory Control Sample (Duplicate)  
 MS(D) - Matrix Spike (Duplicate)  
 DUP - Sample Duplicate  
 RPD - Relative Percent Difference  
 NC - Not Calculable.  
 SG - Silica Gel - Clean-Up  
 U - Indicates the compound was analyzed for, but not detected.  
 N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
 Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
 TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 259645  
 [M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.  
 Batch: 260280  
 [1] Zn failed for the PDS.

### ANALYTE QUALIFIERS

1c Zn failed for the PDS.  
 IH This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.  
 M5 A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.  
 MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire GW Sampling A3

Pace Project No.: 30219635

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30219635002	RW01-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635003	RW01-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635004	RW02-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635005	RW02-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635006	RW03-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635007	RW03-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635008	RW06-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635009	RW07-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635010	RW07-MW-(S)	EPA 3005A	260163	EPA 6010C	260280
30219635011	RW08-MW-(I)	EPA 3005A	260163	EPA 6010C	260280
30219635001	Trip Blank 1	EPA 8260B	259645		

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WO#: 30219635

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Section A

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Section C

Invoice Information:

Company: EnviroAnalytics Group  
 Address: 1430 Sparrows Point Blvd  
 Sparrows Point, MD 21219  
 Email To: calenda@enviroanalyticsgroup.com  
 Phone: 314-620-3056  
 Project Name: R.W. 95 S.W. A1  
 Project Number: 170384-1-1  
 Requested Due Date/TAT: 5 days

Report To: James Calenda  
 Copy To:  
 PO Number:  
 Project Name: Samantha Bayura  
 Project Number:  
 Pace Profile #:

Attention: Laura Sargent  
 Company Name: EnviroAnalytics Group  
 Address: 1650 Das Pines Road, Suite 303 St. Louis, MO 63131  
 Pace Quote Reference:  
 Pace Project Manager:  
 Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER

Site Location: MD  
 STATE:

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOLIDS OIL WIPE AIR OTHER TISSUE TS	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)										Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
						COMPOSITE START	COMPOSITE END/GRAB					DI Water	Methanol	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	NaOH	HCl	HNO <sub>3</sub>	Aspreserved	Oil and Grease/1664A (ad)			Oil and Grease/9071B (soil)	Residual Chlorine (Y/N)	Hexavalent Chromium/7196A	Mercury/7471A or 7470A	METALS/6010C	GRO/8015B	DRO/8015B	SVOC 8270D	VOC/8260B	Total Cyanide/9012A		PCB/8082 (soil)	2 in /cal																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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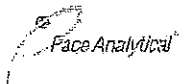
ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Temp in °C	Received on	Cooler (Y/N)	Samples Intact
Data Package Required? (Y/N)	Robert Bate	5/23/17	1550	Daniel Williams	5/23/17	1640				
Data Validation Required? (Y/N)	Daniel Williams	5/23/17	1920	Robert Bate	5/23/17	1945				
If data package is required, attach data package checklist.	Daniel Williams	5/23/17	2315	Robert Bate	5/23/17	2315	3.8	Y	N	Y

SAMPLER NAME AND SIGNATURE  
 PRINT Name of SAMPLER: Robert Bate  
 SIGNATURE of SAMPLER: Robert Bate  
 DATE Signed (MM/DD/YYYY): 05/23/17

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

## Sample Condition Upon Receipt Pittsburgh

BLM

Client Name: EnviroAnalyticsProject # 30219635Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 7 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 3.8 °C Correction Factor: 0.0 °C Final Temp: 3.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KA 5/24/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics				
				Initial when completed: <u>KA</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

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☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 30, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: R&W GW Samples  
Pace Project No.: 30219768

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on May 25, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: R&W GW Samples

Pace Project No.: 30219768

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: R&W GW Samples

Pace Project No.: 30219768

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30219768002	RW08-MW(S)	Water	05/24/17 09:03	05/25/17 00:20
30219768003	RW09-MW(I)	Water	05/24/17 09:13	05/25/17 00:20
30219768004	RW09-MW(S)	Water	05/24/17 10:20	05/25/17 00:20

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: R&W GW Samples

Pace Project No.: 30219768

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30219768002	RW08-MW(S)	EPA 6010C	PJD	2
30219768003	RW09-MW(I)	EPA 6010C	PJD	2
30219768004	RW09-MW(S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: R&W GW Samples

Pace Project No.: 30219768

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 30, 2017

### General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zn failed for the PDS.

- QC Batch: 259895

Zn failed on the serial dilution

- QC Batch: 259895

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- BLANK (Lab ID: 1279742)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1279744)
  - Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: R&W GW Samples

Pace Project No.: 30219768

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 30, 2017

Analyte Comments:

QC Batch: 259796

1c: Cd and Zn failed for the PDS.

- DUP (Lab ID: 1279744)
  - Zinc
- DUP (Lab ID: 1279747)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1279743)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279745)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279748)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1279746)
  - Cadmium
  - Zinc
- RW08-MW(S) (Lab ID: 30219768002)
  - Cadmium
  - Zinc
- RW09-MW(I) (Lab ID: 30219768003)
  - Cadmium
  - Zinc
- RW09-MW(S) (Lab ID: 30219768004)
  - Cadmium
  - Zinc

2c: Zn failed on the serial dilution

- BLANK (Lab ID: 1279742)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1279744)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1279747)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1279743)
  - Cadmium
  - Zinc
- MS (Lab ID: 1279745)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: R&W GW Samples

Pace Project No.: 30219768

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** May 30, 2017

Analyte Comments:

QC Batch: 259796

2c: Zn failed on the serial dilution

- MS (Lab ID: 1279748)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1279746)
  - Cadmium
  - Zinc
- RW08-MW(S) (Lab ID: 30219768002)
  - Cadmium
  - Zinc
- RW09-MW(I) (Lab ID: 30219768003)
  - Cadmium
  - Zinc
- RW09-MW(S) (Lab ID: 30219768004)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: R&W GW Samples

Pace Project No.: 30219768

Sample: RW08-MW(S)		Lab ID: 30219768002		Collected: 05/24/17 09:03		Received: 05/25/17 00:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:21	7440-43-9	1c,2c
Zinc	<b>2680</b>	ug/L	10.0	1.1	1	05/26/17 09:20	05/27/17 02:21	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: R&W GW Samples

Pace Project No.: 30219768

<b>Sample: RW09-MW(I)</b>		<b>Lab ID: 30219768003</b>		Collected: 05/24/17 09:13		Received: 05/25/17 00:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.1</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:23	7440-43-9	1c,2c
Zinc	<b>57200</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:28	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: R&W GW Samples

Pace Project No.: 30219768

Sample: RW09-MW(S)		Lab ID: 30219768004	Collected: 05/24/17 10:20	Received: 05/25/17 00:20	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>14.9</b>	ug/L	3.0	0.34	1	05/26/17 09:20	05/27/17 02:26	7440-43-9	1c,2c
Zinc	<b>11900</b>	ug/L	1000	108	100	05/26/17 09:20	05/27/17 03:30	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: R&W GW Samples  
Pace Project No.: 30219768

QC Batch: 259796 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30219768002, 30219768003, 30219768004

METHOD BLANK: 1279742 Matrix: Water  
Associated Lab Samples: 30219768002, 30219768003, 30219768004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	05/27/17 01:12	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	05/27/17 01:12	1c,2c

LABORATORY CONTROL SAMPLE: 1279743

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	513	103	80-120	1c,2c
Zinc	ug/L	500	526	105	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279745 1279746

Parameter	Units	30219509002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	2770	500	500	3390	3310	123	108	75-125	2	20	1c,2c
Zinc	ug/L	5370000	500	500	5330000	5800000	-7000	86800	75-125	8	20	1c,2c, ML

MATRIX SPIKE SAMPLE: 1279748

Parameter	Units	30219509012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	2.5J	500	516	103	75-125	1c,2c
Zinc	ug/L	1150	500	1640	97	75-125	1c,2c

SAMPLE DUPLICATE: 1279744

Parameter	Units	30219509002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2770	2770	0	20	1c,2c
Zinc	ug/L	5370000	5730000	6	20	1c,2c

SAMPLE DUPLICATE: 1279747

Parameter	Units	30219509012 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2.5J	2.8J		20	1c,2c
Zinc	ug/L	1150	1180	3	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: R&W GW Samples

Pace Project No.: 30219768

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 259895

[1] Cd and Zn failed for the PDS.

[2] Zn failed on the serial dilution

### ANALYTE QUALIFIERS

1c Cd and Zn failed for the PDS.

2c Zn failed on the serial dilution

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: R&W GW Samples

Pace Project No.: 30219768

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30219768002	RW08-MW(S)	EPA 3005A	259796	EPA 6010C	259895
30219768003	RW09-MW(I)	EPA 3005A	259796	EPA 6010C	259895
30219768004	RW09-MW(S)	EPA 3005A	259796	EPA 6010C	259895

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219			Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	calenda@enviroanalyticsgroup.com	PO Number:		Pace Quota Reference:	
Phone:	314-620-3056	Project Name:	R20348-1-1	Pace Project Manager:	Samantha Bayura
Requested Due Date/TAT:	5 days	Project Number:	170348-1-1	Pace Profile #:	

Page: 1 of 1

<b>REGULATORY AGENCY</b>	
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA
<input type="checkbox"/> OTHER	
Site Location	MD
STATE:	

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME		
1	Top Blank	WLB				5/24/17												
2	R208 - msw(s)	WLB				5/24/17												
3	R209 - msw(I)	WLB				5/24/17												
4	R209 - msw(s)	WLB				5/24/17												
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

WO#: 30219768

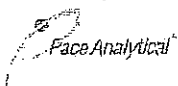


<b>ADDITIONAL COMMENTS</b>		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Data Package Required? (Y/N):		Robert Barte	5/24/17	1020	Robert Barte	5/24/17	1020	Temp in °C	Received on	Cooler (Y/N)	Samples In tact (Y/N)
Data Validation Required? (Y/N):		Robert Barte	5/24/17	1020	Robert Barte	5/24/17	1020				
If data package is required, attach data package checklist.		Robert Barte	5/24/17	1020	Robert Barte	5/24/17	1020				

## Sample Condition Upon Receipt Pittsburgh

30219768

PM



Client Name:

EnviroAna

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

3.8

°C

Correction Factor:

10.0

°C

Final Temp:

3.8

°C

Temp should be above freezing to 6°C

Date and initials of person examining contents: Q97A 5-25-17

Comments:

Yes No N/A

Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID				
Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics				
Initial when completed	<u>Q97A</u>	Date/time of preservation		
Lot # of added preservative				
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Initial when completed:		Date:		

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220708

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220708001	RW01-MW(I)	Water	06/05/17 11:01	06/05/17 23:15
30220708002	RW01-MW(S)	Water	06/05/17 11:42	06/05/17 23:15
30220708003	RW02-MW(I)	Water	06/05/17 13:22	06/05/17 23:15
30220708004	RW02-MW(S)	Water	06/05/17 14:17	06/05/17 23:15
30220708005	RW03-MW(I)	Water	06/05/17 15:22	06/05/17 23:15
30220708006	RW03-MW(S)	Water	06/05/17 16:22	06/05/17 23:15

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220708001	RW01-MW(I)	EPA 6010C	PJD	2
30220708002	RW01-MW(S)	EPA 6010C	PJD	2
30220708003	RW02-MW(I)	EPA 6010C	PJD	2
30220708004	RW02-MW(S)	EPA 6010C	PJD	2
30220708005	RW03-MW(I)	EPA 6010C	PJD	2
30220708006	RW03-MW(S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220708

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** June 12, 2017

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cd and Zn failed in the PDS.
- QC Batch: 261433

Analyte Comments:

QC Batch: 261330

- 1c: Cd and Zn failed in the PDS.
- BLANK (Lab ID: 1286693)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1286695)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 12, 2017

Analyte Comments:

QC Batch: 261330

1c: Cd and Zn failed in the PDS.

- DUP (Lab ID: 1286698)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1286694)
  - Cadmium
  - Zinc
- MS (Lab ID: 1286696)
  - Cadmium
  - Zinc
- MS (Lab ID: 1286699)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1286697)
  - Cadmium
  - Zinc
- RW01-MW(I) (Lab ID: 30220708001)
  - Cadmium
  - Zinc
- RW01-MW(S) (Lab ID: 30220708002)
  - Cadmium
  - Zinc
- RW02-MW(I) (Lab ID: 30220708003)
  - Cadmium
  - Zinc
- RW02-MW(S) (Lab ID: 30220708004)
  - Cadmium
  - Zinc
- RW03-MW(I) (Lab ID: 30220708005)
  - Cadmium
  - Zinc
- RW03-MW(S) (Lab ID: 30220708006)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

<b>Sample: RW01-MW(I)</b>		<b>Lab ID: 30220708001</b>		Collected: 06/05/17 11:01		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>666</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:38	7440-43-9	1c
Zinc	<b>16800</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:08	7440-66-6	1c, MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Sample: RW01-MW(S)		Lab ID: 30220708002	Collected: 06/05/17 11:42	Received: 06/05/17 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.7J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:52	7440-43-9	1c
Zinc	<b>10600</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:23	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

<b>Sample: RW02-MW(I)</b>		<b>Lab ID: 30220708003</b>		Collected: 06/05/17 13:22		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>451</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 22:55	7440-43-9	1c
Zinc	<b>15200</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:25	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

Sample: RW02-MW(S)		Lab ID: 30220708004		Collected: 06/05/17 14:17		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.9</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:03	7440-43-9	1c
Zinc	<b>46900</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:27	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

<b>Sample: RW03-MW(I)</b>		<b>Lab ID: 30220708005</b>		Collected: 06/05/17 15:22		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>37.4</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:05	7440-43-9	1c
Zinc	<b>2440</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:05	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

<b>Sample: RW03-MW(S)</b>		<b>Lab ID: 30220708006</b>		Collected: 06/05/17 16:22		Received: 06/05/17 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.0</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:08	7440-43-9	1c
Zinc	<b>5500</b>	ug/L	1000	108	100	06/09/17 09:25	06/10/17 00:30	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

QC Batch:	261330	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30220708001, 30220708002, 30220708003, 30220708004, 30220708005, 30220708006			

METHOD BLANK:	1286693	Matrix:	Water
Associated Lab Samples: 30220708001, 30220708002, 30220708003, 30220708004, 30220708005, 30220708006			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/09/17 22:33	1c
Zinc	ug/L	10.0 U	10.0	1.1	06/09/17 22:33	1c

LABORATORY CONTROL SAMPLE: 1286694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	1c
Zinc	ug/L	500	510	102	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1286696 1286697

Parameter	Units	30220708001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	666	500	500	1190	1220	104	110	75-125	3	20	1c
Zinc	ug/L	16800	500	500	17600	18000	160	238	75-125	2	20	1c, MH

MATRIX SPIKE SAMPLE: 1286699

Parameter	Units	30220820004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.48J	500	499	100	75-125	1c
Zinc	ug/L	71.9	500	554	96	75-125	1c

SAMPLE DUPLICATE: 1286695

Parameter	Units	30220708001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	666	688	3	20	1c
Zinc	ug/L	16800	16900	1	20	1c

SAMPLE DUPLICATE: 1286698

Parameter	Units	30220820004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.48J	0.56J		20	1c
Zinc	ug/L	71.9	73.2	2	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220708

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 261433

[1] Cd and Zn failed in the PDS.

### ANALYTE QUALIFIERS

1c Cd and Zn failed in the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

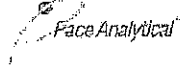
Pace Project No.: 30220708

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30220708001	RW01-MW(I)	EPA 3005A	261330	EPA 6010C	261433
30220708002	RW01-MW(S)	EPA 3005A	261330	EPA 6010C	261433
30220708003	RW02-MW(I)	EPA 3005A	261330	EPA 6010C	261433
30220708004	RW02-MW(S)	EPA 3005A	261330	EPA 6010C	261433
30220708005	RW03-MW(I)	EPA 3005A	261330	EPA 6010C	261433
30220708006	RW03-MW(S)	EPA 3005A	261330	EPA 6010C	261433

## REPORT OF LABORATORY ANALYSIS

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Client Name: Sparrows Pt. Project # \_\_\_\_\_Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_Tracking #: NACustody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ noThermometer Used 7 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 2.6 °C Correction Factor: 0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

PC  
6/5/17Date and Initials of person examining contents:  
PC 6/5/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>PC</u> Date/time of preservation <u>6/5/17</u>
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>PC</u> Date: <u>6/5/17</u>

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220820

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220820001	RW06-MW (S)	Water	06/06/17 09:53	06/06/17 22:30
30220820002	RW06-MW (I)	Water	06/06/17 10:42	06/06/17 22:30
30220820003	RW06-MW (D)	Water	06/06/17 11:17	06/06/17 22:30
30220820004	RW08-MW (I)	Water	06/06/17 12:32	06/06/17 22:30
30220820005	RW08-MW (S)	Water	06/06/17 13:27	06/06/17 22:30
30220820006	RW07-MW (I)	Water	06/06/17 14:58	06/06/17 22:30
30220820007	RW07-MW (S)	Water	06/06/17 15:47	06/06/17 22:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220820001	RW06-MW (S)	EPA 6010C	PJD	2
30220820002	RW06-MW (I)	EPA 6010C	PJD	2
30220820003	RW06-MW (D)	EPA 6010C	PJD	2
30220820004	RW08-MW (I)	EPA 6010C	PJD	2
30220820005	RW08-MW (S)	EPA 6010C	PJD	2
30220820006	RW07-MW (I)	EPA 6010C	PJD	2
30220820007	RW07-MW (S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220820

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** June 12, 2017

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cd and Zn failed in the PDS.
- QC Batch: 261433

Analyte Comments:

QC Batch: 261330

- 1c: Cd and Zn failed in the PDS.
- BLANK (Lab ID: 1286693)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1286695)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 12, 2017

Analyte Comments:

QC Batch: 261330

1c: Cd and Zn failed in the PDS.

- DUP (Lab ID: 1286698)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1286694)
  - Cadmium
  - Zinc
- MS (Lab ID: 1286696)
  - Cadmium
  - Zinc
- MS (Lab ID: 1286699)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1286697)
  - Cadmium
  - Zinc
- RW06-MW (D) (Lab ID: 30220820003)
  - Cadmium
  - Zinc
- RW06-MW (I) (Lab ID: 30220820002)
  - Cadmium
  - Zinc
- RW06-MW (S) (Lab ID: 30220820001)
  - Cadmium
  - Zinc
- RW07-MW (I) (Lab ID: 30220820006)
  - Cadmium
  - Zinc
- RW07-MW (S) (Lab ID: 30220820007)
  - Cadmium
  - Zinc
- RW08-MW (I) (Lab ID: 30220820004)
  - Cadmium
  - Zinc
- RW08-MW (S) (Lab ID: 30220820005)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW06-MW (S)		Lab ID: 30220820001	Collected: 06/06/17 09:53	Received: 06/06/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:10	7440-43-9	1c
Zinc	<b>30.2</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:10	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW06-MW (I)		Lab ID: 30220820002		Collected: 06/06/17 10:42		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>14.3</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:12	7440-43-9	1c
Zinc	<b>876</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:12	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW06-MW (D)		Lab ID: 30220820003		Collected: 06/06/17 11:17		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:15	7440-43-9	1c
Zinc	<b>58.0</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW08-MW (I)		Lab ID: 30220820004	Collected: 06/06/17 12:32	Received: 06/06/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.48J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:20	7440-43-9	1c
Zinc	<b>71.9</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:20	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW08-MW (S)		Lab ID: 30220820005		Collected: 06/06/17 13:27		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:17	7440-43-9	1c
Zinc	<b>1870</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:17	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

<b>Sample: RW07-MW (I)</b>		<b>Lab ID: 30220820006</b>		Collected: 06/06/17 14:58		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.91J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:38	7440-43-9	1c
Zinc	<b>432</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:38	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Sample: RW07-MW (S)		Lab ID: 30220820007		Collected: 06/06/17 15:47		Received: 06/06/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.3J</b>	ug/L	3.0	0.34	1	06/09/17 09:25	06/09/17 23:41	7440-43-9	1c
Zinc	<b>107</b>	ug/L	10.0	1.1	1	06/09/17 09:25	06/09/17 23:41	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

QC Batch:	261330	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30220820001, 30220820002, 30220820003, 30220820004, 30220820005, 30220820006, 30220820007		

METHOD BLANK:	1286693	Matrix:	Water
Associated Lab Samples:	30220820001, 30220820002, 30220820003, 30220820004, 30220820005, 30220820006, 30220820007		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/09/17 22:33	1c
Zinc	ug/L	10.0 U	10.0	1.1	06/09/17 22:33	1c

LABORATORY CONTROL SAMPLE: 1286694						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	1c
Zinc	ug/L	500	510	102	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1286696 1286697												
Parameter	Units	30220708001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	666	500	500	1190	1220	104	110	75-125	3	20	1c
Zinc	ug/L	16800	500	500	17600	18000	160	238	75-125	2	20	1c, MH

MATRIX SPIKE SAMPLE:		1286699					
Parameter	Units	30220820004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.48J	500	499	100	75-125	1c
Zinc	ug/L	71.9	500	554	96	75-125	1c

SAMPLE DUPLICATE: 1286695						
Parameter	Units	30220708001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	666	688	3	20	1c
Zinc	ug/L	16800	16900	1	20	1c

SAMPLE DUPLICATE: 1286698						
Parameter	Units	30220820004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.48J	0.56J		20	1c
Zinc	ug/L	71.9	73.2	2	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220820

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 261433

[1] Cd and Zn failed in the PDS.

### ANALYTE QUALIFIERS

1c Cd and Zn failed in the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220820

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30220820001	RW06-MW (S)	EPA 3005A	261330	EPA 6010C	261433
30220820002	RW06-MW (I)	EPA 3005A	261330	EPA 6010C	261433
30220820003	RW06-MW (D)	EPA 3005A	261330	EPA 6010C	261433
30220820004	RW08-MW (I)	EPA 3005A	261330	EPA 6010C	261433
30220820005	RW08-MW (S)	EPA 3005A	261330	EPA 6010C	261433
30220820006	RW07-MW (I)	EPA 3005A	261330	EPA 6010C	261433
30220820007	RW07-MW (S)	EPA 3005A	261330	EPA 6010C	261433

## REPORT OF LABORATORY ANALYSIS

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**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

電話：30220820

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:									
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent								
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group								
	Sparrows Point, MD 21219			Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131								
Email To:	<a href="mailto:icalenda@enviroanalyticsgroup.com">icalenda@enviroanalyticsgroup.com</a>	Purchase Order No.:		Pace Quote Reference:									
Phone:	314-620-3056	Project Name:	Rod and Wire Mill GW Sampling	Pace Project Manager:	Samantha Bayura								
Requested Due Date/TAT:	5 Day	Project Number:	170384-1-1	Pace Profile #:									
				<table border="1"> <tr> <td colspan="2">REGULATORY AGENCY</td> </tr> <tr> <td><input type="checkbox"/> NPDES</td> <td><input type="checkbox"/> GROUND WATER</td> </tr> <tr> <td><input type="checkbox"/> UST</td> <td><input type="checkbox"/> RCRA</td> </tr> <tr> <td><input type="checkbox"/> OTHER</td> <td><input type="checkbox"/></td> </tr> </table>		REGULATORY AGENCY		<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER	<input type="checkbox"/>
REGULATORY AGENCY													
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER												
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA												
<input type="checkbox"/> OTHER	<input type="checkbox"/>												
				<table border="1"> <tr> <td>Site Location</td> <td>MD</td> </tr> <tr> <td>STATE:</td> <td></td> </tr> </table>		Site Location	MD	STATE:					
Site Location	MD												
STATE:													

[illegible]

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on	Cooler (Y/N)	Samples Intact (Y/N)
Bob Bente	6/6/17	1602	David L. Williams 6/6/17		
David L. Williams 6/6/17	1908	2225	David L. Williams 6/6/17		
David L. Williams 6/6/17	2225	2225	David L. Williams 6/6/17		

PRINT Name of SAMPLER: Bob Bente

SIGNATURE of SAMPLER: *Bob Bente*

DATE Signed (MM/DD/YY): 06/06/17

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Page 17 of 18

## Sample Condition Upon Receipt Pittsburgh

30220820



Client Name:

Sparrows Pt.

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_
Tracking #: NA
 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no
Thermometer Used 7 Type of Ice Wet Blue NoneCooler Temperature Observed Temp 1.1 °C Correction Factor: 0 °C Final Temp: 1.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: PC 6-6-17

## Comments:

Yes No N/A

Chain of Custody Present:

☒ ☐ ☐

1.

Chain of Custody Filled Out:

☒ ☐ ☐

2.

Chain of Custody Relinquished:

☒ ☐ ☐

3.

Sampler Name &amp; Signature on COC:

☒ ☐ ☐

4.

Sample Labels match COC:

☒ ☐ ☐

5.

-Includes date/time/ID

Matrix: WT

Samples Arrived within Hold Time:

☒ ☐ ☐

6.

Short Hold Time Analysis (&lt;72hr remaining):

☐ ☒ ☐

7.

Rush Turn Around Time Requested:

☐ ☒ ☐

8.

Sufficient Volume:

☒ ☐ ☐

9.

Correct Containers Used:

☒ ☐ ☐

10.

-Pace Containers Used:

☒ ☐ ☐

Containers Intact:

☒ ☐ ☐

11.

Orthophosphate field filtered

☐ ☐ ☒

12.

Organic Samples checked for dechlorination:

☐ ☐ ☒

13.

Filtered volume received for Dissolved tests

☐ ☐ ☒

14.

All containers have been checked for preservation.

☐ ☐ ☒

15.

All containers needing preservation are found to be in compliance with EPA recommendation.

exceptions: VOA, coliform, TOC, O&amp;G, Phenolics

Initial when completed

PC

Date/time of preservation

6-6-17

Lot # of added preservative

Headspace in VOA Vials (&gt;6mm):

☐ ☐ ☒

16.

Trip Blank Present:

☐ ☐ ☒

17.

Trip Blank Custody Seals Present

☐ ☐ ☒

Rad Aqueous Samples Screened &gt; 0.5 mrem/hr

☐ ☒ ☐

Initial when completed:

PC

Date:

6-6-17

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220937

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30220937001	RW05-MW(I)	Water	06/07/17 08:57	06/07/17 22:50
30220937002	RW04-MW(S)	Water	06/07/17 09:57	06/07/17 22:50
30220937003	RW09-MW(I)	Water	06/07/17 10:50	06/07/17 22:50
30220937004	RW09-MW(S)	Water	06/07/17 11:27	06/07/17 22:50
30220937005	RW22-MW(I)	Water	06/07/17 13:04	06/07/17 22:50
30220937006	RW11-MW(S)	Water	06/07/17 14:17	06/07/17 22:50
30220937007	RW11-MW(I)	Water	06/07/17 15:07	06/07/17 22:50
30220937008	RW10-MW(I)	Water	06/07/17 16:35	06/07/17 22:50

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30220937001	RW05-MW(I)	EPA 6010C	PJD	2
30220937002	RW04-MW(S)	EPA 6010C	PJD	2
30220937003	RW09-MW(I)	EPA 6010C	PJD	2
30220937004	RW09-MW(S)	EPA 6010C	PJD	2
30220937005	RW22-MW(I)	EPA 6010C	PJD	2
30220937006	RW11-MW(S)	EPA 6010C	PJD	2
30220937007	RW11-MW(I)	EPA 6010C	PJD	2
30220937008	RW10-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zn failed on the Serial Dilution

- QC Batch: 261736

Zn failed on the PDS

- QC Batch: 261736

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- BLANK (Lab ID: 1288443)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288445)
  - Cadmium

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- DUP (Lab ID: 1288445)
  - Zinc
- DUP (Lab ID: 1288448)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1288444)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288446)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288449)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1288447)
  - Cadmium
  - Zinc
- RW04-MW(S) (Lab ID: 30220937002)
  - Cadmium
  - Zinc
- RW05-MW(I) (Lab ID: 30220937001)
  - Cadmium
  - Zinc
- RW09-MW(I) (Lab ID: 30220937003)
  - Cadmium
  - Zinc
- RW09-MW(S) (Lab ID: 30220937004)
  - Cadmium
  - Zinc
- RW10-MW(I) (Lab ID: 30220937008)
  - Cadmium
  - Zinc
- RW11-MW(I) (Lab ID: 30220937007)
  - Cadmium
  - Zinc
- RW11-MW(S) (Lab ID: 30220937006)
  - Cadmium
  - Zinc
- RW22-MW(I) (Lab ID: 30220937005)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- BLANK (Lab ID: 1288443)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288445)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288448)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1288444)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288446)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288449)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1288447)
  - Cadmium
  - Zinc
- RW04-MW(S) (Lab ID: 30220937002)
  - Cadmium
  - Zinc
- RW05-MW(I) (Lab ID: 30220937001)
  - Cadmium
  - Zinc
- RW09-MW(I) (Lab ID: 30220937003)
  - Cadmium
  - Zinc
- RW09-MW(S) (Lab ID: 30220937004)
  - Cadmium
  - Zinc
- RW10-MW(I) (Lab ID: 30220937008)
  - Cadmium
  - Zinc
- RW11-MW(I) (Lab ID: 30220937007)
  - Cadmium
  - Zinc
- RW11-MW(S) (Lab ID: 30220937006)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- RW22-MW(I) (Lab ID: 30220937005)

- Cadmium

- Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

<b>Sample: RW05-MW(I)</b>		<b>Lab ID: 30220937001</b>		Collected: 06/07/17 08:57		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>577</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:30	7440-43-9	1c,2c
Zinc	<b>40400</b>	ug/L	1000	108	100	06/13/17 08:19	06/13/17 23:53	7440-66-6	1c,2c, MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW04-MW(S)		Lab ID: 30220937002		Collected: 06/07/17 09:57		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.70J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:44	7440-43-9	1c,2c
Zinc	<b>58.2</b>	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 22:44	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

<b>Sample: RW09-MW(I)</b>		<b>Lab ID: 30220937003</b>		Collected: 06/07/17 10:50		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.1</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:47	7440-43-9	1c,2c
Zinc	<b>51900</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:07	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW09-MW(S)		Lab ID: 30220937004		Collected: 06/07/17 11:27		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.9</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:54	7440-43-9	1c,2c
Zinc	<b>13000</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:10	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

<b>Sample: RW22-MW(I)</b>		<b>Lab ID: 30220937005</b>		Collected: 06/07/17 13:04		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.9J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:57	7440-43-9	1c,2c
Zinc	<b>374</b>	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 22:57	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Sample: RW11-MW(S)		Lab ID: 30220937006		Collected: 06/07/17 14:17		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.94J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 22:59	7440-43-9	1c,2c
Zinc	<b>13500</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:12	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

<b>Sample: RW11-MW(I)</b>		<b>Lab ID: 30220937007</b>		Collected: 06/07/17 15:07		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>218</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:01	7440-43-9	1c,2c
Zinc	<b>201000</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:15	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

<b>Sample: RW10-MW(I)</b>		<b>Lab ID: 30220937008</b>		Collected: 06/07/17 16:35		Received: 06/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>27.2</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:04	7440-43-9	1c,2c
Zinc	<b>34600</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:22	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

QC Batch:	261633	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30220937001, 30220937002, 30220937003, 30220937004, 30220937005, 30220937006, 30220937007, 30220937008		

METHOD BLANK:	1288443	Matrix:	Water
Associated Lab Samples:	30220937001, 30220937002, 30220937003, 30220937004, 30220937005, 30220937006, 30220937007, 30220937008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/13/17 22:26	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	06/13/17 22:26	1c,2c

LABORATORY CONTROL SAMPLE:		1288444				
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c,2c
Zinc	ug/L	500	522	104	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1288446		1288447								
Parameter	Units	30220937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	577	500	500	1070	1070	98	99	75-125	0	20	1c,2c
Zinc	ug/L	40400	500	500	42100	42000	336	314	75-125	0	20	1c,2c, MH

MATRIX SPIKE SAMPLE:		1288449					
		30221073003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	1520	500	1990	95	75-125	1c,2c
Zinc	ug/L	12200	500	13000	166	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1288445						
Parameter	Units	30220937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	577	581	1	20	1c,2c
Zinc	ug/L	40400	41300	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

SAMPLE DUPLICATE: 1288448

Parameter	Units	30221073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1520	1520	0	20	1c, 2c
Zinc	ug/L	12200	12400	2	20	1c, 2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30220937

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 261736

[1] Cd and Zn failed on the Serial Dilution

[2] Zn failed on the PDS

### ANALYTE QUALIFIERS

1c Cd and Zn failed on the Serial Dilution

2c Zn failed on the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30220937

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30220937001	RW05-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937002	RW04-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30220937003	RW09-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937004	RW09-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30220937005	RW22-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937006	RW11-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30220937007	RW11-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30220937008	RW10-MW(I)	EPA 3005A	261633	EPA 6010C	261736

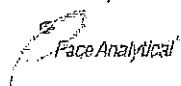
## REPORT OF LABORATORY ANALYSIS

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## Sample Condition Upon Receipt Pittsburgh

KBH

Client Name: EnviroAnalyticsProject # 30220937Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 1 Type of Ice: ☒ Wet ☐ Blue ☐ NoneCooler Temperature Observed Temp 3.9 °C Correction Factor: 0.0 °C Final Temp: 3.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KBH 6/8/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>W+</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>KBH</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30221073

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221073001	RW12-MW(I)	Water	06/08/17 09:00	06/08/17 22:25
30221073002	RW12-MW(S)	Water	06/08/17 09:47	06/08/17 22:25
30221073003	RW14-MW(S)	Water	06/08/17 10:47	06/08/17 22:25
30221073004	RW15-MW(S)	Water	06/08/17 11:52	06/08/17 22:25
30221073005	RW18-MW(I)	Water	06/08/17 13:04	06/08/17 22:25
30221073006	RW18-MW(S)	Water	06/08/17 13:55	06/08/17 22:25
30221073007	RW19-MW(I)	Water	06/08/17 15:08	06/08/17 22:25
30221073008	RW19-MW(S)	Water	06/08/17 15:58	06/08/17 22:25

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221073001	RW12-MW(I)	EPA 6010C	PJD	2
30221073002	RW12-MW(S)	EPA 6010C	PJD	2
30221073003	RW14-MW(S)	EPA 6010C	PJD	2
30221073004	RW15-MW(S)	EPA 6010C	PJD	2
30221073005	RW18-MW(I)	EPA 6010C	PJD	2
30221073006	RW18-MW(S)	EPA 6010C	PJD	2
30221073007	RW19-MW(I)	EPA 6010C	PJD	2
30221073008	RW19-MW(S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30221073

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** June 14, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

Cd and Zn failed on the Serial Dilution

- QC Batch: 261736

Zn failed on the PDS

- QC Batch: 261736

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- BLANK (Lab ID: 1288443)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288445)
  - Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- DUP (Lab ID: 1288445)
  - Zinc
- DUP (Lab ID: 1288448)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1288444)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288446)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288449)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1288447)
  - Cadmium
  - Zinc
- RW12-MW(I) (Lab ID: 30221073001)
  - Cadmium
  - Zinc
- RW12-MW(S) (Lab ID: 30221073002)
  - Cadmium
  - Zinc
- RW14-MW(S) (Lab ID: 30221073003)
  - Cadmium
  - Zinc
- RW15-MW(S) (Lab ID: 30221073004)
  - Cadmium
  - Zinc
- RW18-MW(I) (Lab ID: 30221073005)
  - Cadmium
  - Zinc
- RW18-MW(S) (Lab ID: 30221073006)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30221073007)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30221073008)
  - Cadmium
  - Zinc

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- BLANK (Lab ID: 1288443)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288445)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288448)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1288444)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288446)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288449)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1288447)
  - Cadmium
  - Zinc
- RW12-MW(I) (Lab ID: 30221073001)
  - Cadmium
  - Zinc
- RW12-MW(S) (Lab ID: 30221073002)
  - Cadmium
  - Zinc
- RW14-MW(S) (Lab ID: 30221073003)
  - Cadmium
  - Zinc
- RW15-MW(S) (Lab ID: 30221073004)
  - Cadmium
  - Zinc
- RW18-MW(I) (Lab ID: 30221073005)
  - Cadmium
  - Zinc
- RW18-MW(S) (Lab ID: 30221073006)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30221073007)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- RW19-MW(S) (Lab ID: 30221073008)

- Cadmium

- Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW12-MW(I)		Lab ID: 30221073001		Collected: 06/08/17 09:00		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2260</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:06	7440-43-9	1c,2c
Zinc	<b>226000</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:24	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW12-MW(S)		Lab ID: 30221073002		Collected: 06/08/17 09:47		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>29.7</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:09	7440-43-9	1c,2c
Zinc	<b>11400</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:27	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW14-MW(S)		Lab ID: 30221073003		Collected: 06/08/17 10:47		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1520</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:11	7440-43-9	1c,2c
Zinc	<b>12200</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:29	7440-66-6	1c,2c, MH

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW15-MW(S)		Lab ID: 30221073004		Collected: 06/08/17 11:52		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>69.4</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:23	7440-43-9	1c,2c
Zinc	<b>6560</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:37	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW18-MW(I)		Lab ID: 30221073005		Collected: 06/08/17 13:04		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>65.1</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:25	7440-43-9	1c,2c
Zinc	<b>694000</b>	ug/L	10000	1080	1000	06/13/17 08:19	06/14/17 00:56	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW18-MW(S)		Lab ID: 30221073006		Collected: 06/08/17 13:55		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>356</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:28	7440-43-9	1c,2c
Zinc	<b>25500</b>	ug/L	1000	108	100	06/13/17 08:19	06/14/17 00:42	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW19-MW(I)		Lab ID: 30221073007		Collected: 06/08/17 15:08		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2280</b>	ug/L	30.0	3.4	10	06/13/17 08:19	06/14/17 00:44	7440-43-9	1c,2c
Zinc	<b>6720000</b>	ug/L	100000	10800	10000	06/13/17 08:19	06/14/17 02:06	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Sample: RW19-MW(S)		Lab ID: 30221073008		Collected: 06/08/17 15:58		Received: 06/08/17 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.4J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:33	7440-43-9	1c,2c
Zinc	<b>3720</b>	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 23:33	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

QC Batch:	261633	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30221073001, 30221073002, 30221073003, 30221073004, 30221073005, 30221073006, 30221073007, 30221073008		

METHOD BLANK:	1288443	Matrix:	Water
Associated Lab Samples:	30221073001, 30221073002, 30221073003, 30221073004, 30221073005, 30221073006, 30221073007, 30221073008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/13/17 22:26	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	06/13/17 22:26	1c,2c

LABORATORY CONTROL SAMPLE: 1288444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c,2c
Zinc	ug/L	500	522	104	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1288446 1288447

Parameter	Units	30220937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	577	500	500	1070	1070	98	99	75-125	0	20	1c,2c
Zinc	ug/L	40400	500	500	42100	42000	336	314	75-125	0	20	1c,2c, MH

MATRIX SPIKE SAMPLE: 1288449

Parameter	Units	30221073003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1520	500	1990	95	75-125	1c,2c
Zinc	ug/L	12200	500	13000	166	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1288445

Parameter	Units	30220937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	577	581	1	20	1c,2c
Zinc	ug/L	40400	41300	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

SAMPLE DUPLICATE: 1288448

Parameter	Units	30221073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1520	1520	0	20	1c, 2c
Zinc	ug/L	12200	12400	2	20	1c, 2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30221073

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 261736

- |     |   |
|-----|---|
| [1] | Cd and Zn failed on the Serial Dilution |
| [2] | Zn failed on the PDS                    |

### ANALYTE QUALIFIERS

- |    |  |
|----|--|
| 1c | Cd and Zn failed on the Serial Dilution  |
| 2c | Zn failed on the PDS   |
| MH | Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high. |

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30221073

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30221073001	RW12-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30221073002	RW12-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073003	RW14-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073004	RW15-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073005	RW18-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30221073006	RW18-MW(S)	EPA 3005A	261633	EPA 6010C	261736
30221073007	RW19-MW(I)	EPA 3005A	261633	EPA 6010C	261736
30221073008	RW19-MW(S)	EPA 3005A	261633	EPA 6010C	261736

## REPORT OF LABORATORY ANALYSIS

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## Sample Condition Upon Receipt Pittsburgh

KEH

Client Name: EnviroAnalyticsProject # 30221073Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 6 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 0.9 °C Correction Factor: 0.0 °C Final Temp: 0.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KEH 6/9/17

## Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>Wt</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>KEH</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30221240

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30221240001	RW21 - MW (D)	Water	06/09/17 08:38	06/09/17 22:25

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30221240001	RW21 - MW (D)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30221240

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** June 14, 2017

### General Information:

1 sample was analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

#### Batch Comments:

- Cd and Zn failed on the Serial Dilution
  - QC Batch: 261736
- Zn failed on the PDS
  - QC Batch: 261736

#### Analyte Comments:

QC Batch: 261633

- 1c: Cd and Zn failed on the Serial Dilution
  - BLANK (Lab ID: 1288443)
    - Cadmium
    - Zinc
  - DUP (Lab ID: 1288445)
    - Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

1c: Cd and Zn failed on the Serial Dilution

- DUP (Lab ID: 1288445)
  - Zinc
- DUP (Lab ID: 1288448)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1288444)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288446)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288449)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1288447)
  - Cadmium
  - Zinc
- RW21 - MW (D) (Lab ID: 30221240001)
  - Cadmium
  - Zinc

2c: Zn failed on the PDS

- BLANK (Lab ID: 1288443)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288445)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1288448)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1288444)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288446)
  - Cadmium
  - Zinc
- MS (Lab ID: 1288449)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1288447)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** June 14, 2017

Analyte Comments:

QC Batch: 261633

2c: Zn failed on the PDS

- RW21 - MW (D) (Lab ID: 30221240001)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

**Sample: RW21 - MW (D)**      **Lab ID: 30221240001**      Collected: 06/09/17 08:38      Received: 06/09/17 22:25      Matrix: Water

Comments: • 6/10/17 - Added 3ml HNO<sub>3</sub> to Metals bottle prior to analysis. pH <2.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>0.35J</b>	ug/L	3.0	0.34	1	06/13/17 08:19	06/13/17 23:36	7440-43-9	1c,2c
Zinc	<b>303</b>	ug/L	10.0	1.1	1	06/13/17 08:19	06/13/17 23:36	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30221240

QC Batch:	261633	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30221240001		

METHOD BLANK: 1288443 Matrix: Water  
Associated Lab Samples: 30221240001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	06/13/17 22:26	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	06/13/17 22:26	1c,2c

LABORATORY CONTROL SAMPLE: 1288444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	1c,2c
Zinc	ug/L	500	522	104	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1288446 1288447

Parameter	Units	30220937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	577	500	500	1070	1070	98	99	75-125	0	20	1c,2c
Zinc	ug/L	40400	500	500	42100	42000	336	314	75-125	0	20	1c,2c, MH

MATRIX SPIKE SAMPLE: 1288449

Parameter	Units	30221073003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1520	500	1990	95	75-125	1c,2c
Zinc	ug/L	12200	500	13000	166	75-125	1c,2c,MH

SAMPLE DUPLICATE: 1288445

Parameter	Units	30220937001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	577	581	1	20	1c,2c
Zinc	ug/L	40400	41300	2	20	1c,2c

SAMPLE DUPLICATE: 1288448

Parameter	Units	30221073003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1520	1520	0	20	1c,2c
Zinc	ug/L	12200	12400	2	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 261736

[1] Cd and Zn failed on the Serial Dilution

[2] Zn failed on the PDS

### ANALYTE QUALIFIERS

1c Cd and Zn failed on the Serial Dilution

2c Zn failed on the PDS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30221240

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30221240001	RW21 - MW (D)	EPA 3005A	261633	EPA 6010C	261736

## REPORT OF LABORATORY ANALYSIS

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## Sample Condition Upon Receipt Pittsburgh

30 22 12 40

30221240

Face Analytical

Client Name: SPAWONS

Project # \_\_\_\_\_

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 7 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 3.8 °C Correction Factor: 10.0 °C Final Temp: 3.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 6/10/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
Initial when completed <u>ARM</u>				Date/time of preservation <u>6/10/17 0830</u>
Lot # of added preservative <u>DL17-0025</u>				
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

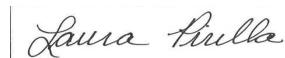
RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30223716

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Laura M. Pirilla for  
Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30223716001	Trip Blank 1	Water	07/10/17 00:01	07/10/17 22:30
30223716002	RW01-MWI	Water	07/10/17 09:37	07/10/17 22:30
30223716003	RW01-MW(S)	Water	07/10/17 10:44	07/10/17 22:30
30223716004	RW02-MW(I)	Water	07/10/17 11:35	07/10/17 22:30
30223716005	RW02-MW(S)	Water	07/10/17 12:17	07/10/17 22:30
30223716006	RW03-MW(I)	Water	07/10/17 13:12	07/10/17 22:30
30223716007	RW03-MW(S)	Water	07/10/17 14:05	07/10/17 22:30
30223716008	RW06-MW(I)	Water	07/10/17 15:07	07/10/17 22:30
30223716009	RW06-MW(D)	Water	07/10/17 15:55	07/10/17 22:30
30223716010	RW06-MW(S)	Water	07/10/17 16:45	07/10/17 22:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30223716002	RW01-MWI	EPA 6010C	PJD	2
30223716003	RW01-MW(S)	EPA 6010C	PJD	2
30223716004	RW02-MW(I)	EPA 6010C	PJD	2
30223716005	RW02-MW(S)	EPA 6010C	PJD	2
30223716006	RW03-MW(I)	EPA 6010C	PJD	2
30223716007	RW03-MW(S)	EPA 6010C	PJD	2
30223716008	RW06-MW(I)	EPA 6010C	PJD	2
30223716009	RW06-MW(D)	EPA 6010C	PJD	2
30223716010	RW06-MW(S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** July 17, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 264707

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30223716002

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1303581)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Zn failed for the PDS.
- QC Batch: 264766

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** July 17, 2017

Analyte Comments:

QC Batch: 264707

1c: Zn failed for the PDS.

- BLANK (Lab ID: 1303578)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1303580)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1303579)
  - Cadmium
  - Zinc
- MS (Lab ID: 1303581)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1303582)
  - Cadmium
  - Zinc
- RW01-MW(S) (Lab ID: 30223716003)
  - Cadmium
  - Zinc
- RW01-MWI (Lab ID: 30223716002)
  - Cadmium
  - Zinc
- RW02-MW(I) (Lab ID: 30223716004)
  - Cadmium
  - Zinc
- RW02-MW(S) (Lab ID: 30223716005)
  - Cadmium
  - Zinc
- RW03-MW(I) (Lab ID: 30223716006)
  - Cadmium
  - Zinc
- RW03-MW(S) (Lab ID: 30223716007)
  - Cadmium
  - Zinc
- RW06-MW(D) (Lab ID: 30223716009)
  - Cadmium
  - Zinc
- RW06-MW(I) (Lab ID: 30223716008)
  - Cadmium
  - Zinc
- RW06-MW(S) (Lab ID: 30223716010)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** July 17, 2017

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30223716002</b>		Collected: 07/10/17 09:37		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>530</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:28	7440-43-9	1c
Zinc	<b>16100</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:20	7440-66-6	1c,MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW01-MW(S)		Lab ID: 30223716003		Collected: 07/10/17 10:44		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.3J</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:42	7440-43-9	1c
Zinc	<b>14800</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:35	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW02-MW(I)		Lab ID: 30223716004		Collected: 07/10/17 11:35		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>421</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:45	7440-43-9	1c
Zinc	<b>15300</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:37	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW02-MW(S)		Lab ID: 30223716005		Collected: 07/10/17 12:17		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.3</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:52	7440-43-9	1c
Zinc	<b>97100</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:40	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW03-MW(I)		Lab ID: 30223716006		Collected: 07/10/17 13:12		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>138</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:54	7440-43-9	1c
Zinc	<b>8330</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:42	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW03-MW(S)		Lab ID: 30223716007		Collected: 07/10/17 14:05		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.6</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:57	7440-43-9	1c
Zinc	<b>8460</b>	ug/L	1000	108	100	07/12/17 08:12	07/13/17 00:49	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

<b>Sample: RW06-MW(I)</b>		<b>Lab ID: 30223716008</b>		Collected: 07/10/17 15:07		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.2</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/12/17 23:59	7440-43-9	1c
Zinc	<b>1690</b>	ug/L	10.0	1.1	1	07/12/17 08:12	07/12/17 23:59	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

<b>Sample: RW06-MW(D)</b>		<b>Lab ID: 30223716009</b>		Collected: 07/10/17 15:55		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>0.52J</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/13/17 00:02	7440-43-9	1c
Zinc	<b>9.8J</b>	ug/L	10.0	1.1	1	07/12/17 08:12	07/13/17 00:02	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Sample: RW06-MW(S)		Lab ID: 30223716010		Collected: 07/10/17 16:45		Received: 07/10/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.6</b>	ug/L	3.0	0.34	1	07/12/17 08:12	07/13/17 00:04	7440-43-9	1c
Zinc	<b>152</b>	ug/L	10.0	1.1	1	07/12/17 08:12	07/13/17 00:04	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

QC Batch:	264707	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30223716002, 30223716003, 30223716004, 30223716005, 30223716006, 30223716007, 30223716008, 30223716009, 30223716010		

METHOD BLANK:	1303578	Matrix:	Water
Associated Lab Samples:	30223716002, 30223716003, 30223716004, 30223716005, 30223716006, 30223716007, 30223716008, 30223716009, 30223716010		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/12/17 23:24	1c
Zinc	ug/L	10.0 U	10.0	1.1	07/12/17 23:24	1c

LABORATORY CONTROL SAMPLE: 1303579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	533	107	80-120	1c
Zinc	ug/L	500	532	106	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1303581 1303582

Parameter	Units	30223716002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	530	500	500	1050	1040	103	103	75-125	0	20	1c
Zinc	ug/L	16100	500	500	18000	16600	374	86	75-125	8	20	1c, MH

SAMPLE DUPLICATE: 1303580

Parameter	Units	30223716002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	530	529	0	20	1c
Zinc	ug/L	16100	16000	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 264766

[1] Zn failed for the PDS.

### ANALYTE QUALIFIERS

1c Zn failed for the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223716002	RW01-MWI	EPA 3005A	264707	EPA 6010C	264766
30223716003	RW01-MW(S)	EPA 3005A	264707	EPA 6010C	264766
30223716004	RW02-MW(I)	EPA 3005A	264707	EPA 6010C	264766
30223716005	RW02-MW(S)	EPA 3005A	264707	EPA 6010C	264766
30223716006	RW03-MW(I)	EPA 3005A	264707	EPA 6010C	264766
30223716007	RW03-MW(S)	EPA 3005A	264707	EPA 6010C	264766
30223716008	RW06-MW(I)	EPA 3005A	264707	EPA 6010C	264766
30223716009	RW06-MW(D)	EPA 3005A	264707	EPA 6010C	264766
30223716010	RW06-MW(S)	EPA 3005A	264707	EPA 6010C	264766

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

## Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrows Point, MD 21219

Email To: [icalenda@enviroanalyticsgroup.com](mailto:icalenda@enviroanalyticsgroup.com)

Phone: 314-620-3056

Requested Due Date/TAT: 5 Day

## Section B

Required Project Information:

Report To: James Calenda

Copy To: Stewart Kabis

Purchase Order No.:

Project Name: Rod and Wire Mill GW Sampling

Project Number: 170384-1-1

## Section C

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference:

Pace Project Manager: Samantha Bayura

Pace Profile #:

Page: /

of /

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE: MD

Requested Analysis Filtered (Y/N)

Valid Matrix Codes	CODE	Valid Matrix Codes	CODE
		MATRIX	CODE
DRINKING WATER	DW	WATER	WT
WASTE WATER	WW	PRODUCT	P
SOIL/SOLID	SL	OIL	OL
WIPE	WP	AIR	AR
OTHER	OT	TISSUE	TS

## SAMPLE ID

(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Section D Required Client Information	Valid Matrix Codes MATRIX CODE	Valid Matrix Codes CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		
					COMPOSITE START	COMPOSITE END/GRAB	
ITEM #	SAMPLE ID (A-Z, 0-9 / , -)	SAMPLE IDs MUST BE UNIQUE		DATE	TIME	DATE	TIME
1	Trip blank		WT G	7/10/17		7/10/17	
2	Rw101- MWI		WT G			0937	
3	Rw101- MW(S)		WT G			1044	
4	Rw102 - MWI		WT G			1135	
5	Rw102 - MW(S)		WT G			1217	
6	Rw103 - MWI		WT G			1312	
7	Rw103 - MW(S)		WT G			1405	
8	Rw106 - MWI		WT G			1507	
9	Rw106 - MW(S)		WT G			1555	
10	Rw06 - MW(S)		WT G			1645	
11							
12							

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Bob Bentz

SIGNATURE of SAMPLER: *Bob Bentz*

DATE Signed (MM/DD/YYYY): 07/10/17

Temp in °C

Received on

Cooler (Y/N)

Samples Intact (Y/N)

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

FALL-Q-020rev 06, 2-Feb-2007

## Sample Condition Upon Receipt Pittsburgh

Face Analytical

30223716

Client Name:

EnviroAna.

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	AML
LIMS Login	AML

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp

2.8 °C

Correction Factor: -0.2 °C

Final Temp: 2.6 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AML 7-11-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>			1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>			2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>			3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>			4.
Sample Labels match COC:	<input checked="" type="checkbox"/>			5. Outer package labeled
-Includes date/Time/ID Matrix: WT				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>			6.
Short Hold Time Analysis (<72hr remaining):		<input checked="" type="checkbox"/>		7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>			8.
Sufficient Volume:	<input checked="" type="checkbox"/>			9.
Correct Containers Used:	<input checked="" type="checkbox"/>			10.
-Pace Containers Used:	<input checked="" type="checkbox"/>			
Containers Intact:	<input checked="" type="checkbox"/>			11.
Orthophosphate field filtered			<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:			<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests			<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>			
exceptions: <u>VOA</u> , collform, TOC, O&G, Phenolics				
				Initial when completed: AML Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		<input checked="" type="checkbox"/>		16.
Trip Blank Present:	<input checked="" type="checkbox"/>			17.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>			
Rad Aqueous Samples Screened > 0.5 mrem/hr			<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30223801

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Trip Blank analysis not needed as no samples have VOC analysis.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30223801001	Trip Blank 1	Water	07/11/17 00:01	07/11/17 23:30
30223801002	RW07-MW(I)	Water	07/11/17 07:37	07/11/17 23:30
30223801003	RW07-MW(S)	Water	07/11/17 08:25	07/11/17 23:30
30223801004	RW08-MW(I)	Water	07/11/17 09:25	07/11/17 23:30
30223801005	RW08-MW(S)	Water	07/11/17 10:15	07/11/17 23:30
30223801006	RW09-MW(I)	Water	07/11/17 11:13	07/11/17 23:30
30223801007	RW09-MW(S)	Water	07/11/17 11:57	07/11/17 23:30
30223801008	RW11-MW(I)	Water	07/11/17 12:57	07/11/17 23:30
30223801009	RW11-MW(S)	Water	07/11/17 13:45	07/11/17 23:30
30223801010	RW10-MW(I)	Water	07/11/17 14:45	07/11/17 23:30
30223801011	RW04-MW(S)	Water	07/11/17 15:55	07/11/17 23:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30223801002	RW07-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801003	RW07-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801004	RW08-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801005	RW08-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801006	RW09-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801007	RW09-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801008	RW11-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801009	RW11-MW(S)	EPA 6010C	PJD	2	PASI-PA
30223801010	RW10-MW(I)	EPA 6010C	PJD	2	PASI-PA
30223801011	RW04-MW(S)	EPA 6010C	PJD	2	PASI-PA

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

<b>Sample: RW07-MW(I)</b>		<b>Lab ID: 30223801002</b>	Collected: 07/11/17 07:37	Received: 07/11/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 21:57	7440-43-9	1c,2c
Zinc	<b>45.7</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 21:57	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW07-MW(S)		Lab ID: 30223801003		Collected: 07/11/17 08:25		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.8J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:11	7440-43-9	1c,2c
Zinc	<b>114</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:11	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

<b>Sample: RW08-MW(I)</b>		<b>Lab ID: 30223801004</b>		Collected: 07/11/17 09:25		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.3J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:14	7440-43-9	1c,2c
Zinc	<b>153</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:14	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW08-MW(S)		Lab ID: 30223801005		Collected: 07/11/17 10:15		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.74J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:21	7440-43-9	1c,2c
Zinc	<b>968</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:21	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

<b>Sample: RW09-MW(I)</b>		<b>Lab ID: 30223801006</b>		Collected: 07/11/17 11:13		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.9</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:24	7440-43-9	1c,2c
Zinc	<b>65600</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:38	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW09-MW(S)		Lab ID: 30223801007		Collected: 07/11/17 11:57		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.4</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:26	7440-43-9	1c,2c
Zinc	<b>11500</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:41	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW11-MW(I)		Lab ID: 30223801008		Collected: 07/11/17 12:57		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>518</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:28	7440-43-9	1c,2c
Zinc	<b>192000</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:43	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW11-MW(S)		Lab ID: 30223801009		Collected: 07/11/17 13:45		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.84J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:31	7440-43-9	1c,2c
Zinc	<b>10900</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:50	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW10-MW(I)		Lab ID: 30223801010		Collected: 07/11/17 14:45		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>16.3</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:33	7440-43-9	1c,2c
Zinc	<b>25900</b>	ug/L	1000	108	100	07/13/17 10:47	07/13/17 22:53	7440-66-6	1c,2c

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Sample: RW04-MW(S)		Lab ID: 30223801011		Collected: 07/11/17 15:55		Received: 07/11/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	07/13/17 10:47	07/13/17 22:36	7440-43-9	1c,2c
Zinc	<b>179</b>	ug/L	10.0	1.1	1	07/13/17 10:47	07/13/17 22:36	7440-66-6	1c,2c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

QC Batch:	264841	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30223801002, 30223801003, 30223801004, 30223801005, 30223801006, 30223801007, 30223801008, 30223801009, 30223801010, 30223801011		

METHOD BLANK:	1304368	Matrix:	Water
Associated Lab Samples:	30223801002, 30223801003, 30223801004, 30223801005, 30223801006, 30223801007, 30223801008, 30223801009, 30223801010, 30223801011		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/13/17 21:52	1c,2c
Zinc	ug/L	10.0 U	10.0	1.1	07/13/17 21:52	1c,2c

LABORATORY CONTROL SAMPLE: 1304369						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	538	108	80-120	1c,2c
Zinc	ug/L	500	526	105	80-120	1c,2c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 13043711304372												
Parameter	Units	30223801002	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.								Result
Cadmium	ug/L	1.2J	500	500	536	533	107	106	75-125	1	20	1c,2c
Zinc	ug/L	45.7	500	500	562	560	103	103	75-125	0	20	1c,2c

SAMPLE DUPLICATE: 1304370						
Parameter	Units	30223801002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.2J	1.1J		20	1c,2c
Zinc	ug/L	45.7	47.1	3	20	1c,2c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30223801

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above adjusted reporting limit.  
TNTC - Too Numerous To Count  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

### BATCH QUALIFIERS

Batch: 264924

[1] Zn failed in the serial dilution.  
[2] Cd failed in the PDS

### ANALYTE QUALIFIERS

1c Cd failed in the PDS  
2c Zn failed in the serial dilution.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30223801

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223801002	RW07-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801003	RW07-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801004	RW08-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801005	RW08-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801006	RW09-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801007	RW09-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801008	RW11-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801009	RW11-MW(S)	EPA 3005A	264841	EPA 6010C	264924
30223801010	RW10-MW(I)	EPA 3005A	264841	EPA 6010C	264924
30223801011	RW04-MW(S)	EPA 3005A	264841	EPA 6010C	264924

## REPORT OF LABORATORY ANALYSIS

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**Section A**  
Required Client Information:

Company: **EnviroAnalytics Group**  
Address: **1600 Sparrows Point Blvd, Suite B2**  
Sparrows Point, MD 21219  
Email To: **icalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3056** Fax:  
Requested Due Date/TAT: **5 Day**

Section B  
Required Project Information:  
Report To: **James Calenda**  
Copy To: **Stewart Kabis**  
Purchase Order No.:  
Project Name: **Rod and Wire Mill GW Sampling**  
Project Number:

Section C  
Required Client Information:  
Company Name: **EnviroAnalytics Group**  
Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**  
Pace Quote Reference:  
Pace Project Manager: **Samantha Bayura**  
Pace Profile #:

Section D  
Required Client Information:  
Valid Matrix Codes  
MATRIX CODE  
DRINKING WATER DW  
WASTE WATER WW  
PRODUCT P  
SOIL/SOLID SL  
OIL OL  
WIPE WP  
AIR AR  
OTHER OT  
TISSUE TS

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER

Site Location  
STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test ↑	V/N ↑	Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME														
1	Trip Blank 1		WT G			7/11/17																	001
2	Rw01 - MW(I)		WT G				0737																002
3	Rw02 - MW(S)		WT G				0825																003
4	Rw03 - MW(I)		WT G				0925																004
5	Rw04 - MW(S)		WT G				1015																005
6	Rw05 - MW(I)		WT G				1113																006
7	Rw06 - MW(S)		WT G				1157																007
8	Rw11 - MW(I)		WT G				1257																008
9	Rw11 - MW(S)		WT G				1345																009
10	Rw10 - MW(I)		WT G				1445																010
11	Rw04 - MW(S)		WT G				1555																011
12																							

**ADDITIONAL COMMENTS**  
Bob Bentz  
Desired Sample Pace  
ES 7/11/17  
7/11/17

**RELINQUISHED BY / AFFILIATION**  
DATE  
7/11/17  
1607  
1825  
2330

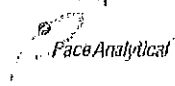
**ACCEPTED BY / AFFILIATION**  
DATE  
7/11/17  
1618  
1938  
2330

**SAMPLE CONDITIONS**  
Received on  
Cooler (Y/N)  
Ice (Y/N)  
Temp in °C  
Samples Intact (Y/N)

**SAMPLER NAME AND SIGNATURE**  
PRINT Name of SAMPLER: **Bob Bentz**  
SIGNATURE OF SAMPLER: **Bob Bentz**  
DATE Signed (MM/DD/YY): **07/11/17**

## Sample Condition Upon Receipt Pittsburgh

30 2 2 3 8 0 1



Client Name:

Sparrows Pt.

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Face Other

Tracking #:

NA

Label	PC
LIMS Login	

 Custody Seal on Cooler/Box Present: ☐ yes ☐ no
 Seals Intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.6 °C Correction Factor: 0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

 PC  
7-11-17

Comments:	Yes	No	N/A		Date and Initials of person examining contents:
Chain of Custody Present:	/	/		1.	PC 7-11-17
Chain of Custody Filled Out:	/	/		2.	
Chain of Custody Relinquished:	/	/		3.	
Sampler Name & Signature on COC:	/	/		4.	
Sample Labels match COC:	/	/		5.	
-Includes date/time/ID Matrix: WT					
Samples Arrived within Hold Time:	/	/		6.	
Short Hold Time Analysis (<72hr remaining):	/	/		7.	
Rush Turn Around Time Requested:	/	/		8.	
Sufficient Volume:	/	/		9.	
Correct Containers Used:	/	/		10.	
-Pace Containers Used:	/	/			
Containers Intact:	/	/		11.	
Orthophosphate field filtered	/	/		12.	
Organic Samples checked for dechlorination:	/	/		13.	
Filtered volume received for Dissolved tests	/	/		14.	
All containers have been checked for preservation.	/	/		15.	
All containers needing preservation are found to be in compliance with EPA recommendation.	/	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics					
				Initial when completed	Date/time of preservation
				PC	7-11-17
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	/	/		16.	
Trip Blank Present:	/	/		17.	
Trip Blank Custody Seals Present	/	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr	/	/		Initial when completed	Date:
				PC	7-11-17

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

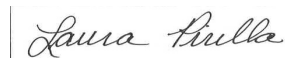
RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30223943

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 12, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Laura M. Pirilla for  
Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30223943001	RW05-MW(I)	Water	07/12/17 08:00	07/12/17 23:30
30223943002	RW12-MW(I)	Water	07/12/17 09:00	07/12/17 23:30
30223943003	RW12-MW(S)	Water	07/12/17 09:50	07/12/17 23:30
30223943004	RW15-MW(S)	Water	07/12/17 11:07	07/12/17 23:30
30223943005	RW18-MW(I)	Water	07/12/17 12:15	07/12/17 23:30
30223943006	RW18-MW(S)	Water	07/12/17 13:07	07/12/17 23:30
30223943007	RW19-MW(I)	Water	07/12/17 14:10	07/12/17 23:30
30223943008	RW19-MW(S)	Water	07/12/17 15:00	07/12/17 23:30
30223943009	RW21-MW(D)	Water	07/12/17 16:00	07/12/17 23:30

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30223943001	RW05-MW(I)	EPA 6010C	PJD	2
30223943002	RW12-MW(I)	EPA 6010C	PJD	2
30223943003	RW12-MW(S)	EPA 6010C	PJD	2
30223943004	RW15-MW(S)	EPA 6010C	PJD	2
30223943005	RW18-MW(I)	EPA 6010C	PJD	2
30223943006	RW18-MW(S)	EPA 6010C	PJD	2
30223943007	RW19-MW(I)	EPA 6010C	PJD	2
30223943008	RW19-MW(S)	EPA 6010C	PJD	2
30223943009	RW21-MW(D)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30223943

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** July 17, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 264987

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30223943001

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 1305199)
  - Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1305198)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cd and Zn failed on the PDS.
- QC Batch: 265079

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** July 17, 2017

Analyte Comments:

QC Batch: 264987

1c: Cd and Zn failed on the PDS.

- BLANK (Lab ID: 1305195)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1305197)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1305196)
  - Cadmium
  - Zinc
- MS (Lab ID: 1305198)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1305199)
  - Cadmium
  - Zinc
- RW05-MW(I) (Lab ID: 30223943001)
  - Cadmium
  - Zinc
- RW12-MW(I) (Lab ID: 30223943002)
  - Cadmium
  - Zinc
- RW12-MW(S) (Lab ID: 30223943003)
  - Cadmium
  - Zinc
- RW15-MW(S) (Lab ID: 30223943004)
  - Cadmium
  - Zinc
- RW18-MW(I) (Lab ID: 30223943005)
  - Cadmium
  - Zinc
- RW18-MW(S) (Lab ID: 30223943006)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30223943007)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30223943008)
  - Cadmium
  - Zinc
- RW21-MW(D) (Lab ID: 30223943009)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** July 17, 2017

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW05-MW(I) **Lab ID:** 30223943001 Collected: 07/12/17 08:00 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>11.9</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:26	7440-43-9	1c
Zinc	<b>39600</b>	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:24	7440-66-6	1c, MH, ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW12-MW(I) **Lab ID:** 30223943002 Collected: 07/12/17 09:00 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>2730</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:40	7440-43-9	1c
Zinc	<b>219000</b>	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:39	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW12-MW(S) **Lab ID:** 30223943003 Collected: 07/12/17 09:50 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>12.6</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:43	7440-43-9	1c
Zinc	<b>9090</b>	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:41	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW15-MW(S) **Lab ID:** 30223943004 Collected: 07/12/17 11:07 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>94.8</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:50	7440-43-9	1c
Zinc	<b>10200</b>	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:43	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW18-MW(I) **Lab ID:** 30223943005 Collected: 07/12/17 12:15 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>61.7</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:53	7440-43-9	1c
Zinc	<b>575000</b>	ug/L	10000	1080	1000	07/14/17 10:59	07/14/17 22:59	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW18-MW(S) **Lab ID:** 30223943006 Collected: 07/12/17 13:07 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>240</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 21:55	7440-43-9	1c
Zinc	<b>13300</b>	ug/L	1000	108	100	07/14/17 10:59	07/14/17 22:54	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW19-MW(I) **Lab ID:** 30223943007 Collected: 07/12/17 14:10 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>2550</b>	ug/L	300	34.4	100	07/14/17 10:59	07/14/17 22:56	7440-43-9	1c
Zinc	<b>5330000</b>	ug/L	100000	10800	10000	07/14/17 10:59	07/14/17 23:01	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW19-MW(S) **Lab ID:** 30223943008 Collected: 07/12/17 15:00 Received: 07/12/17 23:30 Matrix: Water

Comments: • Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>9.7</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:00	7440-43-9	1c
Zinc	<b>3700</b>	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:00	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

**Sample:** RW21-MW(D) **Lab ID:** 30223943009 Collected: 07/12/17 16:00 Received: 07/12/17 23:30 Matrix: Water

Comments: 

- Sample is basic, acid was not added in receiving. Will be brought to correct pH in metals department.
- Sample bottles not labeled, bottle was in bag, bag was labeled.

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:03	7440-43-9	1c
Zinc	<b>103</b>	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:03	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

QC Batch:	264987	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30223943001, 30223943002, 30223943003, 30223943004, 30223943005, 30223943006, 30223943007, 30223943008, 30223943009		

METHOD BLANK:	1305195	Matrix:	Water
Associated Lab Samples:	30223943001, 30223943002, 30223943003, 30223943004, 30223943005, 30223943006, 30223943007, 30223943008, 30223943009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/14/17 21:21	1c
Zinc	ug/L	10.0 U	10.0	1.1	07/14/17 21:21	1c

LABORATORY CONTROL SAMPLE: 1305196						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	535	107	80-120	1c
Zinc	ug/L	500	526	105	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1305198 1305199												
Parameter	Units	30223943001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	11.9	500	500	536	553	105	108	75-125	3	20	1c
Zinc	ug/L	39600	500	500	39800	40400	44	170	75-125	2	20	1c, MH, ML

SAMPLE DUPLICATE: 1305197						
Parameter	Units	30223943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.9	12.2	3	20	1c
Zinc	ug/L	39600	40100	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30223943

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 265079

[1] Cd and Zn failed on the PDS.

### ANALYTE QUALIFIERS

1c Cd and Zn failed on the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30223943

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30223943001	RW05-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943002	RW12-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943003	RW12-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943004	RW15-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943005	RW18-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943006	RW18-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943007	RW19-MW(I)	EPA 3005A	264987	EPA 6010C	265079
30223943008	RW19-MW(S)	EPA 3005A	264987	EPA 6010C	265079
30223943009	RW21-MW(D)	EPA 3005A	264987	EPA 6010C	265079

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group
Email To:	jcalenda@enviroanalyticsgroup.com	Purchase Order No.:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Phone:	314-620-3056	Project Name:	Rod and Wire Mill GW Sampling	Pace Project Reference:	
Requested Due Date/TAT:	5 Day	Project Number:		Pace Project Manager:	Samantha Bayura

<b>Section D</b> Required Client Information		<b>Valid Matrix Codes</b>		<b>Section E</b> Requested Analysis Filtered (Y/N)	
MATRIX CODE	DW DRINKING WATER WT WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WI WIPE AR AIR OT OTHER TS TISSUE	MATRIX CODE	DW DRINKING WATER WT WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WI WIPE AR AIR OT OTHER TS TISSUE	Requested Analysis Filtered (Y/N)	
SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		Requested Analysis Filtered (Y/N)	
Sample IDs MUST BE UNIQUE		Sample IDs MUST BE UNIQUE		Requested Analysis Filtered (Y/N)	

ITEM #	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES	ANALYSIS TEST	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1	FW	G	COMPOSITE START	7/12/17	1	H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Total Cadmium 6010 Total Zinc 6010	7/12/17	1605	Bob Bentz	7/12/17	1633	
2	RW105 - MW(I)	G	COMPOSITE END/GRAB	7/12/17	1			7/12/17	1835	Bob Bentz	7/12/17	1945	
3	RW12 - MW(I)	G			1			7/12/17	2330	Bob Bentz	7/12/17	2330	
4	RW12 - MW(S)	G			1								
5	RW14 - MW(S)	G			1								
6	RW15 - MW(S)	G			1								
7	RW18 - MW(I)	G			1								
8	RW18 - MW(S)	G			1								
9	RW19 - MW(I)	G			1								
10	RW19 - MW(S)	G			1								
11	RW21 - MW(D)	G			1								
12													

## Sample Condition Upon Receipt Pittsburgh

30223943

Face Analytical

Client Name:

Enviro Ana

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	ANL
LIMS Login	ANL

Custody Seal on Cooler/Box Present: ☐ yes ☒ noSeals Intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

4.1

°C

Correction Factor: +2.0

°C

Final Temp: 4.1

°C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 7-13-17 AM

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID				
Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X	X		
exceptions: VOA, coliform, TDC, O&G, Phenolics				
Initial when completed	ANL			
Date/time of preservation				
Lot # of added preservative				
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	
Initial when completed:				
Date:				

Outer packaging of samples 001-008 labeled, 009 bottle is labeled

Sample 009 is basic did not try to preserve

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:



A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

July 17, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

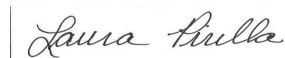
RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30224060

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Laura M. Pirilla for  
Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30224060001	RW22-MW(I)	Water	07/13/17 07:45	07/13/17 23:00

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30224060001	RW22-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30224060

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** July 17, 2017

### General Information:

1 sample was analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 264987

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30223943001

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 1305199)
  - Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1305198)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cd and Zn failed on the PDS.
- QC Batch: 265079

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** July 17, 2017

Analyte Comments:

QC Batch: 264987

1c: Cd and Zn failed on the PDS.

- BLANK (Lab ID: 1305195)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1305197)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1305196)
  - Cadmium
  - Zinc
- MS (Lab ID: 1305198)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1305199)
  - Cadmium
  - Zinc
- RW22-MW(I) (Lab ID: 30224060001)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

<b>Sample: RW22-MW(I)</b>		<b>Lab ID: 30224060001</b>		Collected: 07/13/17 07:45		Received: 07/13/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.5</b>	ug/L	3.0	0.34	1	07/14/17 10:59	07/14/17 22:05	7440-43-9	1c
Zinc	<b>1730</b>	ug/L	10.0	1.1	1	07/14/17 10:59	07/14/17 22:05	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

QC Batch:	264987	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30224060001		

METHOD BLANK: 1305195 Matrix: Water

Associated Lab Samples: 30224060001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	07/14/17 21:21	1c
Zinc	ug/L	10.0 U	10.0	1.1	07/14/17 21:21	1c

LABORATORY CONTROL SAMPLE: 1305196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	535	107	80-120	1c
Zinc	ug/L	500	526	105	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1305198 1305199

Parameter	Units	30223943001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	11.9	500	500	536	553	105	108	75-125	3	20	1c
Zinc	ug/L	39600	500	500	39800	40400	44	170	75-125	2	20	1c,MH, ML

SAMPLE DUPLICATE: 1305197

Parameter	Units	30223943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.9	12.2	3	20	1c
Zinc	ug/L	39600	40100	1	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30224060

---

### DEFINITIONS

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ND - Not Detected at or above adjusted reporting limit.  
TNTC - Too Numerous To Count  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 265079  
[1] Cd and Zn failed on the PDS.

### ANALYTE QUALIFIERS

1c	Cd and Zn failed on the PDS.
MH	Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.
ML	Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30224060

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30224060001	RW22-MW(I)	EPA 3005A	264987	EPA 6010C	265079

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219			Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	calenda@enviroanalyticsgroup.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	314-620-3056	Project Name:	Rod and Wire Mill GW Sampling	Pace Project Manager:	Samantha Bayura
Requested Due Date/TAT:	5 Day	Project Number:		Pace Profile #:	

ITEM #	Valid Matrix Codes		MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test ↓	Total Cadmium 6010	Total Zinc 6010	Residual	Pace Project No./ Lab I.D.
	MATRIX	CODE			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>					
1	RW22-mw(E)		WTG				7/13/17	0445	1	X										001			
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS					
				Signature	Signature			Temp in °C	Received on	Cooler (Y/N)	Custody Sealed	Samples Intact	
Bob Bentz	David S. Hildebrand	7/13/17	0756	David S. Hildebrand	7/13/17	1715							
David S. Hildebrand	David S. Hildebrand	7/13/17	1905	David S. Hildebrand	7/13/17	1945							
David S. Hildebrand	David S. Hildebrand	7/13/17	2300	David S. Hildebrand	7/13/17	2300							

<b>SAMPLER NAME AND SIGNATURE</b>	
PRINT Name of SAMPLER:	Bob Bentz
SIGNATURE of SAMPLER:	[Signature]
DATE Signed (MM/DD/YYYY):	07/13/17

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

## Sample Condition Upon Receipt Pittsburgh

30 224 060

Face Analytical

Client Name:

EnviroAna

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #:

Label

LIMS Login

ANL

ANL

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 4.3 °C Correction Factor: -0.2 °C Final Temp: 4.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ANL 7-14-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID				
Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Organic Samples checked for dechlorination:			X	13.
Filtered volume received for Dissolved tests			X	14.
All containers have been checked for preservation.	X			15.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
Initial when completed	ANL			Date/time of preservation
Lot # of added preservative				
Headspace in VOA Vials (>6mm):			X	16.
Trip Blank Present:		X		17.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	
Initial when completed:				Date:

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in reports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 18, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revision 1: This report replaces the August 11, 2017 report. This report was reissued on August 18, 2017 to correct the MS/MSD data for 6010 analysis.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226486001	RW03-MW(I)	Water	08/07/17 08:40	08/07/17 22:50
30226486002	RW03-MW(S)	Water	08/07/17 09:14	08/07/17 22:50
30226486003	RW04-MW(S)	Water	08/07/17 09:43	08/07/17 22:50
30226486004	RW06-MW(I)	Water	08/07/17 10:40	08/07/17 22:50
30226486005	RW06-MW(S)	Water	08/07/17 11:23	08/07/17 22:50
30226486006	RW06-MW(D)	Water	08/07/17 11:50	08/07/17 22:50
30226486007	RW20-MW(S)	Water	08/07/17 12:55	08/07/17 22:50
30226486008	RW20-MW(I)	Water	08/07/17 13:42	08/07/17 22:50
30226486009	RW15-MW(S)	Water	08/07/17 14:22	08/07/17 22:50
30226486010	RW15-MW(I)	Water	08/07/17 14:55	08/07/17 22:50
30226486011	Duplicate	Water	08/07/17 00:01	08/07/17 22:50

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226486001	RW03-MW(I)	EPA 6010C	PJD	2
30226486002	RW03-MW(S)	EPA 6010C	PJD	2
30226486003	RW04-MW(S)	EPA 6010C	PJD	2
30226486004	RW06-MW(I)	EPA 6010C	PJD	2
30226486005	RW06-MW(S)	EPA 6010C	PJD	2
30226486006	RW06-MW(D)	EPA 6010C	PJD	2
30226486007	RW20-MW(S)	EPA 6010C	PJD	2
30226486008	RW20-MW(I)	EPA 6010C	PJD	2
30226486009	RW15-MW(S)	EPA 6010C	PJD	2
30226486010	RW15-MW(I)	EPA 6010C	PJD	2
30226486011	Duplicate	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30226486

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** August 18, 2017

### General Information:

11 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 267762

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226486009,30226486010

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1317954)
  - Zinc
- MSD (Lab ID: 1317957)
  - Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1317956)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW03-MW(I)</b>		<b>Lab ID: 30226486001</b>	Collected: 08/07/17 08:40	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>227</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:12	7440-43-9	
Zinc	<b>10900</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 01:13	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Sample: RW03-MW(S)		Lab ID: 30226486002		Collected: 08/07/17 09:14		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.1</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:15	7440-43-9	
Zinc	<b>7730</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 01:15	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Sample: RW04-MW(S)		Lab ID: 30226486003	Collected: 08/07/17 09:43	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:29	7440-43-9	
Zinc	<b>74.7</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:29	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW06-MW(I)</b>		<b>Lab ID: 30226486004</b>	Collected: 08/07/17 10:40		Received: 08/07/17 22:50		Matrix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.1</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:32	7440-43-9	
Zinc	<b>1340</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:32	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW06-MW(S)</b>		<b>Lab ID: 30226486005</b>	Collected: 08/07/17 11:23	Received: 08/07/17 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:34	7440-43-9	
Zinc	<b>2.0J</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:34	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW06-MW(D)</b>		<b>Lab ID: 30226486006</b>	Collected: 08/07/17 11:50		Received: 08/07/17 22:50		Matrix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.36J</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:37	7440-43-9	
Zinc	<b>9.6J</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:37	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW20-MW(S)</b>		<b>Lab ID: 30226486007</b>		Collected: 08/07/17 12:55		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.2</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:39	7440-43-9	
Zinc	<b>276</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:39	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW20-MW(I)</b>		<b>Lab ID: 30226486008</b>		Collected: 08/07/17 13:42		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.1</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:41	7440-43-9	
Zinc	<b>3210</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:41	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW15-MW(S)</b>		<b>Lab ID: 30226486009</b>		Collected: 08/07/17 14:22		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>54.5</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:46	7440-43-9	
Zinc	<b>4750</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 01:18	7440-66-6	MH

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

<b>Sample: RW15-MW(I)</b>		<b>Lab ID: 30226486010</b>		Collected: 08/07/17 14:55		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>17.7</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/09/17 23:58	7440-43-9	
Zinc	<b>43900</b>	ug/L	1000	108	100	08/09/17 08:17	08/10/17 00:58	7440-66-6	MH,ML

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Sample: Duplicate		Lab ID: 30226486011		Collected: 08/07/17 00:01		Received: 08/07/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.4</b>	ug/L	3.0	0.34	1	08/09/17 08:17	08/10/17 00:44	7440-43-9	
Zinc	<b>1330</b>	ug/L	10.0	1.1	1	08/09/17 08:17	08/10/17 00:44	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

QC Batch:	267762	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30226486001, 30226486002, 30226486003, 30226486004, 30226486005, 30226486006, 30226486007, 30226486008, 30226486009, 30226486010, 30226486011		

METHOD BLANK:	1317951	Matrix:	Water
Associated Lab Samples:	30226486001, 30226486002, 30226486003, 30226486004, 30226486005, 30226486006, 30226486007, 30226486008, 30226486009, 30226486010, 30226486011		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/09/17 23:54	
Zinc	ug/L	10.0 U	10.0	1.1	08/09/17 23:54	

LABORATORY CONTROL SAMPLE: 1317952						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	513	103	80-120	

MATRIX SPIKE SAMPLE:		1317954					
		30226486009	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	54.5	500	574	104	75-125	
Zinc	ug/L	4750	500	5380	126	75-125	MH

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1317956 1317957											
Parameter	Units	30226486010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Cadmium	ug/L	17.7	500	500	516	555	100	107	75-125	7	20
Zinc	ug/L	43900	500	500	44200	47600	54	728	75-125	7	20 MH,ML

SAMPLE DUPLICATE: 1317953						
Parameter	Units	30226486009 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	54.5	54.7	0	20	
Zinc	ug/L	4750	4760	0	20	

SAMPLE DUPLICATE: 1317955						
Parameter	Units	30226486010 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	17.7	18.0	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

SAMPLE DUPLICATE: 1317955

Parameter	Units	30226486010 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	43900	44000	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30226486

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226486001	RW03-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486002	RW03-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486003	RW04-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486004	RW06-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486005	RW06-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486006	RW06-MW(D)	EPA 3005A	267762	EPA 6010C	267891
30226486007	RW20-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486008	RW20-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486009	RW15-MW(S)	EPA 3005A	267762	EPA 6010C	267891
30226486010	RW15-MW(I)	EPA 3005A	267762	EPA 6010C	267891
30226486011	Duplicate	EPA 3005A	267762	EPA 6010C	267891

## REPORT OF LABORATORY ANALYSIS

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Section A Required Client Information:		Section B Required Project Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis
E-mail To:	calenda@enviroanalyticsgroup.com	Purchase Order No.:	
Phone:	314-620-3066	Project Name:	Road and Wire Mill GVI Sampling
Fax:		Project Number:	190384
Requested Due Date/TAT:		5 Day	
Attention:		Laura Sargent	
Company Name:		EnviroAnalytics Group	
Address:		1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Pace Quote Reference:			
Pace Project Manager:		Samantha Bayura	
Pace Profile #:			
REGULATORY AGENCY		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Site Location		MD	
STATE:			

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
val date	David L. [Signature]	8/7/17	1604	David L. [Signature]	8/7/17	1755				
val date	David L. [Signature]	8/7/17	1945	David L. [Signature]	8/7/17	1945				
	David L. [Signature]	8/7/17	2250	David L. [Signature]	8-7-17	2250	3.1	Y	N	Y

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: David L. [Signature]

SIGNATURE of SAMPLER: David L. [Signature]

DATE Signed: 8/7/17

Page 21 of 22

# Sample Condition Upon Receipt Pittsburgh

Pace Analytical

Client Name: Enviro Ana.

Project # 30 2 2 6 4 8 6

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>CPC</u>
LIMS Login	<u>BUM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.1 °C Correction Factor: 10.0 °C Final Temp: 3.1 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: AMC

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
Initial when completed <u>AMC</u>				Date/time of preservation
Lot # of added preservative				
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226608001	RW05-MW(I)	Water	08/08/17 08:34	08/08/17 21:50
30226608002	RW07-MW(S)	Water	08/08/17 09:18	08/08/17 21:50
30226608003	RW07-MW(I)	Water	08/08/17 10:01	08/08/17 21:50
30226608004	RW09-MW(S)	Water	08/08/17 10:39	08/08/17 21:50
30226608005	RW09-MW(I)	Water	08/08/17 11:02	08/08/17 21:50
30226608006	RW08-MW(S)	Water	08/08/17 11:55	08/08/17 21:50
30226608007	RW08-MW(I)	Water	08/08/17 12:17	08/08/17 21:50
30226608008	RW11-MW(S)	Water	08/08/17 13:23	08/08/17 21:50
30226608009	RW11-MW(I)	Water	08/08/17 13:45	08/08/17 21:50
30226608010	Field Blank	Water	08/08/17 13:50	08/08/17 21:50
30226608011	RW12-MW(S)	Water	08/08/17 14:20	08/08/17 21:50
30226608012	RW12-MW(I)	Water	08/08/17 14:43	08/08/17 21:50

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226608001	RW05-MW(I)	EPA 6010C	PJD	2
30226608002	RW07-MW(S)	EPA 6010C	PJD	2
30226608003	RW07-MW(I)	EPA 6010C	PJD	2
30226608004	RW09-MW(S)	EPA 6010C	PJD	2
30226608005	RW09-MW(I)	EPA 6010C	PJD	2
30226608006	RW08-MW(S)	EPA 6010C	PJD	2
30226608007	RW08-MW(I)	EPA 6010C	PJD	2
30226608008	RW11-MW(S)	EPA 6010C	PJD	2
30226608009	RW11-MW(I)	EPA 6010C	PJD	2
30226608010	Field Blank	EPA 6010C	PJD	2
30226608011	RW12-MW(S)	EPA 6010C	PJD	2
30226608012	RW12-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226608

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** August 11, 2017

### General Information:

12 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 267930

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226608001,30226608011

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1318559)
  - Zinc
- MSD (Lab ID: 1318560)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

<b>Sample: RW05-MW(I)</b>		<b>Lab ID: 30226608001</b>		Collected: 08/08/17 08:34		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.5</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/10/17 23:42	7440-43-9	
Zinc	<b>35300</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 00:53	7440-66-6	MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW07-MW(S)		Lab ID: 30226608002		Collected: 08/08/17 09:18		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.1</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/10/17 23:56	7440-43-9	
Zinc	<b>127</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/10/17 23:56	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

<b>Sample: RW07-MW(I)</b>		<b>Lab ID: 30226608003</b>		Collected: 08/08/17 10:01		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.0J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/10/17 23:58	7440-43-9	
Zinc	<b>62.7</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/10/17 23:58	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW09-MW(S)		Lab ID: 30226608004		Collected: 08/08/17 10:39		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.5</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:06	7440-43-9	
Zinc	<b>9700</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:07	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

<b>Sample: RW09-MW(I)</b>		<b>Lab ID: 30226608005</b>		Collected: 08/08/17 11:02		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>18.5</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:08	7440-43-9	
Zinc	<b>55500</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:10	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW08-MW(S)		Lab ID: 30226608006		Collected: 08/08/17 11:55		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.7J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:11	7440-43-9	
Zinc	<b>3190</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/11/17 00:11	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

**Sample:** RW08-MW(I) **Lab ID:** 30226608007 Collected: 08/08/17 12:17 Received: 08/08/17 21:50 Matrix: Water

Comments: • Sample ID on containers does not match COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>0.86J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:14	7440-43-9	
Zinc	<b>49.8</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/11/17 00:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW11-MW(S)		Lab ID: 30226608008		Collected: 08/08/17 13:23		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.3J</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:16	7440-43-9	
Zinc	<b>10800</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

<b>Sample: RW11-MW(I)</b>		<b>Lab ID: 30226608009</b>		Collected: 08/08/17 13:45		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>163</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:19	7440-43-9	
Zinc	<b>147000</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

<b>Sample: Field Blank</b>		<b>Lab ID: 30226608010</b>		Collected: 08/08/17 13:50		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:21	7440-43-9	
Zinc	<b>35.6</b>	ug/L	10.0	1.1	1	08/10/17 08:38	08/11/17 00:21	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

<b>Sample: RW12-MW(S)</b>		<b>Lab ID: 30226608011</b>		Collected: 08/08/17 14:20		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.0</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:24	7440-43-9	
Zinc	<b>5090</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Sample: RW12-MW(I)		Lab ID: 30226608012		Collected: 08/08/17 14:43		Received: 08/08/17 21:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2220</b>	ug/L	3.0	0.34	1	08/10/17 08:38	08/11/17 00:36	7440-43-9	
Zinc	<b>156000</b>	ug/L	1000	108	100	08/10/17 08:38	08/11/17 01:29	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

QC Batch:	267930	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30226608001, 30226608002, 30226608003, 30226608004, 30226608005, 30226608006, 30226608007, 30226608008, 30226608009, 30226608010, 30226608011, 30226608012		

METHOD BLANK:	1318556	Matrix:	Water
Associated Lab Samples:	30226608001, 30226608002, 30226608003, 30226608004, 30226608005, 30226608006, 30226608007, 30226608008, 30226608009, 30226608010, 30226608011, 30226608012		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/10/17 23:37	
Zinc	ug/L	10.0 U	10.0	1.1	08/10/17 23:37	

LABORATORY CONTROL SAMPLE: 1318557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	510	102	80-120	
Zinc	ug/L	500	500	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1318559 1318560

Parameter	Units	30226608001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	11.5	500	500	515	527	101	103	75-125	2	20	
Zinc	ug/L	35300	500	500	37500	37600	438	454	75-125	0	20 MH	

MATRIX SPIKE SAMPLE: 1318562

Parameter	Units	30226608011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		7.0	500	529	104	75-125
Zinc	ug/L		5090	500	5630	107	75-125

SAMPLE DUPLICATE: 1318558

Parameter	Units	30226608001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	11.5	11.7	2	20	
Zinc	ug/L	35300	37500	6	20	

SAMPLE DUPLICATE: 1318561

Parameter	Units	30226608011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	7.0	7.3	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

SAMPLE DUPLICATE: 1318561

Parameter	Units	30226608011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	5090	5330	5	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226608

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226608001	RW05-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608002	RW07-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608003	RW07-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608004	RW09-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608005	RW09-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608006	RW08-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608007	RW08-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608008	RW11-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608009	RW11-MW(I)	EPA 3005A	267930	EPA 6010C	268014
30226608010	Field Blank	EPA 3005A	267930	EPA 6010C	268014
30226608011	RW12-MW(S)	EPA 3005A	267930	EPA 6010C	268014
30226608012	RW12-MW(I)	EPA 3005A	267930	EPA 6010C	268014

## REPORT OF LABORATORY ANALYSIS

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**Section A**  
Required Client Information:

Company: EnviroAnalytics Group  
Address: 1600 Sparrows Point Blvd, Suite B2  
Sparrows Point, MD 21219  
Email To: jcalenda@enviroanalyticsgroup.com  
Phone: 314-620-3056 Fax:  
Requested Due Date/TAT: 5 Day

**Section B**  
Required Project Information:

Report To: James Calenda  
Copy To: Stewart Kabis  
Purchase Order No.:  
Project Name: Rod and Wire Mill GW Sampling  
Project Number: 170384M-1

**Section C**  
Invoice Information:

Attention: Laura Sargent  
Company Name: EnviroAnalytics Group  
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Quote Reference:  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

**Section D**  
Required Client Information:

Site Location: MD  
STATE: MD

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER

Site Location: MD  
STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER VW WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WF WIFE AR AIR OT OTHER TS TISSUE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Analysis Test ↑	Total Cadmium 6010	Total Zinc 6010	Y/N	Requested Analysis Filtered (Y/N)	Residue	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB										
1	RW05-MWT	WTG		08/17/08	10:34	1	1			X					001
2	RW07-MWT			08/18	10:18	1	1			X					002
3	RW07-MWT			10:01	10:39	1	1			X					003
4	RW09-MWT			11:02	11:50	1	1			X					004
5	RW09-MWT			12:17	12:33	1	1			X					005
6	RW08-MWT			13:40	13:50	1	1			X					006
7	RW08-MWT			14:20	14:43	1	1			X					007
8	RW11-MWT					1	1			X					008
9	Field Blank					1	1			X					009
10	RW12-MWT					1	1			X					010
11	RW12-MWT					1	1			X					011
12	RW12-MWT					1	1			X					012

WO#: 30226608



30226608

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
							Received on	Cooler (Y/N)	Samples Intact (Y/N)
Data Package	David S. Sargent	08/17	1545	David S. Sargent	08/17	1630			
Data Val	David S. Sargent	08/17	1820	David S. Sargent	08/17	1820			
	David S. Sargent	08-17	2130	David S. Sargent	08-17	2130	Y	Y	Y

# Sample Condition Upon Receipt Pittsburgh

Face Analytical

Client Name: Enviro Ana.

Project # 30226608

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Face Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AM</u>
LIMS Login	<u>AM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: ☒ Wat ☐ Blue ☐ None

Cooler Temperature Observed Temp 2.0 °C Correction Factor: +0.0 °C Final Temp: 2.0 °C

Temp should be above freezing to 6°C

Date and initials of person examining contents: AM 8-7-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Sample 007 ID on bottle is BW09-mw(I) but date/time match
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226710

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226710001	RW14-MW(S)	Water	08/09/17 09:45	08/09/17 22:30
30226710002	RW13-MW(I)	Water	08/09/17 10:23	08/09/17 22:30
30226710003	RW18-MW(S)	Water	08/09/17 11:04	08/09/17 22:30
30226710004	RW18-MW(I)	Water	08/09/17 11:40	08/09/17 22:30
30226710005	RW17-MW(S)	Water	08/09/17 12:25	08/09/17 22:30
30226710006	RW19-MW(S)	Water	08/09/17 13:50	08/09/17 22:30
30226710007	Duplicate	Water	08/09/17 00:01	08/09/17 22:30
30226710008	RW19-MW(I)	Water	08/09/17 14:11	08/09/17 22:30
30226710009	Field Blank	Water	08/09/17 14:20	08/09/17 22:30
30226710010	RW10-MW(I)	Water	08/09/17 14:45	08/09/17 22:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226710001	RW14-MW(S)	EPA 6010C	PJD	2
30226710002	RW13-MW(I)	EPA 6010C	PJD	2
30226710003	RW18-MW(S)	EPA 6010C	PJD	2
30226710004	RW18-MW(I)	EPA 6010C	PJD	2
30226710005	RW17-MW(S)	EPA 6010C	PJD	2
30226710006	RW19-MW(S)	EPA 6010C	PJD	2
30226710007	Duplicate	EPA 6010C	PJD	2
30226710008	RW19-MW(I)	EPA 6010C	PJD	2
30226710009	Field Blank	EPA 6010C	PJD	2
30226710010	RW10-MW(I)	EPA 6010C	PJD	2

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 14, 2017

### General Information:

10 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 268069

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226710005

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1319589)

- Cadmium

- Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MSD (Lab ID: 1319590)

- Cadmium

- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW14-MW(S)		Lab ID: 30226710001		Collected: 08/09/17 09:45		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1780</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 22:54	7440-43-9	
Zinc	<b>42000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:22	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

<b>Sample: RW13-MW(I)</b>		<b>Lab ID: 30226710002</b>		Collected: 08/09/17 10:23		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>31800</b>	ug/L	300	34.4	100	08/11/17 08:14	08/12/17 00:24	7440-43-9	
Zinc	<b>308000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:24	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW18-MW(S)		Lab ID: 30226710003		Collected: 08/09/17 11:04		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>34.9</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:22	7440-43-9	
Zinc	<b>964</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/11/17 23:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

<b>Sample: RW18-MW(I)</b>		<b>Lab ID: 30226710004</b>		Collected: 08/09/17 11:40		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>74.4</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:24	7440-43-9	
Zinc	<b>290000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW17-MW(S)		Lab ID: 30226710005		Collected: 08/09/17 12:25		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4760</b>	ug/L	300	34.4	100	08/11/17 08:14	08/12/17 00:07	7440-43-9	MH,ML
Zinc	<b>297000</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:07	7440-66-6	MH,ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

<b>Sample: RW19-MW(S)</b>		<b>Lab ID: 30226710006</b>		Collected: 08/09/17 13:50		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>7.2</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:27	7440-43-9	
Zinc	<b>3360</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/11/17 23:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: Duplicate		Lab ID: 30226710007		Collected: 08/09/17 00:01		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1840</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:30	7440-43-9	
Zinc	<b>45500</b>	ug/L	1000	108	100	08/11/17 08:14	08/12/17 00:29	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Sample: RW19-MW(I)		Lab ID: 30226710008		Collected: 08/09/17 14:11		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1670</b>	ug/L	30.0	3.4	10	08/11/17 08:14	08/12/17 00:42	7440-43-9	
Zinc	<b>3360000</b>	ug/L	100000	10800	10000	08/11/17 08:14	08/12/17 00:53	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

<b>Sample: Field Blank</b>		<b>Lab ID: 30226710009</b>	Collected: 08/09/17 14:20	Received: 08/09/17 22:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.71J</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:35	7440-43-9	
Zinc	<b>10.0 U</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/12/17 00:55	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

<b>Sample: RW10-MW(I)</b>		<b>Lab ID: 30226710010</b>		Collected: 08/09/17 14:45		Received: 08/09/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	08/11/17 08:14	08/11/17 23:37	7440-43-9	
Zinc	<b>79.7</b>	ug/L	10.0	1.1	1	08/11/17 08:14	08/12/17 00:50	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

QC Batch:	268069	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30226710001, 30226710002, 30226710003, 30226710004, 30226710005, 30226710006, 30226710007, 30226710008, 30226710009, 30226710010		

METHOD BLANK: 1319583 Matrix: Water  
Associated Lab Samples: 30226710001, 30226710002, 30226710003, 30226710004, 30226710005, 30226710006, 30226710007, 30226710008, 30226710009, 30226710010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/11/17 22:34	
Zinc	ug/L	10.0 U	10.0	1.1	08/11/17 22:34	

LABORATORY CONTROL SAMPLE: 1319584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	534	107	80-120	
Zinc	ug/L	500	527	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1319589 1319590

Parameter	Units	30226710005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	4760	500	500	5600	5050	166	57	75-125	10	20	MH,ML
Zinc	ug/L	297000	500	500	308000	275000	2180	-4400	75-125	11	20	MH,ML

SAMPLE DUPLICATE: 1319588

Parameter	Units	30226710005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	4760	4600	4	20	
Zinc	ug/L	297000	284000	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226710001	RW14-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710002	RW13-MW(I)	EPA 3005A	268069	EPA 6010C	268166
30226710003	RW18-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710004	RW18-MW(I)	EPA 3005A	268069	EPA 6010C	268166
30226710005	RW17-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710006	RW19-MW(S)	EPA 3005A	268069	EPA 6010C	268166
30226710007	Duplicate	EPA 3005A	268069	EPA 6010C	268166
30226710008	RW19-MW(I)	EPA 3005A	268069	EPA 6010C	268166
30226710009	Field Blank	EPA 3005A	268069	EPA 6010C	268166
30226710010	RW10-MW(I)	EPA 3005A	268069	EPA 6010C	268166

## REPORT OF LABORATORY ANALYSIS

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CHAIN-  
The Chain-of-

WO#: 30226710

iment  
ccurately.



**Section A**  
Required Client Information:  
Company: EnviroAnalytics Group  
Address: 1600 Sparrows Point Blvd, Suite B2  
Sparrows Point, MD 21219  
Email To: [icalenda@enviroanalyticsgroup.com](mailto:icalenda@enviroanalyticsgroup.com)  
Phone: 314-620-3056 Fax:  
Requested Due Date/TAT: 5 Day

**Section B**  
Required Project Information:  
Report To: James Calenda  
Copy To: Stewart Kabis  
Purchase Order No.:  
Project Name: Rod and Wire Mill GW Sampling  
Project Number: 170384 N-1

**Section C**  
Valid Matrix Codes  
MATRIX CODE  
DRINKING WATER DW  
WASTE WATER WW  
PRODUCT P  
SOLID SL  
OIL OL  
WIFE WP  
AIR AR  
OTHER OT  
TISSUE TS

**Section D**  
Required Client Information  
**SAMPLE ID**  
(A-Z, 0-9 / -)  
Sample IDs MUST BE UNIQUE

**Section E**  
REGULATORY AGENCY  
NPDES ☐ GROUND WATER ☐ DRINKING WATER  
UST ☐ RCRA ☐ OTHER ☐

**Section F**  
Site Location  
MD  
STATE:

**Section G**  
Attention: Laura Sargent  
Company Name: EnviroAnalytics Group  
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

Page: 1 of 1

ITEM #	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	W/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB			Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> SO <sub>3</sub> Methanol Other																
1	RW14-MWS	WT	G		8/19/17 10:45		1		Total Zinc 6010	X														001
2	RW13-MWT				10:23		1		Total Cadmium 6010	X														002
3	RW18-MWS				11:04		1			X														003
4	RW18-MWT				11:40		1			X														004
5	RW17-MWS				12:25		3			X														005
6	RW19-MWS				13:50		1			X														006
7	Duplicate						1			X														007
8	RW19-MWT				14:11		1			X														008
9	Field Blank				14:20		1			X														009
10	RW10-MWT				14:45		1			X														010
11																								
12																								

**Section H**  
ADDITIONAL COMMENTS  
Data Package  
Data Val

**Section I**  
RELINQUISHED BY / AFFILIATION  
David J. Williams  
8/19/17 15:35  
8/19/17 18:10  
8/19/17 22:30

**Section J**  
ACCEPTED BY / AFFILIATION  
David J. Williams  
8/19/17 16:05  
8/19/17 16:30  
8/19/17 22:30

**Section K**  
DATE  
8/19/17  
8/19/17  
8/19/17

**Section L**  
TIME  
15:35  
18:10  
22:30

**Section M**  
SAMPLE CONDITIONS  
Temp in °C  
Ice (Y/N)  
Custody Sealed (Y/N)  
Samples Intact (Y/N)

**Section N**  
SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER: Leandra M. Glunz  
SIGNATURE of SAMPLER: Leandra M. Glunz  
DATE Signed (MM/DD/YY): 08/09/17

**Section O**  
Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Page 19 of 20

# Sample Condition Upon Receipt Pittsburgh

Face Analytical

Client Name:

Enviro Ana

Project #

30 2 2 6 7 1 0

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	AMC
LIMS Login	AMC

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no

Thermometer Used 6 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 1.0 °C Correction Factor: +0.0 °C Final Temp: 1.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AMC 8-10-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AMC</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 15, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
Sparrows Point Terminal  
1430 Sparrows Point Blvd  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226816

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30226816001	RW01-MW(S)	Water	08/10/17 11:41	08/10/17 23:05
30226816002	RW01-MW(I)	Water	08/10/17 12:15	08/10/17 23:05
30226816003	RW22-MW(S)	Water	08/10/17 13:12	08/10/17 23:05
30226816004	RW22-MW(I)	Water	08/10/17 13:55	08/10/17 23:05
30226816005	RW02-MW(S)	Water	08/10/17 14:30	08/10/17 23:05
30226816006	RW02-MW(I)	Water	08/10/17 15:02	08/10/17 23:05

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30226816001	RW01-MW(S)	EPA 6010C	PJD	2
30226816002	RW01-MW(I)	EPA 6010C	PJD	2
30226816003	RW22-MW(S)	EPA 6010C	PJD	2
30226816004	RW22-MW(I)	EPA 6010C	PJD	2
30226816005	RW02-MW(S)	EPA 6010C	PJD	2
30226816006	RW02-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30226816

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** August 15, 2017

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 268258

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30226816001

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1320658)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Sample: RW01-MW(S)		Lab ID: 30226816001		Collected: 08/10/17 11:41		Received: 08/10/17 23:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.6J</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:27	7440-43-9	
Zinc	<b>12200</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 21:59	7440-66-6	MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

<b>Sample: RW01-MW(I)</b>		<b>Lab ID: 30226816002</b>		Collected: 08/10/17 12:15		Received: 08/10/17 23:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>194</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:41	7440-43-9	
Zinc	<b>11600</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 22:14	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Sample: RW22-MW(S)		Lab ID: 30226816003		Collected: 08/10/17 13:12		Received: 08/10/17 23:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.9</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:43	7440-43-9	
Zinc	<b>550</b>	ug/L	10.0	1.1	1	08/14/17 10:50	08/14/17 21:43	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

<b>Sample: RW22-MW(I)</b>		<b>Lab ID: 30226816004</b>		Collected: 08/10/17 13:55		Received: 08/10/17 23:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>19.3</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:51	7440-43-9	
Zinc	<b>1730</b>	ug/L	10.0	1.1	1	08/14/17 10:50	08/14/17 21:51	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Sample: RW02-MW(S)		Lab ID: 30226816005		Collected: 08/10/17 14:30		Received: 08/10/17 23:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.0</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:53	7440-43-9	
Zinc	<b>6290</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 22:26	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

<b>Sample: RW02-MW(I)</b>		<b>Lab ID: 30226816006</b>		Collected: 08/10/17 15:02		Received: 08/10/17 23:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>511</b>	ug/L	3.0	0.34	1	08/14/17 10:50	08/14/17 21:56	7440-43-9	
Zinc	<b>18200</b>	ug/L	1000	108	100	08/14/17 10:50	08/14/17 22:28	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

QC Batch: 268258 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30226816001, 30226816002, 30226816003, 30226816004, 30226816005, 30226816006

METHOD BLANK: 1320655 Matrix: Water  
Associated Lab Samples: 30226816001, 30226816002, 30226816003, 30226816004, 30226816005, 30226816006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	08/14/17 21:22	
Zinc	ug/L	10.0 U	10.0	1.1	08/14/17 21:22	

LABORATORY CONTROL SAMPLE: 1320656

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	503	101	80-120	
Zinc	ug/L	500	501	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1320658 1320659

Parameter	Units	30226816001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1.6J	500	500	513	512	102	102	75-125	0	20	
Zinc	ug/L	12200	500	500	12900	12900	130	122	75-125	0	20 MH	

SAMPLE DUPLICATE: 1320657

Parameter	Units	30226816001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.6J	1.3J		20	
Zinc	ug/L	12200	11600	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30226816

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30226816001	RW01-MW(S)	EPA 3005A	268258	EPA 6010C	268316
30226816002	RW01-MW(I)	EPA 3005A	268258	EPA 6010C	268316
30226816003	RW22-MW(S)	EPA 3005A	268258	EPA 6010C	268316
30226816004	RW22-MW(I)	EPA 3005A	268258	EPA 6010C	268316
30226816005	RW02-MW(S)	EPA 3005A	268258	EPA 6010C	268316
30226816006	RW02-MW(I)	EPA 3005A	268258	EPA 6010C	268316

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: EnviroAnalytics Group		Report To: James Calenda		Attention: Laura Sargent	
Address: 1600 Sparrows Point Blvd, Suite B2		Copy To: Stewart Kabis		Company Name: EnviroAnalytics Group	
Sparrows Point, MD 21219		Purchase Order No.:		Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Email To: jcalenda@enviroanalyticsgroup.com		Project Name: Rod and Wire Mill GW Sampling		Pace Quote Reference:	
Phone: 314-620-3056		Project Number: 170354N-1		Pace Project Manager: Samantha Bayura	
Requested Due Date/TAT: 5 Day				Pace Profile #:	

<b>Section D</b> Required Client Information		<b>Section E</b> Requested Analysis Filtered (Y/N)		<b>Section F</b> Requested Analysis	
Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS		Preservatives H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> SO <sub>3</sub> Methanol Other		Analysis Test Total Cadmium 6010 Total Zinc 6010	
SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE		SAMPLE TEMP AT COLLECTION		Pace Project No./ Lab I.D.	
ITEM #		DATE		DATE	
1 RW01-MW(S)		8/10/19 1141		001	
2 RW01-MW(E)		8/10/19 1215		002	
3 RW22-MW(S)		8/10/19 1312		003	
4 RW22-MW(E)		8/10/19 1355		004	
5 RW02-MW(S)		8/10/19 1410		005	
6 RW02-MW(E)		8/10/19 1503		006	
7					
8					
9					
10					
11					
12					

<b>Section G</b> Additional Comments		<b>Section H</b> Relinquished By / Affiliation		<b>Section I</b> Sample Conditions	
Data Package		DATE 8/10/19		Temp in °C	
Data Not		DATE 8/10/19		Received on	
		DATE 8/10/19		Ice (Y/N)	
		DATE 8/10/19		Custody Sealed	
		DATE 8/10/19		Cooler (Y/N)	
		DATE 8/10/19		Samples Intact	

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

## Sample Condition Upon Receipt Pittsburgh

30226816

Face Analytical

Client Name: EnviroAqua Project # \_\_\_\_\_Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AML</u>
LIMS Login	<u>BLM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ noThermometer Used 8 Type of Ice: ☒ Wet ☐ Blue ☐ NoneCooler Temperature Observed Temp 2.0 °C Correction Factor: 10.0 °C Final Temp: 20 °C

Temp should be above freezing to 6°C

Date and Initial of person examining contents: AML 8-11-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AML</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	16.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

December 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30237587001	RW12-MW(I)	Water	12/04/17 12:15	12/04/17 23:00
30237587002	RW12-MW(S)	Water	12/04/17 12:50	12/04/17 23:00
30237587003	RW18-MW(S)	Water	12/04/17 14:00	12/04/17 23:00
30237587004	RW18-MW(I)	Water	12/04/17 14:30	12/04/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30237587001	RW12-MW(I)	EPA 6010C	KAS	2
30237587002	RW12-MW(S)	EPA 6010C	KAS	2
30237587003	RW18-MW(S)	EPA 6010C	KAS	2
30237587004	RW18-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** December 08, 2017

### General Information:

4 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 281220

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30237587001

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1380294)
  - Zinc
- MSD (Lab ID: 1380295)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Sample: RW12-MW(I)		Lab ID: 30237587001		Collected: 12/04/17 12:15		Received: 12/04/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1450</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:05	7440-43-9	
Zinc	<b>157000</b>	ug/L	1000	104	100	12/05/17 15:15	12/07/17 16:35	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Sample: RW12-MW(S)		Lab ID: 30237587002		Collected: 12/04/17 12:50		Received: 12/04/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.2</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:20	7440-43-9	
Zinc	<b>2980</b>	ug/L	10.0	1.0	1	12/05/17 15:15	12/07/17 16:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Sample: RW18-MW(S)		Lab ID: 30237587003		Collected: 12/04/17 14:00		Received: 12/04/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>410</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:22	7440-43-9	
Zinc	<b>23400</b>	ug/L	1000	104	100	12/05/17 15:15	12/07/17 16:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Sample: RW18-MW(I)		Lab ID: 30237587004		Collected: 12/04/17 14:30		Received: 12/04/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>51.5</b>	ug/L	3.0	0.87	1	12/05/17 15:15	12/07/17 16:30	7440-43-9	
Zinc	<b>369000</b>	ug/L	1000	104	100	12/05/17 15:15	12/07/17 16:52	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

QC Batch: 281220 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30237587001, 30237587002, 30237587003, 30237587004

METHOD BLANK: 1380291 Matrix: Water  
Associated Lab Samples: 30237587001, 30237587002, 30237587003, 30237587004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/07/17 16:00	
Zinc	ug/L	10.0 U	10.0	1.0	12/07/17 16:00	

LABORATORY CONTROL SAMPLE: 1380292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	504	101	80-120	
Zinc	ug/L	500	497	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1380294 1380295

Parameter	Units	30237587001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1450	500	500	1920	1920	95	94	75-125	0	20	
Zinc	ug/L	157000	500	500	154000	154000	-540	-660	75-125	0	20 ML	

SAMPLE DUPLICATE: 1380293

Parameter	Units	30237587001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1450	1440	0	20	
Zinc	ug/L	157000	154000	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237587

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237587

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237587001	RW12-MW(I)	EPA 3005A	281220	EPA 6010C	281283
30237587002	RW12-MW(S)	EPA 3005A	281220	EPA 6010C	281283
30237587003	RW18-MW(S)	EPA 3005A	281220	EPA 6010C	281283
30237587004	RW18-MW(I)	EPA 3005A	281220	EPA 6010C	281283

## REPORT OF LABORATORY ANALYSIS

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CHAIN-O

WO# : 30237587

The Chain-of-Cut



30237587

Page: of

Section A  
Required Client Information:

Company:	EnviroAnalytics Group	Report To:	James Calenda
Address:	1430 Sparrows Point Blvd	Copy To:	James Calenda
	Sparrows Point, MD 21219	PO Number:	
Email To:	icalenda@enviroanalyticsgroup.com	Project Name:	Real wire mill GW sampling
Phone:	314-620-3056	Project Number:	1703840
Requested Due Date/TAT:	5-day		

Invoice Information:

Attention: Laura Sargent

Company Name:	EnviroAnalytics Group	REGULATORY AGENCY	
Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131	<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
Pace Quote Reference:		<input type="checkbox"/> UST	<input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
Pace Project Manager:	Samantha Sargent	Site Location	MD
Pace Profile #:		STATE:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOLID OIL WASTE AIR OTHER TISSE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB																			
1	RW12 - MW (I)		WTG	G			12-40 1215	1																	001
2	RW12 - MW (S)		WTG	G			1250	1																	002
3	RW18 - MW (S)		WTG	G			1400	1																	003
4	RW18 - MW (I)		WTG	G			1430	1																	004
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
Data Package Required? (Y/N):		James Calenda		12-4-17		1300		David S. Hargrave		12-4-17		1300			
Data Validation Required? (Y/N):		David S. Hargrave		12-4-17		1410		David S. Hargrave		12-4-17		1410			
If data package is required, attach data package checklist.		David S. Hargrave		12-4-17		1410		David S. Hargrave		12-4-17		1410			

SAMPLER NAME AND SIGNATURE		Temp in °C		Received on Ice (Y/N)		Custody Sealed (Y/N)		Samples Intact (Y/N)	
PRINT Name of SAMPLER: David S. Hargrave		12-4-17 2:00		Y		Y		Y	
SIGNATURE of SAMPLER: David S. Hargrave		12-4-17 2:00		Y		Y		Y	

## Pittsburgh Lab Sample Condition Upon Receipt

30237587



Client Name:

Sparrows

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

 Label BLM  
 LIMS Login BLM

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

 Thermometer Used 8 Type of Ice: Wet Blue None

 Cooler Temperature Observed Temp 2.6 °C Correction Factor: 0.0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

 Date and Initials of person examining contents: BLM 12-5-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/	/		1.
Chain of Custody Filled Out:	/	/		2.
Chain of Custody Relinquished:	/	/		3.
Sampler Name & Signature on COC:	/	/		4.
Sample Labels match COC:		/		5. ID on sample 004 is RW12-MWI
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	/	/		6.
Short Hold Time Analysis (<72hr remaining):	/	/		7.
Rush Turn Around Time Requested:	/	/		8.
Sufficient Volume:	/	/		9.
Correct Containers Used:	/	/		10.
-Pace Containers Used:	/	/		
Containers Intact:	/	/		11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests	/	/		15.
All containers have been checked for preservation.	/	/		16.
All containers needing preservation are found to be in compliance with EPA recommendation.	/	/		
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>BLM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		/	/	17.
Trip Blank Present:		/	/	18.
Trip Blank Custody Seals Present		/	/	
Rad Aqueous Samples Screened > 0.5 mrem/hr		/	/	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

December 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30237714001	<del>RW20-MWI</del> <b>RW15-MW(I)</b>	Water	12/05/17 09:00	12/05/17 23:00
30237714002	<del>RW20-MWS</del> <b>RW15-MW(S)</b>	Water	12/05/17 09:20	12/05/17 23:00
30237714003	RW14-MWS	Water	12/05/17 09:50	12/05/17 23:00
30237714004	RW16-MWI	Water	12/05/17 10:17	12/05/17 23:00
30237714005	RW16-MWS	Water	12/05/17 10:46	12/05/17 23:00
30237714006	RW19-MWS	Water	12/05/17 11:17	12/05/17 23:00
30237714007	RW19-MWI	Water	12/05/17 11:42	12/05/17 23:00
30237714008	RW13-MWI	Water	12/05/17 12:21	12/05/17 23:00
30237714009	RW11-MWI	Water	12/05/17 13:36	12/05/17 23:00
30237714010	RW11-MWS	Water	12/05/17 14:00	12/05/17 23:00
30237714011	RW10-MWI	Water	12/05/17 14:50	12/05/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30237714001	RW20-MWI	EPA 6010C	KAS	2
30237714002	RW20-MWS	EPA 6010C	KAS	2
30237714003	RW14-MWS	EPA 6010C	KAS	2
30237714004	RW16-MWI	EPA 6010C	KAS	2
30237714005	RW16-MWS	EPA 6010C	KAS	2
30237714006	RW19-MWS	EPA 6010C	KAS	2
30237714007	RW19-MWI	EPA 6010C	KAS	2
30237714008	RW13-MWI	EPA 6010C	KAS	2
30237714009	RW11-MWI	EPA 6010C	KAS	2
30237714010	RW11-MWS	EPA 6010C	KAS	2
30237714011	RW10-MWI	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** December 12, 2017

### General Information:

11 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW20-MWI		Lab ID: 30237714001		Collected: 12/05/17 09:00		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.97J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 14:36	7440-43-9	
Zinc	<b>1070</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 14:36	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW20-MWS		Lab ID: 30237714002		Collected: 12/05/17 09:20		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>55.0</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 14:51	7440-43-9	
Zinc	<b>7630</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW14-MWS		Lab ID: 30237714003		Collected: 12/05/17 09:50		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2820</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 14:53	7440-43-9	
Zinc	<b>49200</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:16	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

<b>Sample: RW16-MWI</b>		<b>Lab ID: 30237714004</b>		Collected: 12/05/17 10:17		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.9J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:01	7440-43-9	
Zinc	<b>19200</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:19	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW16-MWS		Lab ID: 30237714005		Collected: 12/05/17 10:46		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:03	7440-43-9	
Zinc	<b>27.7</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:03	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW19-MWS		Lab ID: 30237714006		Collected: 12/05/17 11:17		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.6</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:06	7440-43-9	
Zinc	<b>3380</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:06	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

<b>Sample: RW19-MWI</b>		<b>Lab ID: 30237714007</b>		Collected: 12/05/17 11:42		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1710</b>	ug/L	300	87.0	100	12/08/17 17:00	12/11/17 16:21	7440-43-9	
Zinc	<b>3970000</b>	ug/L	10000	1040	1000	12/08/17 17:00	12/11/17 16:48	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

<b>Sample: RW13-MWI</b>		<b>Lab ID: 30237714008</b>		Collected: 12/05/17 12:21		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>44.2</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:52	7440-43-9	
Zinc	<b>237</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:52	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

<b>Sample: RW11-MWI</b>		<b>Lab ID: 30237714009</b>		Collected: 12/05/17 13:36		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1380</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:13	7440-43-9	
Zinc	<b>197000</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:50	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Sample: RW11-MWS		Lab ID: 30237714010		Collected: 12/05/17 14:00		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.9J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:16	7440-43-9	
Zinc	<b>24000</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:26	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

<b>Sample: RW10-MWI</b>		<b>Lab ID: 30237714011</b>		Collected: 12/05/17 14:50		Received: 12/05/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:18	7440-43-9	
Zinc	<b>158</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30237714

QC Batch: 281745 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30237714001, 30237714002, 30237714003, 30237714004, 30237714005, 30237714006, 30237714007, 30237714008, 30237714009, 30237714010, 30237714011

METHOD BLANK: 1382890 Matrix: Water  
Associated Lab Samples: 30237714001, 30237714002, 30237714003, 30237714004, 30237714005, 30237714006, 30237714007, 30237714008, 30237714009, 30237714010, 30237714011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/11/17 14:31	
Zinc	ug/L	10.0 U	10.0	1.0	12/11/17 14:31	

LABORATORY CONTROL SAMPLE: 1382891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	966	97	80-120	
Zinc	ug/L	1000	977	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1382893 1382894

Parameter	Units	30237714001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	0.97J	1000	1000	991	1000	99	100	75-125	1	20	
Zinc	ug/L	1070	1000	1000	2020	2050	95	98	75-125	1	20	

MATRIX SPIKE SAMPLE: 1382896

Parameter	Units	30237714011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	1000	981	98	75-125	
Zinc	ug/L	158	1000	1140	98	75-125	

SAMPLE DUPLICATE: 1382892

Parameter	Units	30237714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.97J	0.89J		20	
Zinc	ug/L	1070	1070	0	20	

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	158	145	8	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30237714

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237714001	RW20-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714002	RW20-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714003	RW14-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714004	RW16-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714005	RW16-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714006	RW19-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714007	RW19-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714008	RW13-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714009	RW11-MWI	EPA 3005A	281745	EPA 6010C	281763
30237714010	RW11-MWS	EPA 3005A	281745	EPA 6010C	281763
30237714011	RW10-MWI	EPA 3005A	281745	EPA 6010C	281763

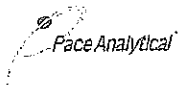
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## Pittsburgh Lab Sample Condition Upon Receipt

30 237714

Client Name: Enviro Analytics Group Project # \_\_\_\_\_Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>34</u>
LIMS Login	<u>BIM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 6 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 4.3 °C Correction Factor: 0.0 °C Final Temp: 4.3 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ML 12-6-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>ML</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

December 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30237862

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30237862001	RW09-MWI	Water	12/06/17 10:23	12/06/17 23:00
30237862002	RW09-MWS	Water	12/06/17 10:50	12/06/17 23:00
30237862003	RW07-MWS	Water	12/06/17 11:28	12/06/17 23:00
30237862004	RW07-MWI	Water	12/06/17 11:56	12/06/17 23:00
30237862005	RW08-MWI	Water	12/06/17 12:29	12/06/17 23:00
30237862006	RW08-MWS	Water	12/06/17 13:00	12/06/17 23:00
30237862007	RW06-MWD	Water	12/06/17 13:53	12/06/17 23:00
30237862008	RW06-MWS	Water	12/06/17 14:25	12/06/17 23:00
30237862009	RW06-MWI	Water	12/06/17 14:48	12/06/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30237862001	RW09-MWI	EPA 6010C	KAS	2
30237862002	RW09-MWS	EPA 6010C	KAS	2
30237862003	RW07-MWS	EPA 6010C	KAS	2
30237862004	RW07-MWI	EPA 6010C	KAS	2
30237862005	RW08-MWI	EPA 6010C	KAS	2
30237862006	RW08-MWS	EPA 6010C	KAS	2
30237862007	RW06-MWD	EPA 6010C	KAS	2
30237862008	RW06-MWS	EPA 6010C	KAS	2
30237862009	RW06-MWI	EPA 6010C	KAS	2

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## PROJECT NARRATIVE

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** December 12, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30237862001</b>		Collected: 12/06/17 10:23		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>7.7</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:31	7440-43-9	
Zinc	<b>44500</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:29	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW09-MWS		Lab ID: 30237862002		Collected: 12/06/17 10:50		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.2</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:33	7440-43-9	
Zinc	<b>8550</b>	ug/L	1000	104	100	12/08/17 17:00	12/11/17 16:31	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW07-MWS		Lab ID: 30237862003		Collected: 12/06/17 11:28		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>6.0</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:36	7440-43-9	
Zinc	<b>216</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:36	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW07-MWI</b>		<b>Lab ID: 30237862004</b>		Collected: 12/06/17 11:56		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.7J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:38	7440-43-9	
Zinc	<b>39.8</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:38	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW08-MWI</b>		<b>Lab ID: 30237862005</b>		Collected: 12/06/17 12:29		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.8J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:40	7440-43-9	
Zinc	<b>21.4</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:40	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW08-MWS		Lab ID: 30237862006		Collected: 12/06/17 13:00		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:43	7440-43-9	
Zinc	<b>1770</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:43	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW06-MWD</b>		<b>Lab ID: 30237862007</b>		Collected: 12/06/17 13:53		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.4J</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:45	7440-43-9	
Zinc	<b>30.6</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:45	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Sample: RW06-MWS		Lab ID: 30237862008		Collected: 12/06/17 14:25		Received: 12/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:48	7440-43-9	
Zinc	<b>156</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:48	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

<b>Sample: RW06-MWI</b>		<b>Lab ID: 30237862009</b>	Collected: 12/06/17 14:48	Received: 12/06/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.1</b>	ug/L	3.0	0.87	1	12/08/17 17:00	12/11/17 15:50	7440-43-9	
Zinc	<b>1360</b>	ug/L	10.0	1.0	1	12/08/17 17:00	12/11/17 15:50	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

QC Batch:	281745	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30237862001, 30237862002, 30237862003, 30237862004, 30237862005, 30237862006, 30237862007, 30237862008, 30237862009		

METHOD BLANK:	1382890	Matrix:	Water
Associated Lab Samples:	30237862001, 30237862002, 30237862003, 30237862004, 30237862005, 30237862006, 30237862007, 30237862008, 30237862009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/11/17 14:31	
Zinc	ug/L	10.0 U	10.0	1.0	12/11/17 14:31	

LABORATORY CONTROL SAMPLE: 1382891						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	966	97	80-120	
Zinc	ug/L	1000	977	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 13828931382894												
Parameter	Units	30237714001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.								Result
Cadmium	ug/L	0.97J	1000	1000	991	1000	99	100	75-125	1	20	
Zinc	ug/L	1070	1000	1000	2020	2050	95	98	75-125	1	20	

MATRIX SPIKE SAMPLE: 1382896							
Parameter	Units	30237714011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	1000	981	98	75-125	
Zinc	ug/L	158	1000	1140	98	75-125	

SAMPLE DUPLICATE: 1382892						
Parameter	Units	30237714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.97J	0.89J		20	
Zinc	ug/L	1070	1070	0	20	

SAMPLE DUPLICATE: 1382895						
Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

SAMPLE DUPLICATE: 1382895

Parameter	Units	30237714011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	158	145	8	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30237862

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30237862001	RW09-MWI	EPA 3005A	281745	EPA 6010C	281763
30237862002	RW09-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862003	RW07-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862004	RW07-MWI	EPA 3005A	281745	EPA 6010C	281763
30237862005	RW08-MWI	EPA 3005A	281745	EPA 6010C	281763
30237862006	RW08-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862007	RW06-MWD	EPA 3005A	281745	EPA 6010C	281763
30237862008	RW06-MWS	EPA 3005A	281745	EPA 6010C	281763
30237862009	RW06-MWI	EPA 3005A	281745	EPA 6010C	281763

## REPORT OF LABORATORY ANALYSIS

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30237862

**Section A**  
Required Client Information:  
Company: **EnviroAnalytics Group**  
Address: **1430 Sparrows Point Blvd**  
Sparrows Point, MD 21219  
Email To: **lcalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3056**  
Requested Due Date/TAT: **5-day**

**Section B**  
Required Project Information:  
Report To: **James Calenda**  
Copy To: **Steve Kabis**  
PO Number: **SAF-SPT-**  
Project Name: **Red + wire mill GW sampling**  
Project Number: **1708384M-1-1**

Attention: **Laura Sargent**  
Company Name: **EnviroAnalytics Group**  
Address: **1850 Des Peres Road, Suite 303 St. Louis, MO 63131**  
Pace Quote Reference:  
Pace Project Manager: **Sam Baygova**  
Pace Profile #:

REGULATORY AGENCY  
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER

Site Location: **MD**  
STATE:

ITEM #	Section D Required Client Information		Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOL/SOLID OIL WPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↑ Y/N ↑	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.									
	COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	DATE	TIME			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other													
1	RW09-mwI			WT G			12/6/17	1023		1																						001
2	RW09-mwS			WT G				1050		1																						002
3	RW07-mwS			WT G				112-8		1																						003
4	RW07-mwI			WT G				1150		1																						004
5	RW08-mwI			WT G				1229		1																						005
6	RW08-mwS			WT G				1300		1																						006
7	RW06-mwD			WT G				1353		1																						007
8	RW06-mwS			WT G				1425		1																						008
9	RW06-mwI			WT G				1448		1																						009
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
							Temp In °C	Samples Intact (Y/N)
Data Package Required? (Y/N):								
Data Validation Required? (Y/N):								
If data package is required, attach data package checklist.								

**SAMPLER NAME AND SIGNATURE**  
PRINT Name of SAMPLER: **Lisa Perwin**  
SIGNATURE of SAMPLER: *[Signature]*  
DATE Signed (MM/DD/YYYY): **12-6-17**

Received on Ice (Y/N)  
Custody Sealed (Y/N)  
Temp In °C

## Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

Envirom

Project #

30237862Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label \_\_\_\_\_

LIMS Login BLMCustody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 8 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 3.9 °C Correction Factor 0.0 °C Final Temp: 3.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-7-17 CAC

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>CAC</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

December 12, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod&Wire Mill GW Sampling  
Pace Project No.: 30238010

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## SAMPLE SUMMARY

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30238010001	RW04-MWS	Water	12/07/17 10:30	12/07/17 23:10
30238010002	RW03-MWS	Water	12/07/17 11:03	12/07/17 23:10
30238010003	RW03-MWI	Water	12/07/17 11:25	12/07/17 23:10
30238010004	<del>RW21-MWI</del> RW22-MWI	Water	12/07/17 11:58	12/07/17 23:10
30238010005	<del>RW22-MWI</del> RW05-MWI	Water	12/07/17 12:58	12/07/17 23:10
30238010006	RW01-MWI	Water	12/07/17 14:22	12/07/17 23:10
30238010007	RW01-MWS	Water	12/07/17 14:45	12/07/17 23:10

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## SAMPLE ANALYTE COUNT

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30238010001	RW04-MWS	EPA 6010C	CTS	2
30238010002	RW03-MWS	EPA 6010C	CTS	2
30238010003	RW03-MWI	EPA 6010C	CTS	2
30238010004	RW21-MWI	EPA 6010C	CTS	2
30238010005	RW22-MWI	EPA 6010C	CTS	2
30238010006	RW01-MWI	EPA 6010C	CTS	2
30238010007	RW01-MWS	EPA 6010C	CTS	2

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## PROJECT NARRATIVE

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** December 12, 2017

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Sample: RW04-MWS		Lab ID: 30238010001		Collected: 12/07/17 10:30		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 12:40	7440-43-9	
Zinc	<b>279</b>	ug/L	10.0	1.0	1	12/08/17 17:02	12/11/17 12:40	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Sample: RW03-MWS		Lab ID: 30238010002		Collected: 12/07/17 11:03		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.4</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 12:54	7440-43-9	
Zinc	<b>46400</b>	ug/L	1000	104	100	12/08/17 17:02	12/11/17 13:34	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

<b>Sample: RW03-MWI</b>		<b>Lab ID: 30238010003</b>		Collected: 12/07/17 11:25		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>154</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 12:56	7440-43-9	
Zinc	<b>6270</b>	ug/L	100	10.4	10	12/08/17 17:02	12/11/17 13:36	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

<b>Sample: RW21-MWI</b>		<b>Lab ID: 30238010004</b>		Collected: 12/07/17 11:58		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>15.2</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:03	7440-43-9	
Zinc	<b>19500</b>	ug/L	1000	104	100	12/08/17 17:02	12/11/17 13:39	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

<b>Sample: RW22-MWI</b>		<b>Lab ID: 30238010005</b>		Collected: 12/07/17 12:58		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>2.7J</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:06	7440-43-9	
Zinc	<b>205</b>	ug/L	10.0	1.0	1	12/08/17 17:02	12/11/17 13:06	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30238010006</b>		Collected: 12/07/17 14:22		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>37.5</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:08	7440-43-9	
Zinc	<b>41000</b>	ug/L	1000	104	100	12/08/17 17:02	12/11/17 13:41	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Sample: RW01-MWS		Lab ID: 30238010007		Collected: 12/07/17 14:45		Received: 12/07/17 23:10		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>98.0</b>	ug/L	3.0	0.87	1	12/08/17 17:02	12/11/17 13:11	7440-43-9	
Zinc	<b>7300</b>	ug/L	100	10.4	10	12/08/17 17:02	12/11/17 13:44	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

QC Batch:	281746	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30238010001, 30238010002, 30238010003, 30238010004, 30238010005, 30238010006, 30238010007			

METHOD BLANK:	1382897	Matrix:	Water
Associated Lab Samples: 30238010001, 30238010002, 30238010003, 30238010004, 30238010005, 30238010006, 30238010007			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/11/17 12:35	
Zinc	ug/L	10.0 U	10.0	1.0	12/11/17 12:35	

LABORATORY CONTROL SAMPLE: 1382898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1000	972	97	80-120	
Zinc	ug/L	1000	981	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1382900 1382901

Parameter	Units	30238010001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1.1J	1000	1000	1000	990	100	99	75-125	2	20	
Zinc	ug/L	279	1000	1000	1260	1250	98	97	75-125	1	20	

SAMPLE DUPLICATE: 1382899

Parameter	Units	30238010001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.1J	0.89J		20	
Zinc	ug/L	279	276	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod&Wire Mill GW Sampling

Pace Project No.: 30238010

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30238010001	RW04-MWS	EPA 3005A	281746	EPA 6010C	281764
30238010002	RW03-MWS	EPA 3005A	281746	EPA 6010C	281764
30238010003	RW03-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010004	RW21-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010005	RW22-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010006	RW01-MWI	EPA 3005A	281746	EPA 6010C	281764
30238010007	RW01-MWS	EPA 3005A	281746	EPA 6010C	281764

## REPORT OF LABORATORY ANALYSIS

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Section A Required Client Information:		Section B Required Project Information:	
Company: EnviroAnalytics Group	Report To: James Calenda	Copy To: SKW Kaban	Attention: Laura Sargent
Address: 1430 Sparrows Point Blvd		Company Name: EnviroAnalytics Group	
		Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Email To: jcalenda@enviroanalyticsgroup.com		Pace Quote Reference:	
Phone: 314-520-3066	Fac	Pace Project Manager: Samantha Buehner	
Requested Due Date/TAT: 5 day		Pace Profile #:	

Section D Required Client Information		Section C Valid Matrix Codes		Section B Required Project Information		Section A Required Client Information	
ITEM #	SAMPLE ID (A-Z, 0-9 / -)	MATRIX	CODE	DATE	TIME	DATE	TIME
1	RW04-MWS	DRINKING WATER	DW WT	12/17	1030	12/17	1550
2	RW03-MWS	WASTE WATER	WW	12/17	1103	12/17	1550
3	RW03-MWT	PRODUCT SOLID	SL	12/17	1125	12/17	1550
4	RW21-MWT	WASTE WATER	WW	12/17	1158	12/17	1550
5	RW22-MWT	WASTE WATER	WW	12/17	1258	12/17	1550
6	RW03-MWT	WASTE WATER	WW	12/17	1422	12/17	1550
7	RW03-MWS	WASTE WATER	WW	12/17	1445	12/17	1550
8							
9							
10							
11							
12							

Section A Required Client Information:		Section B Required Project Information:	
Company: EnviroAnalytics Group	Report To: James Calenda	Copy To: SKW Kaban	Attention: Laura Sargent
Address: 1430 Sparrows Point Blvd		Company Name: EnviroAnalytics Group	
		Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Email To: jcalenda@enviroanalyticsgroup.com		Pace Quote Reference:	
Phone: 314-520-3066	Fac	Pace Project Manager: Samantha Buehner	
Requested Due Date/TAT: 5 day		Pace Profile #:	



Project # 30 238010

Label BLM  
LIMS Login BLM

Temp should be above freezing to 6°C

Date and Initials of person examining contents: *BLM 12-8-17*

Yes	No	N/A
-----	----	-----

Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID:				
Matrix:	WT			
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered	/			12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	/			13.
Organic Samples checked for dechlorination:	/			14.
Filtered volume received for Dissolved tests	/			15.
All containers have been checked for preservation.	/			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
Initial when completed	BLM			Date/time of preservation
Lot # of added preservative				
Headspace in VOA Vials (>6mm):	/			17.
Trip Blank Present:	/			18.
Trip Blank Custody Seals Present	/			
Rad Aqueous Samples Screened > 0.5 mrem/hr	/			
Initial when completed:				Date:

Comments/ Resolution:

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

December 15, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod + Wire Mill GW Sampling  
Pace Project No.: 30238235

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30238235001	RW02-MWS	Water	12/08/17 10:12	12/08/17 23:00
30238235002	RW02-MWI	Water	12/08/17 10:37	12/08/17 23:00
30238235003	<del>RW22-MWS</del>	Water	12/08/17 11:35	12/08/17 23:00
	RW05-MWS			

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30238235001	RW02-MWS	EPA 6010C	KAS	2
30238235002	RW02-MWI	EPA 6010C	KAS	2
30238235003	RW22-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** December 15, 2017

### General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

<b>Sample: RW02-MWS</b>		<b>Lab ID: 30238235001</b>		Collected: 12/08/17 10:12		Received: 12/08/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	12/13/17 16:16	12/14/17 17:34	7440-43-9	
Zinc	<b>79.3</b>	ug/L	10.0	1.0	1	12/13/17 16:16	12/14/17 17:34	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

<b>Sample: RW02-MWI</b>		<b>Lab ID: 30238235002</b>		Collected: 12/08/17 10:37		Received: 12/08/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>2.3J</b>	ug/L	3.0	0.87	1	12/13/17 16:16	12/14/17 17:48	7440-43-9	
Zinc	<b>186</b>	ug/L	10.0	1.0	1	12/13/17 16:16	12/14/17 17:48	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

Sample: RW22-MWS		Lab ID: 30238235003		Collected: 12/08/17 11:35		Received: 12/08/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.4</b>	ug/L	3.0	0.87	1	12/13/17 16:16	12/14/17 17:51	7440-43-9	
Zinc	<b>5440</b>	ug/L	100	10.4	10	12/13/17 16:16	12/14/17 18:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

QC Batch: 282274 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30238235001, 30238235002, 30238235003

METHOD BLANK: 1385464 Matrix: Water

Associated Lab Samples: 30238235001, 30238235002, 30238235003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	12/14/17 17:29	
Zinc	ug/L	10.0 U	10.0	1.0	12/14/17 17:29	

LABORATORY CONTROL SAMPLE: 1385465

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	507	101	80-120	
Zinc	ug/L	500	504	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1385467 1385468

Parameter	Units	30238235001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	511	503	102	101	75-125	1	20	
Zinc	ug/L	79.3	500	500	577	570	100	98	75-125	1	20	

SAMPLE DUPLICATE: 1385466

Parameter	Units	30238235001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	79.3	78.4	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

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J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod + Wire Mill GW Sampling

Pace Project No.: 30238235

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30238235001	RW02-MWS	EPA 3005A	282274	EPA 6010C	282312
30238235002	RW02-MWI	EPA 3005A	282274	EPA 6010C	282312
30238235003	RW22-MWS	EPA 3005A	282274	EPA 6010C	282312

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

30238235

Section A  
Required Client Information:

Company: EnviroAnalytics Group

Address: 1430 Sparrows Point Blvd

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-620-3056

Requested Due Date/TAT: 5-day

Section B  
Required Project Information:

Report To: James Calenda

Copy To: stew kabis

PO Number:

Project Name: add more mill on sample

Project Number: 170300m-1-1

Section C  
Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference:

Pace Project Manager: Samantha Bayona

Pace Profile #:

REGULATORY AGENCY

☐ NPDES

☐ GROUND WATER

☐ DRINKING WATER

☐ UST

☐ RCRA

☐ OTHER

Site Location

STATE: MD

Section D  
Required Client Information

Valid Matrix Codes

MATRIX CODE

DRINKING WATER

WASTE WATER

WASTE PRODUCT

SOIL/SOLID

OIL

WIPE

AIR

OTHER

TISSUE

CODE

DW

WT

WW

P

SL

WP

AR

OT

TS

SAMPLE ID

(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

Y

N

Analysis Test

Residual Chlorine (Y/N)

COLLECTED

COMPOSITE START

COMPOSITE END/GRAB

DATE

TIME

DATE

TIME

SAMPLE TYPE (G=GRAB C=COMP)

MATRIX CODE (see valid codes to left)

DATE

TIME

# OF CONTAINERS

UNPRESERVED

H<sub>2</sub>SO<sub>4</sub>

HNO<sub>3</sub>

HCl

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Methanol

Other

Pace Project No./ Lab I.D.

001

002

003

ADDITIONAL COMMENTS

Data Package Required? (Y/N):

Data Validation Required? (Y/N):

If data package is required, attach data package checklist.

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Lisa Perin

SIGNATURE of SAMPLER: Lisa Perin

DATE Signed (MM/DD/YY): 12-8-17

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

Received on Ice (Y/N)

Cooler Sealed (Y/N)

Samples Intact (Y/N)

NO#: 30238235

30238235



Client Name:

SPAWANS

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	APM
LIMS Login	APM

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.7 °C Correction Factor: +0.0 °C Final Temp: 1.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JKM 12/19/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: LUT				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):	/			7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed JKM
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed:
				Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

January 05, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30239965001	RW02-MWI	Water	01/02/18 10:30	01/02/18 22:50
30239965002	RW02-MWS	Water	01/02/18 11:10	01/02/18 22:50
30239965003	RW01-MWI	Water	01/02/18 11:52	01/02/18 22:50
30239965004	RW01-MWS	Water	01/02/18 12:28	01/02/18 22:50
30239965005	<del>RW22-MWI</del> RW05-MW(I)	Water	01/02/18 13:32	01/02/18 22:50
30239965006	<del>RW22-MWS</del> RW05-MW(S)	Water	01/02/18 14:01	01/02/18 22:50
30239965007	<del>RW21-MWI</del> RW22-MW(I)	Water	01/02/18 14:41	01/02/18 22:50

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30239965001	RW02-MWI	EPA 6010C	CTS	2
30239965002	RW02-MWS	EPA 6010C	CTS	2
30239965003	RW01-MWI	EPA 6010C	CTS	2
30239965004	RW01-MWS	EPA 6010C	CTS	2
30239965005	RW22-MWI	EPA 6010C	CTS	2
30239965006	RW22-MWS	EPA 6010C	CTS	2
30239965007	RW21-MWI	EPA 6010C	CTS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** January 05, 2018

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW02-MWI</b>		<b>Lab ID: 30239965001</b>		Collected: 01/02/18 10:30		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>14.5</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 10:42	7440-43-9	
Zinc	<b>573</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 10:42	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW02-MWS</b>		<b>Lab ID: 30239965002</b>		Collected: 01/02/18 11:10		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.1</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 10:57	7440-43-9	
Zinc	<b>2210</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 10:57	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30239965003</b>	Collected: 01/02/18 11:52	Received: 01/02/18 22:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.4J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 10:59	7440-43-9	
Zinc	<b>104</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 10:59	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW01-MWS</b>		<b>Lab ID: 30239965004</b>		Collected: 01/02/18 12:28		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>23.9</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:07	7440-43-9	
Zinc	<b>35200</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 11:53	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW22-MWI</b>		<b>Lab ID: 30239965005</b>		Collected: 01/02/18 13:32		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.2J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:09	7440-43-9	
Zinc	<b>173</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 11:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW22-MWS</b>		<b>Lab ID: 30239965006</b>		Collected: 01/02/18 14:01		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:12	7440-43-9	
Zinc	<b>35.7</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 11:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

<b>Sample: RW21-MWI</b>		<b>Lab ID: 30239965007</b>		Collected: 01/02/18 14:41		Received: 01/02/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.1</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:55	7440-43-9	
Zinc	<b>27200</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 11:14	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

QC Batch: 284087 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30239965001, 30239965002, 30239965003, 30239965004, 30239965005, 30239965006, 30239965007

METHOD BLANK: 1394194 Matrix: Water  
Associated Lab Samples: 30239965001, 30239965002, 30239965003, 30239965004, 30239965005, 30239965006, 30239965007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/05/18 10:37	
Zinc	ug/L	10.0 U	10.0	1.0	01/05/18 10:37	

LABORATORY CONTROL SAMPLE: 1394195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	
Zinc	ug/L	500	513	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394197 1394198

Parameter	Units	30239965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	14.5	500	500	540	538	105	105	75-125	0	20	
Zinc	ug/L	573	500	500	1050	1040	95	94	75-125	0	20	

MATRIX SPIKE SAMPLE: 1394200

Parameter	Units	30240053004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	40.7	500	561	104	75-125	
Zinc	ug/L	5150	500	5700	111	75-125	

SAMPLE DUPLICATE: 1394196

Parameter	Units	30239965001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	14.5	13.8	5	20	
Zinc	ug/L	573	564	2	20	

SAMPLE DUPLICATE: 1394199

Parameter	Units	30240053004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	40.7	43.2	6	20	
Zinc	ug/L	5150	5220	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: RWM Jam 2018 GW  
Pace Project No.: 30239965

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jam 2018 GW

Pace Project No.: 30239965

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30239965001	RW02-MWI	EPA 3005A	284087	EPA 6010C	284121
30239965002	RW02-MWS	EPA 3005A	284087	EPA 6010C	284121
30239965003	RW01-MWI	EPA 3005A	284087	EPA 6010C	284121
30239965004	RW01-MWS	EPA 3005A	284087	EPA 6010C	284121
30239965005	RW22-MWI	EPA 3005A	284087	EPA 6010C	284121
30239965006	RW22-MWS	EPA 3005A	284087	EPA 6010C	284121
30239965007	RW21-MWI	EPA 3005A	284087	EPA 6010C	284121

## REPORT OF LABORATORY ANALYSIS

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Section A		Section B		30239965		Page: 1 of 1	
Required Client Information:		Required Project Information:					
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent		
Address:	1430 Sparrows Point Blvd Sparrows Point, MD 21219	Copy To:	Stew Kabis	Company Name:	EnviroAnalytics Group		
Email To:	icalenda@enviroanalyticsgroup.com	PO Number:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131		
Phone:	314-620-3056	Project Name:	Rum Jan 2018 6w	Pace Quote Reference:			
Fax:		Project Number:	170384m	Pace Project Manager:	Samantha Baygura		
Requested Due Date/TAT:		5-day		Pace Profile #:			
				REGULATORY AGENCY			
				<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER	
				<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER	
				Site Location			
				STATE:		MD	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER P PRODUCT SOL/SOLID OIL WPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				# OF CONTAINERS	Preservatives								Analysis Test ↑	Y/N ↑	Requested Analysis Filtered (Y/N)				Pace Project No./ Lab I.D.
					COMPOSITE START		COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other			Total Zn	Total Cd	Residual Chlorine (Y/N)		
					DATE	TIME	DATE	TIME																
1	Rw02-mwI		WT G	G		12-18	1030		1													001		
2	Rw02-mwI		WT G	G			1110		1													002		
3	Rw01-mwI		WT G	G			1152		1													003		
4	Rw01-mwI		WT G	G			1228		1													004		
5	Rw22-mwI		WT G	G			1332		1													005		
6	Rw22-mwI		WT G	G			1401		1													006		
7	Rw21-mwI		WT G	G			1441		1													007		
8																								
9																								
10																								
11																								
12																								
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS									
Data Package Required? (Y/N)			David S. Halligan		1-2-18		1555		David S. Halligan		1-2-18		1557											
Data Validation Required? (Y/N)			David S. Halligan		1-2-18		1741		David S. Halligan		1-2-18		1845											
If data package is required, attach data package checklist.			David S. Halligan		1-2-18		2050		David S. Halligan		1-2-18		2250		Y N Y									

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Lisa Perrin				
SIGNATURE of SAMPLER:	<i>[Signature]</i>				
DATE Signed (MM/DD/YY):		1-2-18			

# Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

EnviroAna

Project #

30239965

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	<u>AM</u>
LIMS Login	<u>AM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 0.7 °C Correction Factor: 10.0 °C Final Temp: 0.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-3-18

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

January 05, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 03, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240053001	RW12-MWI	Water	01/03/18 09:42	01/03/18 22:55
30240053002	RW12-MWS	Water	01/03/18 10:17	01/03/18 22:55
30240053003	<del>RW20-MWI</del> RW15-MW(I)	Water	01/03/18 10:48	01/03/18 22:55
30240053004	<del>RW20-MWS</del> RW15-MW(S)	Water	01/03/18 11:19	01/03/18 22:55
30240053005	RW16-MWI	Water	01/03/18 11:45	01/03/18 22:55
30240053006	RW16-MWS	Water	01/03/18 12:20	01/03/18 22:55
30240053007	RW18-MWI	Water	01/03/18 13:58	01/03/18 22:55
30240053008	RW18-MWS	Water	01/03/18 14:31	01/03/18 22:55
30240053009	RW14-MWS	Water	01/03/18 14:57	01/03/18 22:55

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240053001	RW12-MWI	EPA 6010C	CTS	2
30240053002	RW12-MWS	EPA 6010C	CTS	2
30240053003	RW20-MWI	EPA 6010C	CTS	2
30240053004	RW20-MWS	EPA 6010C	CTS	2
30240053005	RW16-MWI	EPA 6010C	CTS	2
30240053006	RW16-MWS	EPA 6010C	CTS	2
30240053007	RW18-MWI	EPA 6010C	CTS	2
30240053008	RW18-MWS	EPA 6010C	CTS	2
30240053009	RW14-MWS	EPA 6010C	CTS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** January 05, 2018

**General Information:**

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW12-MWI</b>		<b>Lab ID: 30240053001</b>		Collected: 01/03/18 09:42		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1270</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:16	7440-43-9	
Zinc	<b>117000</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 11:58	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW12-MWS</b>		<b>Lab ID: 30240053002</b>		Collected: 01/03/18 10:17		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.7</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:19	7440-43-9	
Zinc	<b>10100</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW20-MWI</b>		<b>Lab ID: 30240053003</b>		Collected: 01/03/18 10:48		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.6J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:21	7440-43-9	
Zinc	<b>5540</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:03	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Sample: RW20-MWS		Lab ID: 30240053004		Collected: 01/03/18 11:19		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>40.7</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:24	7440-43-9	
Zinc	<b>5150</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:12	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW16-MWI</b>		<b>Lab ID: 30240053005</b>		Collected: 01/03/18 11:45		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:36	7440-43-9	
Zinc	<b>16200</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:19	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW16-MWS</b>		<b>Lab ID: 30240053006</b>		Collected: 01/03/18 12:20		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:38	7440-43-9	
Zinc	<b>31.2</b>	ug/L	10.0	1.0	1	01/04/18 15:21	01/05/18 11:38	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW18-MWI</b>		<b>Lab ID: 30240053007</b>		Collected: 01/03/18 13:58		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>63.5</b>	ug/L	30.0	8.7	10	01/04/18 15:21	01/05/18 11:41	7440-43-9	
Zinc	<b>370000</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

<b>Sample: RW18-MWS</b>		<b>Lab ID: 30240053008</b>		Collected: 01/03/18 14:31		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>218</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:43	7440-43-9	
Zinc	<b>11600</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:24	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Sample: RW14-MWS		Lab ID: 30240053009		Collected: 01/03/18 14:57		Received: 01/03/18 22:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2800</b>	ug/L	3.0	0.87	1	01/04/18 15:21	01/05/18 11:45	7440-43-9	
Zinc	<b>61800</b>	ug/L	1000	104	100	01/04/18 15:21	01/05/18 12:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jan 2018 GW  
Pace Project No.: 30240053

QC Batch: 284087 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240053001, 30240053002, 30240053003, 30240053004, 30240053005, 30240053006, 30240053007, 30240053008, 30240053009

METHOD BLANK: 1394194 Matrix: Water  
Associated Lab Samples: 30240053001, 30240053002, 30240053003, 30240053004, 30240053005, 30240053006, 30240053007, 30240053008, 30240053009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/05/18 10:37	
Zinc	ug/L	10.0 U	10.0	1.0	01/05/18 10:37	

LABORATORY CONTROL SAMPLE: 1394195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	
Zinc	ug/L	500	513	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1394197 1394198

Parameter	Units	30239965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	14.5	500	500	540	538	105	105	75-125	0	20	
Zinc	ug/L	573	500	500	1050	1040	95	94	75-125	0	20	

MATRIX SPIKE SAMPLE: 1394200

Parameter	Units	30240053004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	40.7	500	561	104	75-125	
Zinc	ug/L	5150	500	5700	111	75-125	

SAMPLE DUPLICATE: 1394196

Parameter	Units	30239965001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	14.5	13.8	5	20	
Zinc	ug/L	573	564	2	20	

SAMPLE DUPLICATE: 1394199

Parameter	Units	30240053004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	40.7	43.2	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

SAMPLE DUPLICATE: 1394199

Parameter	Units	30240053004 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	5150	5220	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jan 2018 GW

Pace Project No.: 30240053

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240053001	RW12-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053002	RW12-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053003	RW20-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053004	RW20-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053005	RW16-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053006	RW16-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053007	RW18-MWI	EPA 3005A	284087	EPA 6010C	284121
30240053008	RW18-MWS	EPA 3005A	284087	EPA 6010C	284121
30240053009	RW14-MWS	EPA 3005A	284087	EPA 6010C	284121

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CHAIN-OF-CUSTODY NO#: 30240053

The Chain-of-Custody is a LEI



Section A Required Client Information:		Section B Required Project Information:		Section C Invoice	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Company Name:	EnviroAnalytics Group
Address:	1430 Sparrows Point Blvd	Copy To:	Stew Kabas	Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	icalenda@enviroanalyticsgroup.com	PO Number:		Pace Quote Reference:	
Phone:	314-620-3056	Project Name:	Rum Jan 2018 GW	Pace Project Manager:	Samantha Bynard
Requested Due Date/TAT:	5-day	Project Number:	170384m	Pace Profile #:	
				Site Location	MD
				STATE:	
				NPDES	<input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
				UST	<input type="checkbox"/> RCRA <input type="checkbox"/> OTHER

Page: ( of )

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Analysis Test ↑ Total Cadmium Total Zinc Total Lead	Requested Analysis Filtered (Y/N)	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)	
					COMPOSITE START	COMPOSITE END/GRAB										
1	RW12-MWI		WT 6	G	DATE	TIME	DATE	TIME								
2	RW12-MWS		WT 6	G	13-18	942	13-18	942								
3	RW20-MWI		WT 6	G		1017		1017								
4	RW20-MWS		WT 6	G		1048		1048								
5	RW16-MWI		WT 6	G		1119		1119								
6	RW16-MWS		WT 6	G		1145		1145								
7	RW18-MWI		WT 6	G		1220		1220								
8	RW18-MWS		WT 6	G		1358		1358								
9	RW14-MWS		WT 6	G		1431		1431								
10						1457		1457								
11																
12																

Section E Additional Comments		Section F Relinquished By / Affiliation		Section G Date		Section H Time		Section I Accepted By / Affiliation		Section J Date		Section K Time		Section L Sample Conditions	
Data Package Required? (Y/N):		David H. Morgan		1-3-18		1547		David H. Morgan		1-3-18		1623			
Data Validation Required? (Y/N):		David H. Morgan		1-3-18		1831		David H. Morgan		1-3-18		1853			
If data package is required, attach data package checklist.		David H. Morgan		1-3-18		2255		David H. Morgan		1-3-18		2255			
SAMPLE NAME AND SIGNATURE															
PRINT Name of SAMPLER: Lisa Parnas															
SIGNATURE of SAMPLER: Lisa Parnas															
DATE Signed (MM/DD/YY): 1-3-18															

# Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name:

EnviroAna

Project #

30240053

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label AML  
LIMS Login BLM

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 1.2 °C Correction Factor: -0.1 °C Final Temp: 1.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AML 1-4-18

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AML</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

January 11, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240127001	RW11-MWI	Water	01/04/18 10:41	01/04/18 22:45
30240127002	RW11-MWS	Water	01/04/18 11:05	01/04/18 22:45
30240127003	RW13-MWI	Water	01/04/18 11:44	01/04/18 22:45
30240127004	RW10-MWI	Water	01/04/18 12:20	01/04/18 22:45
30240127005	RW08-MWI	Water	01/04/18 13:30	01/04/18 22:45
30240127006	RW07-MWI	Water	01/04/18 14:19	01/04/18 22:45
30240127007	RW07-MWS	Water	01/04/18 15:02	01/04/18 22:45
30240127008	RW04-MWS	Water	01/04/18 15:30	01/04/18 22:45

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240127001	RW11-MWI	EPA 6010C	KAS	2
30240127002	RW11-MWS	EPA 6010C	KAS	2
30240127003	RW13-MWI	EPA 6010C	KAS	2
30240127004	RW10-MWI	EPA 6010C	KAS	2
30240127005	RW08-MWI	EPA 6010C	KAS	2
30240127006	RW07-MWI	EPA 6010C	KAS	2
30240127007	RW07-MWS	EPA 6010C	KAS	2
30240127008	RW04-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW  
Pace Project No.: 30240127

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** January 11, 2018

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 284436

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30240127001,30240302003

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1395466)
  - Zinc
- MS (Lab ID: 1395469)
  - Zinc
- MSD (Lab ID: 1395467)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

<b>Sample: RW11-MWI</b>		<b>Lab ID: 30240127001</b>		Collected: 01/04/18 10:41		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1400</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 15:36	7440-43-9	
Zinc	<b>225000</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 16:59	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Sample: RW11-MWS		Lab ID: 30240127002		Collected: 01/04/18 11:05		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.2J</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 15:50	7440-43-9	
Zinc	<b>27700</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

<b>Sample: RW13-MWI</b>		<b>Lab ID: 30240127003</b>		Collected: 01/04/18 11:44		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1240</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 15:53	7440-43-9	
Zinc	<b>8600</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:16	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

<b>Sample: RW10-MWI</b>		<b>Lab ID: 30240127004</b>		Collected: 01/04/18 12:20		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:02	7440-43-9	
Zinc	<b>26.5</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:02	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

<b>Sample: RW08-MWI</b>		<b>Lab ID: 30240127005</b>		Collected: 01/04/18 13:30		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:04	7440-43-9	
Zinc	<b>108</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:04	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

<b>Sample: RW07-MWI</b>		<b>Lab ID: 30240127006</b>		Collected: 01/04/18 14:19		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:07	7440-43-9	
Zinc	<b>70.6</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:07	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Sample: RW07-MWS		Lab ID: 30240127007		Collected: 01/04/18 15:02		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.8</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:09	7440-43-9	
Zinc	<b>276</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:09	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

<b>Sample: RW04-MWS</b>		<b>Lab ID: 30240127008</b>		Collected: 01/04/18 15:30		Received: 01/04/18 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:11	7440-43-9	
Zinc	<b>384</b>	ug/L	10.0	1.0	1	01/09/18 14:48	01/10/18 16:11	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

QC Batch:	284436	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30240127001, 30240127002, 30240127003, 30240127004, 30240127005, 30240127006, 30240127007, 30240127008		

METHOD BLANK:	1395463	Matrix:	Water
Associated Lab Samples:	30240127001, 30240127002, 30240127003, 30240127004, 30240127005, 30240127006, 30240127007, 30240127008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/10/18 15:31	
Zinc	ug/L	10.0 U	10.0	1.0	01/10/18 15:31	

LABORATORY CONTROL SAMPLE: 1395464						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	498	100	80-120	
Zinc	ug/L	500	532	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395466 1395467												
Parameter	Units	30240127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1930	1880	105	96	75-125	2	20	
Zinc	ug/L	225000	500	500	225000	220000	-40	-1060	75-125	2	20 ML	

MATRIX SPIKE SAMPLE: 1395469							
Parameter	Units	30240302003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1880	500	2470	120	75-125	
Zinc	ug/L	3840000	500	3650000	-37600	75-125 ML	

SAMPLE DUPLICATE: 1395465						
Parameter	Units	30240127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1400	0	20	
Zinc	ug/L	225000	226000	0	20	

SAMPLE DUPLICATE: 1395468						
Parameter	Units	30240302003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1880	1870	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

SAMPLE DUPLICATE: 1395468

Parameter	Units	30240302003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	3840000	3740000	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jan 2018 GW

Pace Project No.: 30240127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240127001	RW11-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127002	RW11-MWS	EPA 3005A	284436	EPA 6010C	284470
30240127003	RW13-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127004	RW10-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127005	RW08-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127006	RW07-MWI	EPA 3005A	284436	EPA 6010C	284470
30240127007	RW07-MWS	EPA 3005A	284436	EPA 6010C	284470
30240127008	RW04-MWS	EPA 3005A	284436	EPA 6010C	284470

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information: Company: EnviroAnalytics Group Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219 Email To: lcalenda@enviroanalyticsgroup.com Phone: 314-620-3056 Fax: Requested Due Date/TAT: 5-day		<b>Section B</b> Required Project Information: Report To: James Calenda Copy To: <i>Stew Kwois</i> Project Name: <i>RWM Jan 2018 GW</i> Project Number: <i>170384m-1-1</i>		<b>Section C</b> Required Lab Information: Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: <i>Samantha Bayura</i> Pace Profile #: Site Location: MD STATE:	
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ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOL/SOLID OIL WIPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↑	W/N ↑	Requested Analysis Filtered (Y/N)														Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol			Other	Total cadmium,6.010	Total zinc,6.010																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</

ADDITIONAL COMMENTS Data Package Required? (Y/N): Data Validation Required? (Y/N): If data package is required, attach data package checklist.		RELINQUISHED BY / AFFILIATION <i>[Signature]</i>		DATE 1-4-18		TIME 1600		ACCEPTED BY / AFFILIATION <i>[Signature]</i>		DATE 1-4-18		TIME 1600		SAMPLE CONDITIONS Received on Ice (Y/N): Cooler (Y/N): Samples Intact (Y/N):	
---	--	---	--	----------------	--	--------------	--	---	--	----------------	--	--------------	--	---	--

# Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna.

Project # 30240127

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>Am</u>
LIMS Login	<u>Am</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no

Seals intact: ☐ yes ☐ no

Thermometer Used 7

Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.6 °C Correction Factor: -0.1 °C Final Temp: 1.5 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: Am 1-5-18

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID				
Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>Am</u>
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed:
				Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

January 12, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240302

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 08, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240302001	RW09-MWI	Water	01/08/18 10:15	01/08/18 22:50
30240302002	RW09-MWS	Water	01/08/18 10:45	01/08/18 22:50
30240302003	RW19-MWI	Water	01/08/18 11:40	01/08/18 22:50
30240302004	RW19-MWS	Water	01/08/18 12:25	01/08/18 22:50
30240302005	RW03-MWI	Water	01/08/18 13:40	01/08/18 22:50
30240302006	RW03-MWS	Water	01/08/18 14:30	01/08/18 22:50

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240302001	RW09-MWI	EPA 6010C	KAS	2
30240302002	RW09-MWS	EPA 6010C	KAS	2
30240302003	RW19-MWI	EPA 6010C	KAS	2
30240302004	RW19-MWS	EPA 6010C	KAS	2
30240302005	RW03-MWI	EPA 6010C	KAS	2
30240302006	RW03-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** January 12, 2018

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 284436

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30240127001,30240302003

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1395466)
  - Zinc
- MS (Lab ID: 1395469)
  - Zinc
- MSD (Lab ID: 1395467)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30240302001</b>		Collected: 01/08/18 10:15		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.1J</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:14	7440-43-9	
Zinc	<b>54700</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Sample: RW09-MWS		Lab ID: 30240302002		Collected: 01/08/18 10:45		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.9</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:16	7440-43-9	
Zinc	<b>9310</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:21	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

<b>Sample: RW19-MWI</b>		<b>Lab ID: 30240302003</b>		Collected: 01/08/18 11:40		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1880</b>	ug/L	300	87.0	100	01/09/18 14:48	01/10/18 17:29	7440-43-9	
Zinc	<b>3840000</b>	ug/L	100000	10400	10000	01/09/18 14:48	01/10/18 17:44	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

<b>Sample: RW19-MWS</b>		<b>Lab ID: 30240302004</b>		Collected: 01/08/18 12:25		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.8</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:35	7440-43-9	
Zinc	<b>10200</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:36	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

**Sample: RW03-MWI**      **Lab ID: 30240302005**      Collected: 01/08/18 13:40      Received: 01/08/18 22:50      Matrix: Water

Comments: • Sample ID on container does not match COC. Time and date do match.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3005A									
Cadmium	<b>259</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:37	7440-43-9	
Zinc	<b>12700</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:39	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

<b>Sample: RW03-MWS</b>		<b>Lab ID: 30240302006</b>		Collected: 01/08/18 14:30		Received: 01/08/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.9</b>	ug/L	3.0	0.87	1	01/09/18 14:48	01/10/18 16:40	7440-43-9	
Zinc	<b>31500</b>	ug/L	1000	104	100	01/09/18 14:48	01/10/18 17:41	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jan 2018 GW  
Pace Project No.: 30240302

QC Batch: 284436 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240302001, 30240302002, 30240302003, 30240302004, 30240302005, 30240302006

METHOD BLANK: 1395463 Matrix: Water  
Associated Lab Samples: 30240302001, 30240302002, 30240302003, 30240302004, 30240302005, 30240302006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/10/18 15:31	
Zinc	ug/L	10.0 U	10.0	1.0	01/10/18 15:31	

LABORATORY CONTROL SAMPLE: 1395464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	498	100	80-120	
Zinc	ug/L	500	532	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395466 1395467

Parameter	Units	30240127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1930	1880	105	96	75-125	2	20	
Zinc	ug/L	225000	500	500	225000	220000	-40	-1060	75-125	2	20 ML	

MATRIX SPIKE SAMPLE: 1395469

Parameter	Units	30240302003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1880	500	2470	120	75-125	
Zinc	ug/L	3840000	500	3650000	-37600	75-125 ML	

SAMPLE DUPLICATE: 1395465

Parameter	Units	30240127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1400	0	20	
Zinc	ug/L	225000	226000	0	20	

SAMPLE DUPLICATE: 1395468

Parameter	Units	30240302003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1880	1870	0	20	
Zinc	ug/L	3840000	3740000	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jan 2018 GW

Pace Project No.: 30240302

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240302001	RW09-MWI	EPA 3005A	284436	EPA 6010C	284470
30240302002	RW09-MWS	EPA 3005A	284436	EPA 6010C	284470
30240302003	RW19-MWI	EPA 3005A	284436	EPA 6010C	284470
30240302004	RW19-MWS	EPA 3005A	284436	EPA 6010C	284470
30240302005	RW03-MWI	EPA 3005A	284436	EPA 6010C	284470
30240302006	RW03-MWS	EPA 3005A	284436	EPA 6010C	284470

## REPORT OF LABORATORY ANALYSIS

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**Section A**  
Required Client Information:

Company: **EnviroAnalytics Group**

Address: **1430 Sparrows Point Blvd**

Sparrows Point, MD 21219

Email To: **jcalenda@enviroanalyticsgroup.com**

Phone: **314-620-3056** Fax:

Requested Due Date/TAT: **5-day**

**Section B**  
Required Project Information:

Report To: **James Calenda**

Copy To: **Stew Kabis**

PO Number:

Project Name: **RWM Jan 2018 GW**

Project Number: **170384m-1-1**

**Section C**  
Invoice Information:

Attention: **Laura Sargent**

Company Name: **EnviroAnalytics Group**

Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**

Pace Quote Reference:

Pace Project Manager: **Samantha Bayara**

Pace Profile #:

**REGULATORY AGENCY**


☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location: **MD**

STATE: **MD**

**WO#: 30240302**



**30240302**

ITEM #	Section D Required Client Information		Valid Matrix Codes		MATRIX CODE		COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)		MATRIX CODE (see valid codes to left)		SAMPLE TEMP AT COLLECTION		PRESERVATIVES		Analysis Test ↑		Residual	Pace Project No./ Lab I.D.
	MATRIX	CODE	ORIGIN	WATER	WASTE	PRODUCT	SOIL	SLURRY	OTHER	TISSUE	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME		
1	RW09-mWI	WT G	18-18	1015	1	1	1	1	1	1	1	1	1	1	1	1	1	1	001	
2	RW09-mWS	WT G	18-18	1045	1	1	1	1	1	1	1	1	1	1	1	1	1	002		
3	RW19-mWI	WT G	18-18	1140	1	1	1	1	1	1	1	1	1	1	1	1	1	003		
4	RW19-mWS	WT G	18-18	1225	1	1	1	1	1	1	1	1	1	1	1	1	1	004		
5	RW03-mWI	WT G	18-18	1340	1	1	1	1	1	1	1	1	1	1	1	1	1	005		
6	RW03-mWS	WT G	18-18	1420	1	1	1	1	1	1	1	1	1	1	1	1	1	006		
7																				
8																				
9																				
10																				
11																				
12																				

**Section E**  
Additional Comments (Y/N):

Data Package Required? (Y/N):

Data Validation Required? (Y/N):

If data package is required, attach data package checklist.

**Section F**  
Relinquished By / Affiliation

DATE: **1-8-18** TIME: **1615**

DATE: **1-8-18** TIME: **1615**

DATE: **1-8-18** TIME: **1615**

DATE: **1-8-18** TIME: **1615**

**Section G**  
Accepted By / Affiliation

DATE: **1-8-18** TIME: **1615**

DATE: **1-8-18** TIME: **1615**

DATE: **1-8-18** TIME: **1615**

DATE: **1-8-18** TIME: **1615**

**Section H**  
Sample Conditions

Temp in °C

Received on Ice (Y/N)

Custody Sealed (Y/N)

Samples Intact (Y/N)

**Section I**  
Sampler Name and Signature

PRINT Name of SAMPLER: **Lisa Perrin**

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YY): **1-8-18**

30240302

Pace Analytical

Client Name:

EnviroAna

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label ANU  
LIMS Login ANUCustody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

7

Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 2.5 °C Correction Factor: -0.1 °C Final Temp: 2.4 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-9-18

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. ID on bottle for sample 005 is RW03-MWS but time matches to ID RW03-MWI
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

January 16, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: RWM Jan 2018 GW  
Pace Project No.: 30240369

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30240369001	RW06-MWI	Water	01/09/18 09:58	01/09/18 22:35
30240369002	RW06-MWD	Water	01/09/18 11:24	01/09/18 22:35
30240369003	RW06-MWS	Water	01/09/18 11:55	01/09/18 22:35
30240369004	RW08-MWS	Water	01/09/18 13:05	01/09/18 22:35

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30240369001	RW06-MWI	EPA 6010C	KAS	2
30240369002	RW06-MWD	EPA 6010C	KAS	2
30240369003	RW06-MWS	EPA 6010C	KAS	2
30240369004	RW08-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: RWM Jan 2018 GW  
Pace Project No.: 30240369

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** January 16, 2018

### General Information:

4 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

<b>Sample: RW06-MWI</b>		<b>Lab ID: 30240369001</b>	Collected: 01/09/18 09:58		Received: 01/09/18 22:35		Matrix: Water		
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.4</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:01	7440-43-9	
Zinc	<b>1950</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:01	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Sample: RW06-MWD		Lab ID: 30240369002		Collected: 01/09/18 11:24		Received: 01/09/18 22:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.6J</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:15	7440-43-9	
Zinc	<b>212</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:15	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

<b>Sample: RW06-MWS</b>		<b>Lab ID: 30240369003</b>		Collected: 01/09/18 11:55		Received: 01/09/18 22:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.3</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:17	7440-43-9	
Zinc	<b>648</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:17	7440-66-6	

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## ANALYTICAL RESULTS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Sample: RW08-MWS		Lab ID: 30240369004		Collected: 01/09/18 13:05		Received: 01/09/18 22:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	01/12/18 16:48	01/15/18 20:25	7440-43-9	
Zinc	<b>2600</b>	ug/L	10.0	1.0	1	01/12/18 16:48	01/15/18 20:25	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

QC Batch: 284761 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30240369001, 30240369002, 30240369003, 30240369004

METHOD BLANK: 1397030 Matrix: Water  
Associated Lab Samples: 30240369001, 30240369002, 30240369003, 30240369004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	01/15/18 19:56	
Zinc	ug/L	10.0 U	10.0	1.0	01/15/18 19:56	

LABORATORY CONTROL SAMPLE: 1397031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	493	99	80-120	
Zinc	ug/L	500	495	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397033 1397034

Parameter	Units	30240369001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	8.4	500	500	502	507	99	100	75-125	1	20	
Zinc	ug/L	1950	500	500	2400	2430	91	97	75-125	1	20	

SAMPLE DUPLICATE: 1397032

Parameter	Units	30240369001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	8.4	8.2	3	20	
Zinc	ug/L	1950	1950	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RWM Jan 2018 GW

Pace Project No.: 30240369

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30240369001	RW06-MWI	EPA 3005A	284761	EPA 6010C	284788
30240369002	RW06-MWD	EPA 3005A	284761	EPA 6010C	284788
30240369003	RW06-MWS	EPA 3005A	284761	EPA 6010C	284788
30240369004	RW08-MWS	EPA 3005A	284761	EPA 6010C	284788

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information: Company: EnviroAnalytics Group Address: 1430 Sparrows Point Blvd Sparrows Point, MD 21219 Email To: icalenda@enviroanalyticsgroup.com Phone: 314-620-3056 Fax: 5-day Requested Due Date/TAT:		<b>Section B</b> Required Project Information: Report To: James Calenda Copy To: STEW KABIS PO Number: Project Name: Rwm Jan 2018 6W Project Number: 170384m-1-1		<b>Section C</b> Invoice Information: Attention: Laura Sargent Company Name: EnviroAnalytics Group Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131 Pace Quote Reference: Pace Project Manager: Samantha Bayyara Pace Profile #:	
Regulatory Agency <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		Site Location MD		State:	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX DW WT WATER WASTE WATER PRODUCT SOLIDS OIL WPE AIR OTHER TISSE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test ↑	Y/N	N	N	Requested Analysis Filtered (Y/N)
					COMPOSITE START	COMPOSITE END/GRAB								
1	RW06-mwI		WT G	1-9-18	958			1						
2	RW06-mwD		WT G	1-9-18	1124			1						
3	RW06-mws		WT G	1-9-18	1155			1						
4	RW08-mws		WT G	1-9-18	1305			1						
5														
6														
7														
8														
9														
10														
11														
12														

ADDITIONAL COMMENTS (Y/N): Data Package Required? (Y/N): Data Validation Required? (Y/N): If data package is required, attach data package checklist.		RELINQUISHED BY / AFFILIATION DATE TIME		ACCEPTED BY / AFFILIATION DATE TIME		SAMPLE CONDITIONS Received on Ice (Y/N) Custody Sealed (Y/N) Samples Intact (Y/N)	
SAMPALER NAME AND SIGNATURE PRINT Name of SAMPALER: Lisa Penn SIGNATURE of SAMPALER:		DATE Signed (MM/DD/YY):					

## Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

EnviroAna

Project #

30240369

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label ANU

LIMS Login ANU

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

6

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 1.1 °C Correction Factor: 10.0 °C Final Temp: 1.1 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 1-10-18

Comments:

Yes No N/A

Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed AM
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed
				Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

November 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235076001	RW12-MW(S)	Water	11/03/17 08:53	11/03/17 22:30
30235076002	RW12-MW(I)	Water	11/03/17 09:19	11/03/17 22:30
30235076003	RW14-MW(S)	Water	11/03/17 09:51	11/03/17 22:30
30235076004	RW20-MW(S) Changed to RW15-MW(S)		11/03/17 10:35	11/03/17 22:30
30235076005	RW20-MW(I) Changed to RW15-MW(I)		11/03/17 11:14	11/03/17 22:30
30235076006	RW18-MW(S)	Water	11/03/17 12:05	11/03/17 22:30
30235076007	RW18-MW(I)	Water	11/03/17 12:41	11/03/17 22:30
30235076008	RW13-MW(I)	Water	11/03/17 14:09	11/03/17 22:30
30235076009	RW10-MW(I)	Water	11/03/17 14:45	11/03/17 22:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235076001	RW12-MW(S)	EPA 6010C	PJD	2
30235076002	RW12-MW(I)	EPA 6010C	PJD	2
30235076003	RW14-MW(S)	EPA 6010C	PJD	2
30235076004	RW20-MW(S) <span>Changed to RW15-MW(S)</span>	EPA 6010C	PJD	2
30235076005	RW20-MW(I) <span>Changed to RW15-MW(I)</span>	EPA 6010C	PJD	2
30235076006	RW18-MW(S)	EPA 6010C	PJD	2
30235076007	RW18-MW(I)	EPA 6010C	PJD	2
30235076008	RW13-MW(I)	EPA 6010C	PJD	2
30235076009	RW10-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** November 08, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 278180

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30235076001

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1366600)
  - Zinc
- MSD (Lab ID: 1366601)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW12-MW(S)		Lab ID: 30235076001		Collected: 11/03/17 08:53		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>193</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 21:52	7440-43-9	
Zinc	<b>235000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 22:32	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW12-MW(I)		Lab ID: 30235076002		Collected: 11/03/17 09:19		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1380</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:07	7440-43-9	
Zinc	<b>140000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 22:57	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW14-MW(S)		Lab ID: 30235076003		Collected: 11/03/17 09:51		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2390</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:10	7440-43-9	
Zinc	<b>28100</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 22:59	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: **RW20-MW(S)** Changed to RW15-MW(S) 4 Collected: 11/03/17 10:35 Received: 11/03/17 22:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>63.0</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:17	7440-43-9	
Zinc	<b>8800</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:02	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW20-MW(I)		Changed to RW15-MW(I)		5	Collected: 11/03/17 11:14		Received: 11/03/17 22:30		Matrix: Water	
Parameters		Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010C MET ICP		Analytical Method: EPA 6010C Preparation Method: EPA 3005A								
Cadmium	3.0 U	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:20	7440-43-9		
Zinc	825	ug/L	10.0	1.0	1	11/07/17 09:32	11/07/17 22:20	7440-66-6		

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW18-MW(S)		Lab ID: 30235076006		Collected: 11/03/17 12:05		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>208</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:22	7440-43-9	
Zinc	<b>10700</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:04	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Sample: RW18-MW(I)		Lab ID: 30235076007		Collected: 11/03/17 12:41		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>66.6</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:25	7440-43-9	
Zinc	<b>323000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:07	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

<b>Sample: RW13-MW(I)</b>		<b>Lab ID: 30235076008</b>		Collected: 11/03/17 14:09		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>24500</b>	ug/L	300	87.0	100	11/07/17 09:32	11/07/17 23:09	7440-43-9	
Zinc	<b>172000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

<b>Sample: RW10-MW(I)</b>		<b>Lab ID: 30235076009</b>		Collected: 11/03/17 14:45		Received: 11/03/17 22:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>63.7</b>	ug/L	3.0	0.87	1	11/07/17 09:32	11/07/17 22:30	7440-43-9	
Zinc	<b>39000</b>	ug/L	1000	104	100	11/07/17 09:32	11/07/17 23:12	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

QC Batch:	278180	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30235076001, 30235076002, 30235076003, 30235076004, 30235076005, 30235076006, 30235076007, 30235076008, 30235076009		

METHOD BLANK:	1366597	Matrix:	Water
Associated Lab Samples:	30235076001, 30235076002, 30235076003, 30235076004, 30235076005, 30235076006, 30235076007, 30235076008, 30235076009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/07/17 21:47	
Zinc	ug/L	10.0 U	10.0	1.0	11/07/17 21:47	

LABORATORY CONTROL SAMPLE: 1366598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	
Zinc	ug/L	500	541	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1366600 1366601

Parameter	Units	30235076001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	193	500	500	694	697	100	101	75-125	1	20	
Zinc	ug/L	235000	500	500	232000	230000	-580	-960	75-125	1	20 ML	

SAMPLE DUPLICATE: 1366599

Parameter	Units	30235076001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	193	198	2	20	
Zinc	ug/L	235000	238000	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235076

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235076

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235076001	RW12-MW(S)	EPA 3005A	278180	EPA 6010C	278273
30235076002	RW12-MW(I)	EPA 3005A	278180	EPA 6010C	278273
30235076003	RW14-MW(S)	EPA 3005A	278180	EPA 6010C	278273
30235076004	RW20-MW(S)	Changed to RW15-MW(S)	278180	EPA 6010C	278273
30235076005	RW20-MW(I)	Changed to RW15-MW(I)	278180	EPA 6010C	278273
30235076006	RW18-MW(S)		278180	EPA 6010C	278273
30235076007	RW18-MW(I)	EPA 3005A	278180	EPA 6010C	278273
30235076008	RW13-MW(I)	EPA 3005A	278180	EPA 6010C	278273
30235076009	RW10-MW(I)	EPA 3005A	278180	EPA 6010C	278273

## REPORT OF LABORATORY ANALYSIS

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**Section A**

**Required Client Information:**

Company: **EnviroAnalytics Group**  
Address: **1600 Sparrows Point Blvd, Suite B2**  
Sparrows Point, MD 21219  
Email To: **lcalenda@enviroanalyticsgroup.com**  
Phone: **314-620-3056** Fax:  
Requested Due Date/TAT: **5 Day**

**Section B**

**Required Project Information:**

Report To: **James Calenda**  
Copy To: **Stewart Kabis**  
Purchase Order No.:  
Project Name: **Rod and Wire Mill GW Sampling**  
Project Number: **170384M**

**Section C**

**Invoice Information:**

Attention: **Laura Sargent**  
Company Name: **EnviroAnalytics Group**  
Address: **1850 Des Peres Road, Suite 303 St. Louis, MO 63131**  
Pace Quote Reference:  
Pace Project Manager: **Samantha Bayura**  
Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER

Site Location  
STATE: **MD**

**Requested Analysis Filtered (Y/N)**

ITEM #	Valid Matrix Codes MATRIX CODE DW WW P SL WP AR OT TS	Required Client Information	Valid Matrix Codes MATRIX CODE DW WW P SL WP AR OT TS	SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	COLLECTED		# OF CONTAINERS	PRESERVATIVES	ANALYSIS TEST ↑	Pace Project No./ Lab I.D.
						COMPOSITE START	COMPOSITE END/GRAB				
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

WO#: 30235076



**SAMPLE ID**  
(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

**ADDITIONAL COMMENTS**

**RELINQUISHED BY / AFFILIATION**

**DATE**

**TIME**

**ACCEPTED BY / AFFILIATION**

**DATE**

**TIME**

**SAMPLE CONDITIONS**

**Temp in °C**

**Received on**

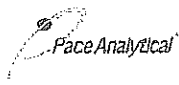
**Cooler (Y/N)**

**Custody Sealed**

**Samples Intact (Y/N)**

## Pittsburgh Lab Sample Condition Upon Receipt

30235076



Client Name:

SPARROWS

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	JRM
LIMS Login	JRM

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: Wet Blue None

Cooler Temperature

Observed Temp

1.0

°C

Correction Factor:

10.0

°C

Final Temp:

1.0

°C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: JRM 4/11/17

Comments:

Yes No N/A

Chain of Custody Present:

✓

1.

Chain of Custody Filled Out:

✓

2.

Chain of Custody Relinquished:

✓

3.

Sampler Name &amp; Signature on COC:

✓

4.

Sample Labels match COC:

✓

5.

-Includes date/time/ID

Matrix:

WT

Samples Arrived within Hold Time:

✓

6.

Short Hold Time Analysis (&lt;72hr remaining):

✓

7.

Rush Turn Around Time Requested:

✓

8.

Sufficient Volume:

✓

9.

Correct Containers Used:

✓

10.

-Pace Containers Used:

✓

Containers Intact:

✓

11.

Orthophosphate field filtered

✓

12.

Hex Cr Aqueous Compliance/NPDES sample field filtered

✓

13.

Organic Samples checked for dechlorination:

✓

14.

Filtered volume received for Dissolved tests

✓

15.

All containers have been checked for preservation.

✓

16.

All containers needing preservation are found to be in compliance with EPA recommendation.

✓

exceptions: VOA, coliform, TOC, O&amp;G, Phenolics

Initial when completed

JRM

Date/time of preservation

Lot # of added preservative

Headspace in VOA Vials (&gt;6mm):

✓

17.

Trip Blank Present:

✓

18.

Trip Blank Custody Seals Present

✓

Rad Aqueous Samples Screened &gt; 0.5 mrem/hr

✓

Initial when completed:

Date:

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

November 10, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235212

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235212001	RW16-MW(I)	Water	11/06/17 09:14	11/06/17 22:05
30235212002	RW16-MW(S)	Water	11/06/17 10:03	11/06/17 22:05
30235212003	RW11-MW(S)	Water	11/06/17 11:22	11/06/17 22:05
30235212004	RW11-MW(I)	Water	11/06/17 11:57	11/06/17 22:05
30235212005	RW09-MW(S)	Water	11/06/17 12:36	11/06/17 22:05
30235212006	RW09-MW(I)	Water	11/06/17 13:13	11/06/17 22:05

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235212001	RW16-MW(I)	EPA 6010C	PJD	2
30235212002	RW16-MW(S)	EPA 6010C	PJD	2
30235212003	RW11-MW(S)	EPA 6010C	PJD	2
30235212004	RW11-MW(I)	EPA 6010C	PJD	2
30235212005	RW09-MW(S)	EPA 6010C	PJD	2
30235212006	RW09-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235212

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** November 10, 2017

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 278387

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 1367407)
- Zinc

### Additional Comments:

Batch Comments:

- Cadmiun failed on the PDS.
- QC Batch: 278453

Analyte Comments:

QC Batch: 278387

- 1c: Cadmiun failed on the PDS.
- BLANK (Lab ID: 1367402)
  - Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 10, 2017

Analyte Comments:

QC Batch: 278387

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1367402)
  - Zinc
- DUP (Lab ID: 1367404)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1367407)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1367403)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367405)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367408)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1367406)
  - Cadmium
  - Zinc
- RW09-MW(I) (Lab ID: 30235212006)
  - Cadmium
  - Zinc
- RW09-MW(S) (Lab ID: 30235212005)
  - Cadmium
  - Zinc
- RW11-MW(I) (Lab ID: 30235212004)
  - Cadmium
  - Zinc
- RW11-MW(S) (Lab ID: 30235212003)
  - Cadmium
  - Zinc
- RW16-MW(I) (Lab ID: 30235212001)
  - Cadmium
  - Zinc
- RW16-MW(S) (Lab ID: 30235212002)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW16-MW(I)		Lab ID: 30235212001		Collected: 11/06/17 09:14		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 21:39	7440-43-9	1c
Zinc	<b>441</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 21:39	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW16-MW(S)		Lab ID: 30235212002		Collected: 11/06/17 10:03		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 21:53	7440-43-9	1c
Zinc	<b>48.6</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 21:53	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW11-MW(S)		Lab ID: 30235212003		Collected: 11/06/17 11:22		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.1J</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 21:56	7440-43-9	1c
Zinc	<b>18300</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:37	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW11-MW(I)		Lab ID: 30235212004		Collected: 11/06/17 11:57		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1460</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:03	7440-43-9	1c
Zinc	<b>207000</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:40	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Sample: RW09-MW(S)		Lab ID: 30235212005		Collected: 11/06/17 12:36		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.5</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:06	7440-43-9	1c
Zinc	<b>9290</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:42	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

<b>Sample: RW09-MW(I)</b>		<b>Lab ID: 30235212006</b>		Collected: 11/06/17 13:13		Received: 11/06/17 22:05		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.8</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:08	7440-43-9	1c
Zinc	<b>67900</b>	ug/L	1000	104	100	11/08/17 13:11	11/09/17 22:45	7440-66-6	1c

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

QC Batch:	278387	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30235212001, 30235212002, 30235212003, 30235212004, 30235212005, 30235212006			

METHOD BLANK:	1367402	Matrix:	Water
Associated Lab Samples: 30235212001, 30235212002, 30235212003, 30235212004, 30235212005, 30235212006			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/09/17 21:34	1c
Zinc	ug/L	10.0 U	10.0	1.0	11/09/17 21:34	1c

LABORATORY CONTROL SAMPLE: 1367403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	500	100	80-120	1c
Zinc	ug/L	500	506	101	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1367405 1367406

Parameter	Units	30235212001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	512	484	102	97	75-125	6	20	1c
Zinc	ug/L	441	500	500	931	912	98	94	75-125	2	20	1c

MATRIX SPIKE SAMPLE: 1367408

Parameter	Units	30235330005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	500	512	102	75-125	1c
Zinc	ug/L	38.7	500	553	103	75-125	1c

SAMPLE DUPLICATE: 1367404

Parameter	Units	30235212001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	1c
Zinc	ug/L	441	442	0	20	1c

SAMPLE DUPLICATE: 1367407

Parameter	Units	30235330005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	0.90J		20	1c
Zinc	ug/L	38.7	49.4	24	20	1c, D6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 278453

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235212

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235212001	RW16-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235212002	RW16-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235212003	RW11-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235212004	RW11-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235212005	RW09-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235212006	RW09-MW(I)	EPA 3005A	278387	EPA 6010C	278453

## REPORT OF LABORATORY ANALYSIS

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Section A

Required Client Information:

Company: EnviroAnalytics Group  
Address: 1600 Sparrows Point Blvd, Suite B2  
Sparrows Point, MD 21219  
Email To: [calenda@enviroanalyticsgroup.com](mailto:calenda@enviroanalyticsgroup.com)  
Phone: 314-620-3056 Fax: 5 Day  
Requested Due Date/TAT:

Section B

Required Project Information:

Report To: James Calenda  
Copy To: Stewart Kabis  
Purchase Order No.:  
Project Name: Rod and Wire Mill GW Sampling  
Project Number: 170284M  
Attention: Laura Sargent  
Company Name: EnviroAnalytics Group  
Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Quote Reference:  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

Page: / of /

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER

Site Location  
STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WASTE WATER P PRODUCT SL SOIL/SOLID OIL WIPE AIR OTHER TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Analysis Test Total Cadmium 6010 Total Zinc 6010	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB	DATE TIME						
1	RW16-MWT		W16	G			11/16/17 0914	1		X			001
2	RW16-MWS						1003	1		X			002
3	RW11-MWS						1123	1		X			003
4	RW11-MWT						157	1		X			004
5	RW09-MWS						1236	1		X			005
6	RW09-MWT						1313	1		X			006
7													
8													
9													
10													
11													
12													

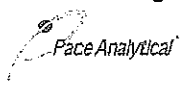
ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Temp in °C	Received on	Cooler (Y/N)	Samples Intact (Y/N)
Handwritten signature and notes	David H. Hillebrand	11/16/17	1430	David H. Hillebrand	11/16/17	1555				
Handwritten signature and notes	David H. Hillebrand	11/16/17	1800	David H. Hillebrand	11/17/17	1830				
Handwritten signature and notes	David H. Hillebrand	11/17/17	0805	David H. Hillebrand	11/17/17	2205	30	Y	N	Y

Page 16 of 17

SAMPLER NAME AND SIGNATURE  
PRINT Name of SAMPLER: Jeandra M. Glumac  
SIGNATURE of SAMPLER: Jeandra M. Glumac  
DATE Signed (MM/DD/YYYY): 11/06/17

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

# Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

EnviroAna

Project # 30 235 212

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AML</u>
LIMS Login	<u>BLM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature \_\_\_\_\_ Observed Temp 3.0 °C Correction Factor: 10.0 °C Final Temp: 3.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AML 11-7-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID				
Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AML</u> Date/time of preservation _____
				Lot # of added preservative _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

November 10, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235330001	RW08-MW(S)	Water	11/07/17 09:20	11/07/17 23:31
30235330002	RW08-MW(I)	Water	11/07/17 09:48	11/07/17 23:31
30235330003	RW07-MW(S)	Water	11/07/17 10:42	11/07/17 23:31
30235330004	RW07-MW(I)	Water	11/07/17 11:27	11/07/17 23:31
30235330005	RW06-MW(D)	Water	11/07/17 12:31	11/07/17 23:31
30235330006	RW06-MW(I)	Water	11/07/17 13:03	11/07/17 23:31
30235330007	RW06-MW(S)	Water	11/07/17 14:04	11/07/17 23:31

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235330001	RW08-MW(S)	EPA 6010C	PJD	2
30235330002	RW08-MW(I)	EPA 6010C	PJD	2
30235330003	RW07-MW(S)	EPA 6010C	PJD	2
30235330004	RW07-MW(I)	EPA 6010C	PJD	2
30235330005	RW06-MW(D)	EPA 6010C	PJD	2
30235330006	RW06-MW(I)	EPA 6010C	PJD	2
30235330007	RW06-MW(S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235330

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** November 10, 2017

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 278387

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 1367407)
- Zinc

### Additional Comments:

Batch Comments:

- Cadmiun failed on the PDS.
- QC Batch: 278453

Analyte Comments:

QC Batch: 278387

- 1c: Cadmiun failed on the PDS.
- BLANK (Lab ID: 1367402)
  - Cadmium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 10, 2017

Analyte Comments:

QC Batch: 278387

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1367402)
  - Zinc
- DUP (Lab ID: 1367404)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1367407)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1367403)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367405)
  - Cadmium
  - Zinc
- MS (Lab ID: 1367408)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1367406)
  - Cadmium
  - Zinc
- RW06-MW(D) (Lab ID: 30235330005)
  - Cadmium
  - Zinc
- RW06-MW(I) (Lab ID: 30235330006)
  - Cadmium
  - Zinc
- RW06-MW(S) (Lab ID: 30235330007)
  - Cadmium
  - Zinc
- RW07-MW(I) (Lab ID: 30235330004)
  - Cadmium
  - Zinc
- RW07-MW(S) (Lab ID: 30235330003)
  - Cadmium
  - Zinc
- RW08-MW(I) (Lab ID: 30235330002)
  - Cadmium
  - Zinc
- RW08-MW(S) (Lab ID: 30235330001)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW08-MW(S)		Lab ID: 30235330001		Collected: 11/07/17 09:20		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:11	7440-43-9	1c
Zinc	<b>1600</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:11	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

<b>Sample: RW08-MW(I)</b>		<b>Lab ID: 30235330002</b>		Collected: 11/07/17 09:48		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.88J</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:13	7440-43-9	1c
Zinc	<b>21.5</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:13	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW07-MW(S)		Lab ID: 30235330003		Collected: 11/07/17 10:42		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.8</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:15	7440-43-9	1c
Zinc	<b>227</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW07-MW(I)		Lab ID: 30235330004		Collected: 11/07/17 11:27		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.1</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:18	7440-43-9	1c
Zinc	<b>1650</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:18	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW06-MW(D)		Lab ID: 30235330005		Collected: 11/07/17 12:31		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:20	7440-43-9	1c
Zinc	<b>38.7</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:20	7440-66-6	1c, D6

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW06-MW(I)		Lab ID: 30235330006		Collected: 11/07/17 13:03		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.4</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:32	7440-43-9	1c
Zinc	<b>909</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:32	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Sample: RW06-MW(S)		Lab ID: 30235330007		Collected: 11/07/17 14:04		Received: 11/07/17 23:31		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/08/17 13:11	11/09/17 22:35	7440-43-9	1c
Zinc	<b>2.3J</b>	ug/L	10.0	1.0	1	11/08/17 13:11	11/09/17 22:35	7440-66-6	1c

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

QC Batch:	278387	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30235330001, 30235330002, 30235330003, 30235330004, 30235330005, 30235330006, 30235330007		

METHOD BLANK:	1367402	Matrix:	Water
Associated Lab Samples:	30235330001, 30235330002, 30235330003, 30235330004, 30235330005, 30235330006, 30235330007		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/09/17 21:34	1c
Zinc	ug/L	10.0 U	10.0	1.0	11/09/17 21:34	1c

LABORATORY CONTROL SAMPLE: 1367403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	500	100	80-120	1c
Zinc	ug/L	500	506	101	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1367405 1367406

Parameter	Units	30235212001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	512	484	102	97	75-125	6	20	1c
Zinc	ug/L	441	500	500	931	912	98	94	75-125	2	20	1c

MATRIX SPIKE SAMPLE: 1367408

Parameter	Units	30235330005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	500	512	102	75-125	1c
Zinc	ug/L	38.7	500	553	103	75-125	1c

SAMPLE DUPLICATE: 1367404

Parameter	Units	30235212001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	1c
Zinc	ug/L	441	442	0	20	1c

SAMPLE DUPLICATE: 1367407

Parameter	Units	30235330005 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	0.90J		20	1c
Zinc	ug/L	38.7	49.4	24	20	1c, D6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 278453

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235330

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235330001	RW08-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235330002	RW08-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235330003	RW07-MW(S)	EPA 3005A	278387	EPA 6010C	278453
30235330004	RW07-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235330005	RW06-MW(D)	EPA 3005A	278387	EPA 6010C	278453
30235330006	RW06-MW(I)	EPA 3005A	278387	EPA 6010C	278453
30235330007	RW06-MW(S)	EPA 3005A	278387	EPA 6010C	278453

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# Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

Enviro Ana

Project #

30235330

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	_____
LIMS Login	<u>OR</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 2.5 °C Correction Factor: 100 °C Final Temp: 2.5 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARL 11-8-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>			1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>			2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>			3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>			4.
Sample Labels match COC:	<input checked="" type="checkbox"/>			5.
-Includes date/time/ID				
Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>			6.
Short Hold Time Analysis (<72hr remaining):		<input checked="" type="checkbox"/>		7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>			8.
Sufficient Volume:	<input checked="" type="checkbox"/>			9.
Correct Containers Used:	<input checked="" type="checkbox"/>			10.
-Pace Containers Used:	<input checked="" type="checkbox"/>			
Containers Intact:	<input checked="" type="checkbox"/>			11.
Orthophosphate field filtered			<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:			<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests			<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>ARL</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			<input checked="" type="checkbox"/>	17.
Trip Blank Present:		<input checked="" type="checkbox"/>		18.
Trip Blank Custody Seals Present			<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr			<input checked="" type="checkbox"/>	Initial when completed: _____ Date: _____

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

November 13, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235591001	RW02-MW(I)	Water	11/09/17 09:17	11/09/17 23:20
30235591002	RW02-MW(S)	Water	11/09/17 09:57	11/09/17 23:20
30235591003	RW01-MW(S)	Water	11/09/17 10:51	11/09/17 23:20
30235591004	RW01-MW(I)	Water	11/09/17 11:19	11/09/17 23:20
30235591005	RW03-MW(S)	Water	11/09/17 12:28	11/09/17 23:20
30235591006	RW03-MW(I)	Water	11/09/17 13:11	11/09/17 23:20
30235591007	RW04-MW(S)	Water	11/09/17 13:52	11/09/17 23:20
30235591008	RW21-MW(I) <span style="border: 1px solid red; padding: 2px;">Changed to RW22-MW(I)</span>	Water	11/09/17 14:39	11/09/17 23:20

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235591001	RW02-MW(I)	EPA 6010C	PJD	2
30235591002	RW02-MW(S)	EPA 6010C	PJD	2
30235591003	RW01-MW(S)	EPA 6010C	PJD	2
30235591004	RW01-MW(I)	EPA 6010C	PJD	2
30235591005	RW03-MW(S)	EPA 6010C	PJD	2
30235591006	RW03-MW(I)	EPA 6010C	PJD	2
30235591007	RW04-MW(S)	EPA 6010C	PJD	2
30235591008	RW21-MW(I) <span>Changed to RW22-MW(I)</span>	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235591

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** November 13, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW02-MW(I)		Lab ID: 30235591001		Collected: 11/09/17 09:17		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:27	7440-43-9	
Zinc	<b>38.6</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:27	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW02-MW(S)		Lab ID: 30235591002		Collected: 11/09/17 09:57		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.7</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:42	7440-43-9	
Zinc	<b>1460</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:42	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW01-MW(S)		Lab ID: 30235591003		Collected: 11/09/17 10:51		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>21.7</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:44	7440-43-9	
Zinc	<b>25200</b>	ug/L	1000	104	100	11/10/17 11:55	11/10/17 21:06	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

<b>Sample: RW01-MW(I)</b>		<b>Lab ID: 30235591004</b>		Collected: 11/09/17 11:19		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:52	7440-43-9	
Zinc	<b>29.0</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:52	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

<b>Sample: RW03-MW(S)</b>		<b>Lab ID: 30235591005</b>		Collected: 11/09/17 12:28		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>8.5</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:55	7440-43-9	
Zinc	<b>14100</b>	ug/L	1000	104	100	11/10/17 11:55	11/10/17 21:09	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW03-MW(I)		Lab ID: 30235591006		Collected: 11/09/17 13:11		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>25.2</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 20:57	7440-43-9	
Zinc	<b>1750</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 20:57	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW04-MW(S)		Lab ID: 30235591007		Collected: 11/09/17 13:52		Received: 11/09/17 23:20		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 21:00	7440-43-9	
Zinc	<b>123</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 21:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Sample: RW21-MW(I) **Changed to RW22-MW(I)** 08 Collected: 11/09/17 14:39 Received: 11/09/17 23:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.8</b>	ug/L	3.0	0.87	1	11/10/17 11:55	11/10/17 21:02	7440-43-9	
Zinc	<b>3700</b>	ug/L	10.0	1.0	1	11/10/17 11:55	11/10/17 21:02	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

QC Batch:	278700	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30235591001, 30235591002, 30235591003, 30235591004, 30235591005, 30235591006, 30235591007, 30235591008		

METHOD BLANK:	1368723	Matrix:	Water
Associated Lab Samples:	30235591001, 30235591002, 30235591003, 30235591004, 30235591005, 30235591006, 30235591007, 30235591008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/10/17 20:22	
Zinc	ug/L	10.0 U	10.0	1.0	11/10/17 20:22	

LABORATORY CONTROL SAMPLE: 1368724						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	505	101	80-120	
Zinc	ug/L	500	508	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368726											
			MS	MSD							
Parameter	Units	30235591001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD
Cadmium	ug/L	3.0 U	500	500	507	506	101	101	75-125	0	20
Zinc	ug/L	38.6	500	500	534	532	99	99	75-125	0	20

SAMPLE DUPLICATE: 1368725						
Parameter	Units	30235591001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	38.6	39.1	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235591

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235591001	RW02-MW(I)	EPA 3005A	278700	EPA 6010C	278756
30235591002	RW02-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591003	RW01-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591004	RW01-MW(I)	EPA 3005A	278700	EPA 6010C	278756
30235591005	RW03-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591006	RW03-MW(I)	EPA 3005A	278700	EPA 6010C	278756
30235591007	RW04-MW(S)	EPA 3005A	278700	EPA 6010C	278756
30235591008	RW21-MW(I)	EPA 3005A	278700	EPA 6010C	278756
	Changed to RW22-MW(I)				

## REPORT OF LABORATORY ANALYSIS

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**Section A**  
Required Client Information:  
Company: EnviroAnalytics Group  
Address: 1600 Sparrows Point Blvd, Suite B2  
Sparrows Point, MD 21219  
Email To: jcalenda@enviroanalyticsgroup.com  
Phone: 314-620-3056 Fax:  
Requested Due Date/TAT: 5 Day

**Section B**  
Required Project Information:  
Report To: James Calenda  
Copy To: Stewart Kabis  
Purchase Order No.:  
Project Name: Rod and Wire Mill GW Sampling  
Project Number: 170384M

**Section C**  
Invoice Information:  
Attention: Laura Sargent  
Company Name: EnviroAnalytics Group  
Address: 1850 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Quote Reference:  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

**Section D**  
Valid Matrix Codes  
MATRIX CODE  
DRINKING WATER DW  
WASTE WATER WW  
PRODUCT P  
SOIL/SOLID SL  
OIL OL  
WIPE WP  
AIR AR  
OTHER OT  
TISSUE TS

**Section E**  
Required Client Information  
SAMPLE ID  
(A-Z, 0-9 / -)  
Sample IDs MUST BE UNIQUE

ITEM #	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	PRESERVATIVES		Analysis Test	Total Cadmium 6010	Total Zinc 6010	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB		UNPRESERVED	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other
1	RW02-MWG	WT	G	11/9/17	11/9/17	17							001
2	RW02-MWG			0957									002
3	RW01-MWG			1057									003
4	RW01-MWG			1119									004
5	RW03-MWG			1228									005
6	RW03-MWG			1311									006
7	RW04-MWG			1352									007
8	RW04-MWG			1437									008
9													
10													
11													
12													

**Section F**  
Requested Analysis Filtered (Y/N)

**Section G**  
SAMPLE CONDITIONS

Temp in °C  
Received on  
Ice (Y/N)  
Cooler (Y/N)  
Custody Sealed  
Samples Intact (Y/N)

**Section H**  
ADDITIONAL COMMENTS

**Section I**  
RELINQUISHED BY / AFFILIATION

**Section J**  
DATE

**Section K**  
TIME

**Section L**  
ACCEPTED BY / AFFILIATION

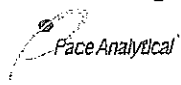
**Section M**  
DATE

**Section N**  
TIME

**Section O**  
SAMPLE NAME AND SIGNATURE

PRINT Name of SAMPLER: Leandra M Blum  
SIGNATURE of SAMPLER: Leandra Blum  
DATE Signed (MM/DD/YY): 11/09/17

# Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna

Project # 30235591

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label <u>AM</u>
LIMS Login <u>BLM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.2 °C Correction Factor: 10.0 °C Final Temp: 22 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 11-10-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>W</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

November 16, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30235926

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on November 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30235926001	RW22-MW(S) <span>Changed to RW05-MW(S)</span>		11/13/17 22:50	11/13/17 22:50
30235926002	RW22-MW(I) <span>Changed to RW05-MW(I)</span>		11/13/17 22:50	11/13/17 22:50
30235926003	RW19-MW(S)	Water	11/13/17 09:55	11/13/17 22:50
30235926004	RW19-MW(I)	Water	11/13/17 10:15	11/13/17 22:50

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30235926001	RW22-MW(S)	Changed to RW05-MW(S)	CTS	2
30235926002	RW22-MW(I)	Changed to RW05-MW(I)	CTS	2
30235926003	RW19-MW(S)	EPA 6010C	CTS	2
30235926004	RW19-MW(I)	EPA 6010C	CTS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 16, 2017

### General Information:

4 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

SD for 30235926-001 failed for Zn.

- QC Batch: 279206

Analyte Comments:

QC Batch: 279112

1c: SD for 30235926-001 failed for Zn.

- BLANK (Lab ID: 1370679)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1370681)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** November 16, 2017

Analyte Comments:

QC Batch: 279112

1c: SD for 30235926-001 failed for Zn.

- LCS (Lab ID: 1370680)
  - Cadmium
  - Zinc
- MS (Lab ID: 1370682)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1370683)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30235926004)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30235926003)
  - Cadmium
  - Zinc
- RW22-MW(I) (Lab ID: 30235926002)
  - Cadmium
  - Zinc
- RW22-MW(S) (Lab ID: 30235926001)
  - Cadmium
  - Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW22-MW(S) **Changed to RW05-MW(S)** 3/17 10:20 Received: 11/13/17 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	11/15/17 07:47	11/16/17 12:52	7440-43-9	1c
Zinc	<b>503</b>	ug/L	10.0	1.0	1	11/15/17 07:47	11/16/17 12:52	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW22-MW(I) **Changed to RW05-MW(I)**

11/13/17 10:48 Received: 11/13/17 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b> Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>4.9</b>	ug/L	3.0	0.87	1	11/15/17 07:47	11/16/17 13:06	7440-43-9	1c
Zinc	<b>502</b>	ug/L	10.0	1.0	1	11/15/17 07:47	11/16/17 13:06	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW19-MW(S)		Lab ID: 30235926003		Collected: 11/13/17 09:55		Received: 11/13/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.4</b>	ug/L	3.0	0.87	1	11/15/17 07:47	11/16/17 13:08	7440-43-9	1c
Zinc	<b>2730</b>	ug/L	10.0	1.0	1	11/15/17 07:47	11/16/17 13:08	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Sample: RW19-MW(I)		Lab ID: 30235926004		Collected: 11/13/17 10:15		Received: 11/13/17 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1770</b>	ug/L	300	87.0	100	11/15/17 07:47	11/16/17 13:22	7440-43-9	1c
Zinc	<b>3400000</b>	ug/L	100000	10400	10000	11/15/17 07:47	11/16/17 13:27	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

QC Batch: 279112 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30235926001, 30235926002, 30235926003, 30235926004

METHOD BLANK: 1370679 Matrix: Water  
Associated Lab Samples: 30235926001, 30235926002, 30235926003, 30235926004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	11/16/17 12:47	1c
Zinc	ug/L	10.0 U	10.0	1.0	11/16/17 12:47	1c

LABORATORY CONTROL SAMPLE: 1370680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	495	99	80-120	1c
Zinc	ug/L	500	495	99	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1370682 1370683

Parameter	Units	30235926001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	501	503	100	100	75-125	0	20	1c
Zinc	ug/L	503	500	500	978	989	95	97	75-125	1	20	1c

SAMPLE DUPLICATE: 1370681

Parameter	Units	30235926001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	1c
Zinc	ug/L	503	491	2	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 279206

[1] SD for 30235926-001 failed for Zn.

### ANALYTE QUALIFIERS

1c SD for 30235926-001 failed for Zn.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30235926

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30235926001	RW22-MW(S)	Changed to RW05-MW(S)	12	EPA 6010C	279206
30235926002	RW22-MW(I)	Changed to RW05-MW(I)	12	EPA 6010C	279206
30235926003	RW19-MW(S)	EPA 3005A	279112	EPA 6010C	279206
30235926004	RW19-MW(I)	EPA 3005A	279112	EPA 6010C	279206

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

## Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-620-3056

Requested Due Date/TAT: 5 Day

## Section B

Required Project Information:

Report To: James Calenda

Copy To: Stewart Kabis

Purchase Order No.:

Project Name: Rod and Wire Mill GW Sampling

Project Number: 1703884M

## Section C

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St Louis, MO 63131

Pace Quote Reference:

Pace Project Manager: Samantha Bayura

Pace Profile #:

## REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE: MD

Page: 1 of 1

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WIP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Total Cadmium 6010	Total Zinc 6010	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE ENDIGRAS			DATE	TIME	DATE	TIME	UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>					
1	RW222-MW(5)		216			11/13/17	1030		1								X	X	001	
2	RW222-MW(1)					11/13/17	1048		1								X	X	002	
3	RW19-MW(5)					11/13/17	1955		1								X	X	003	
4	RW19-MW(1)					11/13/17	1015		1								X	X	004	
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

WO#: 30235926

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Leandra M Glynac	11/13/17	1635	David F. Hilligoss	11/13/17	1635	
	David F. Hilligoss	11/13/17	1930	Leandra M Glynac	11/13/17	1930	
	Leandra M Glynac	11/13/17	2250	David F. Hilligoss	11/13/17	2250	

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Y	N	Y

## SAMPLER NAME AND SIGNATURE

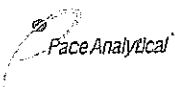
PRINT Name of SAMPLER: Leandra M Glynac

SIGNATURE of SAMPLER: Leandra M Glynac

DATE Signed

(MM/DD/YY): 11/13/17

# Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

EnviroAng

Project #

**30235926**

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Thermometer Used 8

Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.5/2.9 °C Correction Factor: 10.0 °C Final Temp: 3.5/2.9 °C

Temp should be above freezing to 6°C

Label	<u>AM</u>
LIMS Login	<u>AM</u>

Comments:

Yes	No	N/A
-----	----	-----

Date and Initials of person examining contents: AM 11-14-17

Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Matrix: <u>WT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AM</u>
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed:
				Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

October 09, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231695001	RW06-MW(D)	Water	10/02/17 10:59	10/02/17 23:00
30231695002	RW06-MW(I)	Water	10/02/17 11:22	10/02/17 23:00
30231695003	RW06-MW(S)	Water	10/02/17 11:52	10/02/17 23:00
30231695004	RW03-MW(S)	Water	10/02/17 12:48	10/02/17 23:00
30231695005	RW03-MW(I)	Water	10/02/17 13:09	10/02/17 23:00
30231695006	RW04-MW(S)	Water	10/02/17 14:00	10/02/17 23:00
30231695007	RW16-MW(I)	Water	10/02/17 14:47	10/02/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231695001	RW06-MW(D)	EPA 6010C	KAS	2
30231695002	RW06-MW(I)	EPA 6010C	KAS	2
30231695003	RW06-MW(S)	EPA 6010C	KAS	2
30231695004	RW03-MW(S)	EPA 6010C	KAS	2
30231695005	RW03-MW(I)	EPA 6010C	KAS	2
30231695006	RW04-MW(S)	EPA 6010C	KAS	2
30231695007	RW16-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231695

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** October 09, 2017

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 274448

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231695001,30231822004

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1349864)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW06-MW(D)		Lab ID: 30231695001		Collected: 10/02/17 10:59		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:21	7440-43-9	
Zinc	<b>29.0</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:21	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

<b>Sample: RW06-MW(I)</b>		<b>Lab ID: 30231695002</b>		Collected: 10/02/17 11:22		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>4.2</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:36	7440-43-9	
Zinc	<b>615</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:36	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW06-MW(S)		Lab ID: 30231695003		Collected: 10/02/17 11:52		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:38	7440-43-9	
Zinc	<b>2.4J</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:38	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

<b>Sample: RW03-MW(S)</b>		<b>Lab ID: 30231695004</b>		Collected: 10/02/17 12:48		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.0</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:46	7440-43-9	
Zinc	<b>32100</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:25	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

<b>Sample: RW03-MW(I)</b>		<b>Lab ID: 30231695005</b>	Collected: 10/02/17 13:09	Received: 10/02/17 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>20.2</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:48	7440-43-9	
Zinc	<b>1810</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:48	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW04-MW(S)		Lab ID: 30231695006		Collected: 10/02/17 14:00		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:51	7440-43-9	
Zinc	<b>137</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:51	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Sample: RW16-MW(I)		Lab ID: 30231695007		Collected: 10/02/17 14:47		Received: 10/02/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:53	7440-43-9	
Zinc	<b>2000</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 19:53	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

QC Batch:	274448	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30231695001, 30231695002, 30231695003, 30231695004, 30231695005, 30231695006, 30231695007			

METHOD BLANK:	1349858	Matrix:	Water
Associated Lab Samples: 30231695001, 30231695002, 30231695003, 30231695004, 30231695005, 30231695006, 30231695007			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/06/17 19:17	
Zinc	ug/L	10.0 U	10.0	1.0	10/06/17 19:17	

LABORATORY CONTROL SAMPLE: 1349859						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	469	94	80-120	
Zinc	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349861 1349862												
Parameter	Units	30231695001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	480	474	96	95	75-125	1	20	
Zinc	ug/L	29.0	500	500	511	505	96	95	75-125	1	20	

MATRIX SPIKE SAMPLE: 1349864							
Parameter	Units	30231822004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	10.6	500	475	93	75-125	
Zinc	ug/L	8310	500	8470	32	75-125 ML	

SAMPLE DUPLICATE: 1349860						
Parameter	Units	30231695001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	29.0	29.1	0	20	

SAMPLE DUPLICATE: 1349863						
Parameter	Units	30231822004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	10.6	10.4	2	20	
Zinc	ug/L	8310	8350	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231695

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30231695001	RW06-MW(D)	EPA 3005A	274448	EPA 6010C	274531
30231695002	RW06-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231695003	RW06-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231695004	RW03-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231695005	RW03-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231695006	RW04-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231695007	RW16-MW(I)	EPA 3005A	274448	EPA 6010C	274531

## REPORT OF LABORATORY ANALYSIS

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**Section A**

Required Client Information:

Company: EnviroAnalytics Group

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-620-3056 Fax:

Requested Due Date/TAT: 5 Day

**Section B**

Required Project Information:

Report To: James Calenda

Copy To: Stewart Kabis

Purchase Order No.:

Project Name: Rod and Wire Mill GW Sampling

Project Number: 130384M

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote

Reference:

Pace Project Manager: Samantha Bayura

Pace Profile #:

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

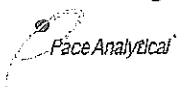
STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WASTE WATER WV PRODUCT P SL OIL CL WIPE AIR OTHER TISSUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	Preservatives							Analysis Test ↑ W ↑	Requested Analysis Filtered (Y/N)							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME		Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other									
1	RW06-MW(I)				10/6/17	1059			1			X						X								001
2	RW06-MW(I)					1122			1			X						X								002
3	RW06-MW(S)					1152			1			X						X								003
4	RW03-MW(S)					1248			1			X						X								004
5	RW03-MW(I)					1309			1			X						X								005
6	RW04-MW(S)					1400			1			X						X								006
7	RW11-MW(I)					1447			1			X						X								007
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
							Ice (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
Shawna D. Allen	David Y. Hildgren	10/2/17	1515	David Y. Hildgren	10/2/17	1515			
David Y. Hildgren	David Y. Hildgren	10/2/17	1903	David Y. Hildgren	10/2/17	1915			
	Whitney Rose Pace	10/2/17	2300	Whitney Rose Pace	10/2/17	2300	Y	Y	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Leandra M. Glumac	DATE Signed (MM/DD/YY): 10/2/17				
SIGNATURE of SAMPLER: Leandra M. Glumac					

## Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

EnviroAna.

Project #

30231695

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

 Label AM  
 LIMS Login Bum
Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 6 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 3.7 °C Correction Factor: 10.0 °C Final Temp: 3.7 °C

Temp should be above freezing to 6°C

 Date and Initials of person examining  
 contents: AM 10-3-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>W</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

October 09, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231822001	RW11-MW(S)	Water	10/03/17 10:23	10/03/17 23:30
30231822002	RW11-MW(I)	Water	10/03/17 10:50	10/03/17 23:30
30231822003	RW09-MW(I)	Water	10/03/17 11:22	10/03/17 23:30
30231822004	RW09-MW(S)	Water	10/03/17 11:49	10/03/17 23:30
30231822005	RW08-MW(S)	Water	10/03/17 12:56	10/03/17 23:30
30231822006	RW08-MW(I)	Water	10/03/17 13:24	10/03/17 23:30
30231822007	RW07-MW(I)	Water	10/03/17 14:10	10/03/17 23:30
30231822008	RW07-MW(S)	Water	10/03/17 14:55	10/03/17 23:30

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231822001	RW11-MW(S)	EPA 6010C	KAS	2
30231822002	RW11-MW(I)	EPA 6010C	KAS	2
30231822003	RW09-MW(I)	EPA 6010C	KAS	2
30231822004	RW09-MW(S)	EPA 6010C	KAS	2
30231822005	RW08-MW(S)	EPA 6010C	KAS	2
30231822006	RW08-MW(I)	EPA 6010C	KAS	2
30231822007	RW07-MW(I)	EPA 6010C	KAS	2
30231822008	RW07-MW(S)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231822

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** October 09, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 274448

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231695001,30231822004

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1349864)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW11-MW(S)		Lab ID: 30231822001		Collected: 10/03/17 10:23		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:56	7440-43-9	
Zinc	<b>9270</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW11-MW(I)		Lab ID: 30231822002		Collected: 10/03/17 10:50		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>125</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 19:58	7440-43-9	
Zinc	<b>111000</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:30	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW09-MW(I)		Lab ID: 30231822003		Collected: 10/03/17 11:22		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>12.0</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:01	7440-43-9	
Zinc	<b>49700</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:32	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW09-MW(S)		Lab ID: 30231822004		Collected: 10/03/17 11:49		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.6</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:03	7440-43-9	
Zinc	<b>8310</b>	ug/L	1000	104	100	10/06/17 08:42	10/06/17 20:35	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Sample: RW08-MW(S)		Lab ID: 30231822005	Collected: 10/03/17 12:56	Received: 10/03/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.96J</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:15	7440-43-9	
Zinc	<b>1950</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:15	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

<b>Sample: RW08-MW(I)</b>		<b>Lab ID: 30231822006</b>		Collected: 10/03/17 13:24		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:17	7440-43-9	
Zinc	<b>16.9</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:17	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

<b>Sample: RW07-MW(I)</b>		<b>Lab ID: 30231822007</b>		Collected: 10/03/17 14:10		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:20	7440-43-9	
Zinc	<b>23.4</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

<b>Sample: RW07-MW(S)</b>		<b>Lab ID: 30231822008</b>		Collected: 10/03/17 14:55		Received: 10/03/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.2</b>	ug/L	3.0	0.87	1	10/06/17 08:42	10/06/17 20:22	7440-43-9	
Zinc	<b>144</b>	ug/L	10.0	1.0	1	10/06/17 08:42	10/06/17 20:22	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

QC Batch:	274448	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30231822001, 30231822002, 30231822003, 30231822004, 30231822005, 30231822006, 30231822007, 30231822008		

METHOD BLANK:	1349858	Matrix:	Water
Associated Lab Samples:	30231822001, 30231822002, 30231822003, 30231822004, 30231822005, 30231822006, 30231822007, 30231822008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/06/17 19:17	
Zinc	ug/L	10.0 U	10.0	1.0	10/06/17 19:17	

LABORATORY CONTROL SAMPLE: 1349859						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	469	94	80-120	
Zinc	ug/L	500	483	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349861 1349862												
Parameter	Units	30231695001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	480	474	96	95	75-125	1	20	
Zinc	ug/L	29.0	500	500	511	505	96	95	75-125	1	20	

MATRIX SPIKE SAMPLE: 1349864							
Parameter	Units	30231822004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	10.6	500	475	93	75-125	
Zinc	ug/L	8310	500	8470	32	75-125 ML	

SAMPLE DUPLICATE: 1349860						
Parameter	Units	30231695001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	29.0	29.1	0	20	

SAMPLE DUPLICATE: 1349863						
Parameter	Units	30231822004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	10.6	10.4	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

SAMPLE DUPLICATE: 1349863

Parameter	Units	30231822004 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	8310	8350	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231822

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30231822001	RW11-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231822002	RW11-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822003	RW09-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822004	RW09-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231822005	RW08-MW(S)	EPA 3005A	274448	EPA 6010C	274531
30231822006	RW08-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822007	RW07-MW(I)	EPA 3005A	274448	EPA 6010C	274531
30231822008	RW07-MW(S)	EPA 3005A	274448	EPA 6010C	274531

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Client Name: EnviroAna

Project # \_\_\_\_\_

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

 Label COC  
 LIMS Login ANV
Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 6 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 2.9 °C Correction Factor: 10.0 °C Final Temp: 2.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 10-4-17

Comments: \_\_\_\_\_

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AMC</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		X	X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

October 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30231962

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30231962001	RW19-MW(S)	Water	10/04/17 09:32	10/04/17 23:30
30231962002	RW19-MW(I)	Water	10/04/17 09:56	10/04/17 23:30
30231962003	RW21-MW(I)	Water	10/04/17 10:33	10/04/17 23:30
30231962004	RW02-MW(I)	Water	10/04/17 11:29	10/04/17 23:30
30231962005	RW02-MW(S)	Water	10/04/17 12:12	10/04/17 23:30
30231962006	RW01-MW(S)	Water	10/04/17 13:06	10/04/17 23:30
30231962007	RW01-MW(I)	Water	10/04/17 13:48	10/04/17 23:30
30231962008	RW22-MW(S)	Water	10/04/17 14:33	10/04/17 23:30
30231962009	RW22-MW(I)	Water	10/04/17 15:09	10/04/17 23:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30231962001	RW19-MW(S)	EPA 6010C	KAS	2
30231962002	RW19-MW(I)	EPA 6010C	KAS	2
30231962003	RW21-MW(I)	EPA 6010C	KAS	2
30231962004	RW02-MW(I)	EPA 6010C	KAS	2
30231962005	RW02-MW(S)	EPA 6010C	KAS	2
30231962006	RW01-MW(S)	EPA 6010C	KAS	2
30231962007	RW01-MW(I)	EPA 6010C	KAS	2
30231962008	RW22-MW(S)	EPA 6010C	KAS	2
30231962009	RW22-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** October 11, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 274811

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231962001,30232321002

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1351542)
  - Zinc
- MSD (Lab ID: 1351540)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW19-MW(S)		Lab ID: 30231962001		Collected: 10/04/17 09:32		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.2</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 18:37	7440-43-9	
Zinc	<b>18700</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:00	7440-66-6	ML

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

<b>Sample: RW19-MW(I)</b>		<b>Lab ID: 30231962002</b>		Collected: 10/04/17 09:56		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1710</b>	ug/L	300	87.0	100	10/10/17 09:46	10/10/17 20:15	7440-43-9	
Zinc	<b>3670000</b>	ug/L	10000	1040	1000	10/10/17 09:46	10/10/17 21:00	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW21-MW(I)		Lab ID: 30231962003		Collected: 10/04/17 10:33		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 18:54	7440-43-9	
Zinc	<b>16100</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:17	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW02-MW(I)		Lab ID: 30231962004		Collected: 10/04/17 11:29		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.4J</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:04	7440-43-9	
Zinc	<b>290</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:04	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW02-MW(S)		Lab ID: 30231962005		Collected: 10/04/17 12:12		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>9.1</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:06	7440-43-9	
Zinc	<b>5490</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW01-MW(S)		Lab ID: 30231962006		Collected: 10/04/17 13:06		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:08	7440-43-9	
Zinc	<b>7730</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:22	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

<b>Sample: RW01-MW(I)</b>		<b>Lab ID: 30231962007</b>		Collected: 10/04/17 13:48		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>145</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:11	7440-43-9	
Zinc	<b>13700</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:30	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW22-MW(S)		Lab ID: 30231962008		Collected: 10/04/17 14:33		Received: 10/04/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:13	7440-43-9	
Zinc	<b>1410</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Sample: RW22-MW(I)		Lab ID: 30231962009	Collected: 10/04/17 15:09	Received: 10/04/17 23:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.2</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:16	7440-43-9	
Zinc	<b>349</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:16	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

QC Batch:	274811	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30231962001, 30231962002, 30231962003, 30231962004, 30231962005, 30231962006, 30231962007, 30231962008, 30231962009		

METHOD BLANK:	1351536	Matrix:	Water
Associated Lab Samples:	30231962001, 30231962002, 30231962003, 30231962004, 30231962005, 30231962006, 30231962007, 30231962008, 30231962009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/10/17 18:33	
Zinc	ug/L	10.0 U	10.0	1.0	10/10/17 18:33	

LABORATORY CONTROL SAMPLE: 1351537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	521	104	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351539 1351540

Parameter	Units	30231962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	5.2	500	500	536	540	106	107	75-125	1	20	
Zinc	ug/L	18700	500	500	19200	19100	88	70	75-125	0	20 ML	

MATRIX SPIKE SAMPLE: 1351542

Parameter	Units	30232321002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1510	500	1920	83	75-125	
Zinc	ug/L	150000	500	143000	-1500	75-125 ML	

SAMPLE DUPLICATE: 1351538

Parameter	Units	30231962001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	5.2	5.8	11	20	
Zinc	ug/L	18700	19000	2	20	

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1510	1480	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	150000	147000	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30231962

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30231962001	RW19-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962002	RW19-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962003	RW21-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962004	RW02-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962005	RW02-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962006	RW01-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962007	RW01-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30231962008	RW22-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30231962009	RW22-MW(I)	EPA 3005A	274811	EPA 6010C	274905

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-LOG# : 30231962

The Chain-of-C



30231962

Page: 1 of 1

ment  
durately.

Section A  
Required Client Information:

Company: EnviroAnalytics Group

Report To: James Calenda

Copy To: Stewart Kabis

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-620-3056

Project Name: Rod and Wire Mill GW Sampling

Project Number: 170384M

Requested Due Date/TAT: 5 Day

Section B  
Required Project Information:

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference:

Pace Project Manager: Samantha Bayura

Pace Profile #:

Attention: Laura Sargent

REGULATORY AGENCY

NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐

UST ☐ RCRA ☐ OTHER ☐

Site Location

STATE: MD

Requested Analysis Filtered (Y/N)

Residual Chlorine (Y/N)

Pace Project No./ Lab I.D.

Analysis Test

Total Cadmium 6010

Total Zinc 6010

Preservatives

Unpreserved

H<sub>2</sub>SO<sub>4</sub>

HNO<sub>3</sub>

HCl

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

Methanol

Other

# OF CONTAINERS

SAMPLE TEMP AT COLLECTION

COLLECTED

COMPOSITE START

COMPOSITE END/GRAB

DATE

TIME

DATE

TIME

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

Y N Y

Received on

Temp in °C

Cooler (Y/N)

Custody Sealed

Samples Intact (Y/N)

Print Name of SAMPLER: Leandra M. Glunas

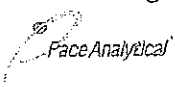
Signature of SAMPLER: Leandra M. Glunas

DATE Signed (MM/DD/YYYY): 10/04/17

Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Page 19 of 20

# Pittsburgh Lab Sample Condition Upon Receipt



Client Name: EnviroAna Project # 30231962

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Label <u>76</u>
LIMS Login <u>BUM</u>

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 8 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.9 °C Correction Factor: 10.0 °C Final Temp: 3.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 10-5-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

October 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30232321001	RW12-MW(S)	Water	10/06/17 09:28	10/06/17 23:00
30232321002	RW12-MW(I)	Water	10/06/17 10:05	10/06/17 23:00
30232321003	RW18-MW(S)	Water	10/06/17 10:58	10/06/17 23:00
30232321004	RW18-MW(I)	Water	10/06/17 11:30	10/06/17 23:00
30232321005	RW16-MW(S)	Water	10/06/17 12:05	10/06/17 23:00
30232321006	RW10-MW(I)	Water	10/06/17 13:22	10/06/17 23:00
30232321007	RW13-MW(I)	Water	10/06/17 14:12	10/06/17 23:00
30232321008	RW14-MW(S)	Water	10/06/17 14:58	10/06/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30232321001	RW12-MW(S)	EPA 6010C	KAS	2
30232321002	RW12-MW(I)	EPA 6010C	KAS	2
30232321003	RW18-MW(S)	EPA 6010C	KAS	2
30232321004	RW18-MW(I)	EPA 6010C	KAS	2
30232321005	RW16-MW(S)	EPA 6010C	KAS	2
30232321006	RW10-MW(I)	EPA 6010C	KAS	2
30232321007	RW13-MW(I)	EPA 6010C	KAS	2
30232321008	RW14-MW(S)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232321

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** October 11, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 274811

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30231962001,30232321002

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1351542)
  - Zinc
- MSD (Lab ID: 1351540)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW12-MW(S)		Lab ID: 30232321001		Collected: 10/06/17 09:28		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.3</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:18	7440-43-9	
Zinc	<b>3790</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 19:18	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW12-MW(I)		Lab ID: 30232321002		Collected: 10/06/17 10:05		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1510</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:21	7440-43-9	
Zinc	<b>150000</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:32	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW18-MW(S)		Lab ID: 30232321003		Collected: 10/06/17 10:58		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>306</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:36	7440-43-9	
Zinc	<b>14500</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:40	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW18-MW(I)		Lab ID: 30232321004		Collected: 10/06/17 11:30		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>43.7</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:38	7440-43-9	
Zinc	<b>393000</b>	ug/L	10000	1040	1000	10/10/17 09:46	10/10/17 21:02	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW16-MW(S)		Lab ID: 30232321005		Collected: 10/06/17 12:05		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 20:53	7440-43-9	
Zinc	<b>26.2</b>	ug/L	10.0	1.0	1	10/10/17 09:46	10/10/17 20:53	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW10-MW(I)		Lab ID: 30232321006		Collected: 10/06/17 13:22		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>24.6</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:43	7440-43-9	
Zinc	<b>31000</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:44	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

<b>Sample: RW13-MW(I)</b>		<b>Lab ID: 30232321007</b>		Collected: 10/06/17 14:12		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>28700</b>	ug/L	300	87.0	100	10/10/17 09:46	10/10/17 20:47	7440-43-9	
Zinc	<b>204000</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:47	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Sample: RW14-MW(S)		Lab ID: 30232321008		Collected: 10/06/17 14:58		Received: 10/06/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1750</b>	ug/L	3.0	0.87	1	10/10/17 09:46	10/10/17 19:48	7440-43-9	
Zinc	<b>28900</b>	ug/L	1000	104	100	10/10/17 09:46	10/10/17 20:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

QC Batch:	274811	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30232321001, 30232321002, 30232321003, 30232321004, 30232321005, 30232321006, 30232321007, 30232321008		

METHOD BLANK:	1351536	Matrix:	Water
Associated Lab Samples:	30232321001, 30232321002, 30232321003, 30232321004, 30232321005, 30232321006, 30232321007, 30232321008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/10/17 18:33	
Zinc	ug/L	10.0 U	10.0	1.0	10/10/17 18:33	

LABORATORY CONTROL SAMPLE: 1351537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	521	104	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1351539 1351540

Parameter	Units	30231962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	5.2	500	500	536	540	106	107	75-125	1	20	
Zinc	ug/L	18700	500	500	19200	19100	88	70	75-125	0	20 ML	

MATRIX SPIKE SAMPLE: 1351542

Parameter	Units	30232321002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	1510	500	1920	83	75-125	
Zinc	ug/L	150000	500	143000	-1500	75-125 ML	

SAMPLE DUPLICATE: 1351538

Parameter	Units	30231962001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	5.2	5.8	11	20	
Zinc	ug/L	18700	19000	2	20	

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1510	1480	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

SAMPLE DUPLICATE: 1351541

Parameter	Units	30232321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	150000	147000	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232321

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30232321001	RW12-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30232321002	RW12-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321003	RW18-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30232321004	RW18-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321005	RW16-MW(S)	EPA 3005A	274811	EPA 6010C	274905
30232321006	RW10-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321007	RW13-MW(I)	EPA 3005A	274811	EPA 6010C	274905
30232321008	RW14-MW(S)	EPA 3005A	274811	EPA 6010C	274905

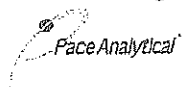
## REPORT OF LABORATORY ANALYSIS

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## Pittsburgh Lab Sample Condition Upon Receipt

30 232321



Client Name:

Sparrows

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	ARM
LIMS Login	ARM

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no

 Seals intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.9 °C Correction Factor: 10.0 °C Final Temp: 2.9 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: ARM 10/17/17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID				
Matrix:			INT	
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	/			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed ARM
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed:
				Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

October 16, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30232421

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30232421001	RW20-MW(S)	Water	10/09/17 09:56	10/09/17 23:25
30232421002	RW20-MW(I)	Water	10/09/17 10:44	10/09/17 23:25

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30232421001	RW20-MW(S)	EPA 6010C	PJD	2
30232421002	RW20-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** October 16, 2017

### General Information:

2 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Sample: RW20-MW(S)		Lab ID: 30232421001		Collected: 10/09/17 09:56		Received: 10/09/17 23:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>25.3</b>	ug/L	3.0	0.87	1	10/12/17 09:53	10/12/17 21:35	7440-43-9	
Zinc	<b>900</b>	ug/L	10.0	1.0	1	10/12/17 09:53	10/12/17 21:35	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Sample: RW20-MW(I)		Lab ID: 30232421002		Collected: 10/09/17 10:44		Received: 10/09/17 23:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	10/12/17 09:53	10/12/17 21:49	7440-43-9	
Zinc	<b>295</b>	ug/L	10.0	1.0	1	10/12/17 09:53	10/12/17 21:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

QC Batch:	275157	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30232421001, 30232421002			

METHOD BLANK: 1352935 Matrix: Water

Associated Lab Samples: 30232421001, 30232421002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	10/12/17 21:30	
Zinc	ug/L	10.0 U	10.0	1.0	10/12/17 21:30	

LABORATORY CONTROL SAMPLE: 1352936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	488	98	80-120	
Zinc	ug/L	500	488	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352938 1352939

Parameter	Units	30232421001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	25.3	500	500	531	533	101	101	75-125	0	20	
Zinc	ug/L	900	500	500	1380	1390	96	99	75-125	1	20	

SAMPLE DUPLICATE: 1352937

Parameter	Units	30232421001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	25.3	24.8	2	20	
Zinc	ug/L	900	888	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30232421

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30232421001	RW20-MW(S)	EPA 3005A	275157	EPA 6010C	275267
30232421002	RW20-MW(I)	EPA 3005A	275157	EPA 6010C	275267

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

## Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrrows Point, MD 21219

Email To: [lcalden@enviroanalyticsgroup.com](mailto:lcalden@enviroanalyticsgroup.com)

Phone: 314-620-3066 Fax:

Requested Due Date/TAT: 5 Day

## Section B

Required Project Information:

Report To: James Calenda

Copy To: Stewart Kabis

Purchase Order No.:

Project Name: Rod and Wire Mill GW Sampling

Project Number: 170384M

## Section C

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference:

Pace Project Manager: Samantha Bayura

Pace Profile #:

## Section D

Required Client Information

Valid Matrix Codes

MATRIX CODE

DRINKING WATER DW

WASTE WATER WT

PRODUCT P

SOILSOLID SL

OIL OL

WIPE WP

AIR AR

OTHER OT

TISSUE TS

Sample ID

(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Section D

Required Client Information

Valid Matrix Codes

MATRIX CODE

DRINKING WATER DW

WASTE WATER WT

PRODUCT P

SOILSOLID SL

OIL OL

WIPE WP

AIR AR

OTHER OT

TISSUE TS

Sample ID

(A-Z, 0-9 / -)

Sample IDs MUST BE UNIQUE

Section D

Required Client Information

Valid Matrix Codes

MATRIX CODE

DRINKING WATER DW

WASTE WATER WT

PRODUCT P

SOILSOLID SL

Page: 1 of 1

REGULATORY AGENCY

NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐

UST ☐ RCRA ☐ OTHER ☐

Site Location

STATE: MD

Requested Analysis Filtered (Y/N)

WO#: 30232421

30232421

Residual

Pace Project No./ Lab I.D.

001

002

003

004

005

006

007

008

009

010

011

012

013

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024

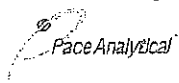
025

026

027

028

029



Client Name:

EnviroAna

Project #

30232421

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	74
LIMS Login	ANN

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

3.8 °C

Correction Factor: 10.0 °C

Final Temp: 3.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 10-10-17

Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed AM Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present			X	
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

September 08, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229013

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229013001	RW06-MW (D)	Water	09/01/17 11:28	09/01/17 22:15
30229013002	RW06-MW (I)	Water	09/01/17 11:50	09/01/17 22:15
30229013003	RW06-MW (S)	Water	09/01/17 12:33	09/01/17 22:15
30229013004	RW03-MW (S)	Water	09/01/17 13:27	09/01/17 22:15
30229013005	RW03-MW (I)	Water	09/01/17 14:00	09/01/17 22:15
30229013006	RW04-MW (S)	Water	09/01/17 14:55	09/01/17 22:15

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229013001	RW06-MW (D)	EPA 6010C	PJD	2
30229013002	RW06-MW (I)	EPA 6010C	PJD	2
30229013003	RW06-MW (S)	EPA 6010C	PJD	2
30229013004	RW03-MW (S)	EPA 6010C	PJD	2
30229013005	RW03-MW (I)	EPA 6010C	PJD	2
30229013006	RW04-MW (S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 08, 2017

**General Information:**

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW06-MW (D)		Lab ID: 30229013001	Collected: 09/01/17 11:28	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.85J</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 18:44	7440-43-9	
Zinc	<b>20.3</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 18:44	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

<b>Sample: RW06-MW (I)</b>		<b>Lab ID: 30229013002</b>	Collected: 09/01/17 11:50	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.5</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 18:58	7440-43-9	
Zinc	<b>508</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 18:58	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW06-MW (S)		Lab ID: 30229013003		Collected: 09/01/17 12:33		Received: 09/01/17 22:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:00	7440-43-9	
Zinc	<b>10.0 U</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 19:00	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW03-MW (S)		Lab ID: 30229013004		Collected: 09/01/17 13:27		Received: 09/01/17 22:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>8.4</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:08	7440-43-9	
Zinc	<b>16300</b>	ug/L	1000	108	100	09/06/17 08:24	09/07/17 19:21	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW03-MW (I)		Lab ID: 30229013005	Collected: 09/01/17 14:00	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>214</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:10	7440-43-9	
Zinc	<b>9340</b>	ug/L	100	10.8	10	09/06/17 08:24	09/07/17 19:23	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Sample: RW04-MW (S)		Lab ID: 30229013006	Collected: 09/01/17 14:55	Received: 09/01/17 22:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.71J</b>	ug/L	3.0	0.34	1	09/06/17 08:24	09/07/17 19:12	7440-43-9	
Zinc	<b>163</b>	ug/L	10.0	1.1	1	09/06/17 08:24	09/07/17 19:12	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

QC Batch:	270606	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30229013001, 30229013002, 30229013003, 30229013004, 30229013005, 30229013006			

METHOD BLANK:	1331586	Matrix:	Water
Associated Lab Samples: 30229013001, 30229013002, 30229013003, 30229013004, 30229013005, 30229013006			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/07/17 18:39	
Zinc	ug/L	10.0 U	10.0	1.1	09/07/17 18:39	

LABORATORY CONTROL SAMPLE: 1331587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	524	105	80-120	
Zinc	ug/L	500	520	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1331589 1331590

Parameter	Units	30229013001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	0.85J	500	500	532	525	106	105	75-125	1	20	
Zinc	ug/L	20.3	500	500	535	530	103	102	75-125	1	20	

SAMPLE DUPLICATE: 1331588

Parameter	Units	30229013001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.85J	0.96J		20	
Zinc	ug/L	20.3	19.2	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229013

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229013001	RW06-MW (D)	EPA 3005A	270606	EPA 6010C	270721
30229013002	RW06-MW (I)	EPA 3005A	270606	EPA 6010C	270721
30229013003	RW06-MW (S)	EPA 3005A	270606	EPA 6010C	270721
30229013004	RW03-MW (S)	EPA 3005A	270606	EPA 6010C	270721
30229013005	RW03-MW (I)	EPA 3005A	270606	EPA 6010C	270721
30229013006	RW04-MW (S)	EPA 3005A	270606	EPA 6010C	270721

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Page:      of	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent	<b>REGULATORY AGENCY</b> <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group		
	Sparrows Point, MD 21219			Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131		
Email To:	icalenda@enviroanalyticsgroup.com	Purchase Order No.:		Pace Quote Reference:		<b>Site Location</b> STATE:	
Phone:	314-620-3056	Project Name:	Road and Wire Mill GW Sampling	Pace Project Manager:	Samantha Bayura		
Fax:		Project Number:		Pace Profile #:			
Requested Due Date/TAT:		5 Day					

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	David L. Hilliges, Inc.	9/1/17	1815	David L. Hilliges, Inc.	9/1/17	22:05								
	David L. Hilliges, Inc.	9/1/17	22:15	David L. Hilliges, Inc.	9/1/17	22:05								
<b>SAMPLER NAME AND SIGNATURE</b> PRINT Name of SAMPLER: Leandra M. Colman SIGNATURE of SAMPLER: <i>Leandra M. Colman</i> DATE Signed (MM/DD/YYYY): 09/01/17														

Client Name: EnviroAnalytics

Project # \_\_\_\_\_

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_Tracking #: N/A

Label <u>7A</u>
LIMS Login <u>ARR</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ noThermometer Used 8 Type of Ice: Wet Blue NoneCooler Temperature Observed Temp 1.7 °C Correction Factor: 0.0 °C Final Temp: 1.7 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 7A 9/2/12

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16. <u>Pitler</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>7A</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

September 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 05, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229127001	RW05-MW(I)	Water	09/05/17 09:27	09/05/17 23:30
30229127002	RW13-MW(I)	Water	09/05/17 10:25	09/05/17 23:30
30229127003	RW12-MW(S)	Water	09/05/17 11:10	09/05/17 23:30
30229127004	RW12-MW(I)	Water	09/05/17 11:47	09/05/17 23:30
30229127005	RW17-MW(S)	Water	09/05/17 12:23	09/05/17 23:30
30229127006	RW16-MW(I)	Water	09/05/17 13:37	09/05/17 23:30
30229127007	RW14-MW(S)	Water	09/05/17 14:09	09/05/17 23:30
30229127008	RW16-MW(S)	Water	09/05/17 15:10	09/05/17 23:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229127001	RW05-MW(I)	EPA 6010C	PJD	2
30229127002	RW13-MW(I)	EPA 6010C	PJD	2
30229127003	RW12-MW(S)	EPA 6010C	PJD	2
30229127004	RW12-MW(I)	EPA 6010C	PJD	2
30229127005	RW17-MW(S)	EPA 6010C	PJD	2
30229127006	RW16-MW(I)	EPA 6010C	PJD	2
30229127007	RW14-MW(S)	EPA 6010C	PJD	2
30229127008	RW16-MW(S)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 11, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 270942

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229127001,30229225003

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 1333391)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- PDS failed for Zinc.
- QC Batch: 271062

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- BLANK (Lab ID: 1333387)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333389)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333392)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1333388)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333390)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333393)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1333391)
  - Cadmium
  - Zinc
- RW05-MW(I) (Lab ID: 30229127001)
  - Cadmium
  - Zinc
- RW12-MW(I) (Lab ID: 30229127004)
  - Cadmium
  - Zinc
- RW12-MW(S) (Lab ID: 30229127003)
  - Cadmium
  - Zinc
- RW13-MW(I) (Lab ID: 30229127002)
  - Cadmium
  - Zinc
- RW14-MW(S) (Lab ID: 30229127007)
  - Cadmium
  - Zinc
- RW16-MW(I) (Lab ID: 30229127006)
  - Cadmium
  - Zinc
- RW16-MW(S) (Lab ID: 30229127008)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- RW17-MW(S) (Lab ID: 30229127005)

- Cadmium

- Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

<b>Sample: RW05-MW(I)</b>		<b>Lab ID: 30229127001</b>		Collected: 09/05/17 09:27		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1400</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 21:44	7440-43-9	1c
Zinc	<b>30900</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:03	7440-66-6	1c, MH

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW13-MW(I)		Lab ID: 30229127002		Collected: 09/05/17 10:25		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>66.0</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 21:58	7440-43-9	1c
Zinc	<b>1160</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 21:58	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

<b>Sample: RW12-MW(S)</b>		<b>Lab ID: 30229127003</b>		Collected: 09/05/17 11:10		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.1</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:01	7440-43-9	1c
Zinc	<b>3980</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:01	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

<b>Sample: RW12-MW(I)</b>		<b>Lab ID: 30229127004</b>		Collected: 09/05/17 11:47		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1820</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:13	7440-43-9	1c
Zinc	<b>156000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:18	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW17-MW(S)		Lab ID: 30229127005		Collected: 09/05/17 12:23		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5870</b>	ug/L	300	34.4	100	09/08/17 08:50	09/09/17 01:21	7440-43-9	1c
Zinc	<b>330000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:21	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

<b>Sample: RW16-MW(I)</b>		<b>Lab ID: 30229127006</b>		Collected: 09/05/17 13:37		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.7J</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:18	7440-43-9	1c
Zinc	<b>20200</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:23	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW14-MW(S)		Lab ID: 30229127007		Collected: 09/05/17 14:09		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1700</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:21	7440-43-9	1c
Zinc	<b>43500</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:25	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Sample: RW16-MW(S)		Lab ID: 30229127008		Collected: 09/05/17 15:10		Received: 09/05/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:23	7440-43-9	1c
Zinc	<b>25.6</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:23	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

QC Batch:	270942	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30229127001, 30229127002, 30229127003, 30229127004, 30229127005, 30229127006, 30229127007, 30229127008		

METHOD BLANK:	1333387	Matrix:	Water
Associated Lab Samples:	30229127001, 30229127002, 30229127003, 30229127004, 30229127005, 30229127006, 30229127007, 30229127008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/08/17 21:39	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/08/17 21:39	1c

LABORATORY CONTROL SAMPLE: 1333388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	1c
Zinc	ug/L	500	502	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1333390 1333391

Parameter	Units	30229127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1900	1820	101	84	75-125	4	20	1c
Zinc	ug/L	30900	500	500	31500	31600	112	146	75-125	1	20	1c, MH

MATRIX SPIKE SAMPLE: 1333393

Parameter	Units	30229225003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.81J	500	521	104	75-125	1c
Zinc	ug/L	10600	500	11000	92	75-125	1c

SAMPLE DUPLICATE: 1333389

Parameter	Units	30229127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1390	1	20	1c
Zinc	ug/L	30900	30400	2	20	1c

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.81J	0.88J		20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	10600	10500	0	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229127

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above adjusted reporting limit.  
TNTC - Too Numerous To Count  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 271062  
[1] PDS failed for Zinc.

### ANALYTE QUALIFIERS

1c PDS failed for Zinc.  
MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229127001	RW05-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127002	RW13-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127003	RW12-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229127004	RW12-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127005	RW17-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229127006	RW16-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229127007	RW14-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229127008	RW16-MW(S)	EPA 3005A	270942	EPA 6010C	271062

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

8 8

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group
Email To:	jcalenda@enviroanalyticsgroup.com	Purchase Order No.:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Phone:	314-620-3056	Project Name:	Rod and Wire Mill GW Sampling	Pace Quote Reference:	
Requested Due Date/TAT:	5 Day	Project Number:	170206M	Pace Project Manager:	Samantha Bayura

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Valid Matrix Codes CODE DW WW P SL OL WP AR OT TS	Matrix Code (see valid codes to left)	Sample Type (G-GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test ↑	Total Cadmium 6010	Total Zinc 6010	Residual	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB								
1	RW005-MW(E)					DATE	TIME							001
2	RW13-MW(E)					DATE	TIME							002
3	RW12-MW(S)					DATE	TIME							003
4	RW12-MW(E)					DATE	TIME							004
5	RW17-MW(S)					DATE	TIME							005
6	RW16-MW(E)					DATE	TIME							006
7	RW14-MW(S)					DATE	TIME							007
8	RW16-MW(S)					DATE	TIME							008
9														
10														
11														
12														

<b>Section D</b> Requested Analysis Filtered (Y/N)		<b>Section E</b> Requested Analysis Filtered (Y/N)		<b>Section F</b> Requested Analysis Filtered (Y/N)	
Y/N		Y/N		Y/N	
Temp in °C		Received on Ice (Y/N)		Custody Sealed Cooler (Y/N)	
Samples Intact (Y/N)		FALL 0-020REV.06, 2-FEB-2007			

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

## Pittsburgh Lab Sample Condition Upon Receipt

30229127



Client Name:

EnviroAna.

Project #

 Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

 Label ANL  
 LIMS Login ANL

 Custody Seal on Cooler/Box Present: ☐ yes ☒ no

 Seals intact: ☐ yes ☐ no

Thermometer Used

6

Type of Ice: Wet Blue None

Cooler Temperature

Observed Temp

4.0 °C

Correction Factor: 10.0 °CFinal Temp: 4.0 °C

Temp should be above freezing to 6°C

 Date and Initials of person examining contents: ANL 9-6-11

## Comments:

	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID				
Matrix:				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>ANL</u>
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			X	17.
Trip Blank Present:		X		18.
Trip Blank Custody Seals Present		X		
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed:
				Date:

## Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

September 11, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229225

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229225001	RW07-MW(S)	Water	09/06/17 08:53	09/06/17 23:55
30229225002	RW07-MW(I)	Water	09/06/17 09:20	09/06/17 23:55
30229225003	RW11-MW(S)	Water	09/06/17 10:01	09/06/17 23:55
30229225004	RW11-MW(I)	Water	09/06/17 10:25	09/06/17 23:55
30229225005	RW15-MW(S)	Water	09/06/17 11:31	09/06/17 23:55
30229225006	RW15-MW(I)	Water	09/06/17 12:15	09/06/17 23:55
30229225007	RW20-MW(S)	Water	09/06/17 13:03	09/06/17 23:55
30229225008	RW20-MW(I)	Water	09/06/17 14:15	09/06/17 23:55

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229225001	RW07-MW(S)	EPA 6010C	PJD	2
30229225002	RW07-MW(I)	EPA 6010C	PJD	2
30229225003	RW11-MW(S)	EPA 6010C	PJD	2
30229225004	RW11-MW(I)	EPA 6010C	PJD	2
30229225005	RW15-MW(S)	EPA 6010C	PJD	2
30229225006	RW15-MW(I)	EPA 6010C	PJD	2
30229225007	RW20-MW(S)	EPA 6010C	PJD	2
30229225008	RW20-MW(I)	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229225

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**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 11, 2017

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 270942

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229127001,30229225003

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 1333391)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- PDS failed for Zinc.
- QC Batch: 271062

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- BLANK (Lab ID: 1333387)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333389)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1333392)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1333388)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333390)
  - Cadmium
  - Zinc
- MS (Lab ID: 1333393)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1333391)
  - Cadmium
  - Zinc
- RW07-MW(I) (Lab ID: 30229225002)
  - Cadmium
  - Zinc
- RW07-MW(S) (Lab ID: 30229225001)
  - Cadmium
  - Zinc
- RW11-MW(I) (Lab ID: 30229225004)
  - Cadmium
  - Zinc
- RW11-MW(S) (Lab ID: 30229225003)
  - Cadmium
  - Zinc
- RW15-MW(I) (Lab ID: 30229225006)
  - Cadmium
  - Zinc
- RW15-MW(S) (Lab ID: 30229225005)
  - Cadmium
  - Zinc
- RW20-MW(I) (Lab ID: 30229225008)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 11, 2017

Analyte Comments:

QC Batch: 270942

1c: PDS failed for Zinc.

- RW20-MW(S) (Lab ID: 30229225007)

- Cadmium

- Zinc

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW07-MW(S)		Lab ID: 30229225001		Collected: 09/06/17 08:53		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.6</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:26	7440-43-9	1c
Zinc	<b>165</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:26	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

<b>Sample: RW07-MW(I)</b>		<b>Lab ID: 30229225002</b>		Collected: 09/06/17 09:20		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.0</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:28	7440-43-9	1c
Zinc	<b>2840</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:28	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW11-MW(S)		Lab ID: 30229225003		Collected: 09/06/17 10:01		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.81J</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:30	7440-43-9	1c
Zinc	<b>10600</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:42	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW11-MW(I)		Lab ID: 30229225004		Collected: 09/06/17 10:25		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>274</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:43	7440-43-9	1c
Zinc	<b>134000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:49	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW15-MW(S)		Lab ID: 30229225005		Collected: 09/06/17 11:31		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.7</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:45	7440-43-9	1c
Zinc	<b>444</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:45	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

<b>Sample: RW15-MW(I)</b>		<b>Lab ID: 30229225006</b>		Collected: 09/06/17 12:15		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>21.3</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:48	7440-43-9	1c
Zinc	<b>43000</b>	ug/L	1000	108	100	09/08/17 08:50	09/09/17 01:51	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW20-MW(S)		Lab ID: 30229225007		Collected: 09/06/17 13:03		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>29.9</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:50	7440-43-9	1c
Zinc	<b>1080</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:50	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Sample: RW20-MW(I)		Lab ID: 30229225008		Collected: 09/06/17 14:15		Received: 09/06/17 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.34	1	09/08/17 08:50	09/08/17 22:52	7440-43-9	1c
Zinc	<b>71.1</b>	ug/L	10.0	1.1	1	09/08/17 08:50	09/08/17 22:52	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

QC Batch:	270942	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30229225001, 30229225002, 30229225003, 30229225004, 30229225005, 30229225006, 30229225007, 30229225008		

METHOD BLANK:	1333387	Matrix:	Water
Associated Lab Samples:	30229225001, 30229225002, 30229225003, 30229225004, 30229225005, 30229225006, 30229225007, 30229225008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/08/17 21:39	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/08/17 21:39	1c

LABORATORY CONTROL SAMPLE: 1333388						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	511	102	80-120	1c
Zinc	ug/L	500	502	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1333390 1333391												
Parameter	Units	30229127001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1400	500	500	1900	1820	101	84	75-125	4	20	1c
Zinc	ug/L	30900	500	500	31500	31600	112	146	75-125	1	20	1c, MH

MATRIX SPIKE SAMPLE:		1333393					
		30229225003	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	0.81J	500	521	104	75-125	1c
Zinc	ug/L	10600	500	11000	92	75-125	1c

SAMPLE DUPLICATE: 1333389						
Parameter	Units	30229127001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1400	1390	1	20	1c
Zinc	ug/L	30900	30400	2	20	1c

SAMPLE DUPLICATE: 1333392						
Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.81J	0.88J		20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

SAMPLE DUPLICATE: 1333392

Parameter	Units	30229225003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	10600	10500	0	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 271062

[1] PDS failed for Zinc.

### ANALYTE QUALIFIERS

1c PDS failed for Zinc.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229225

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229225001	RW07-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225002	RW07-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229225003	RW11-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225004	RW11-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229225005	RW15-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225006	RW15-MW(I)	EPA 3005A	270942	EPA 6010C	271062
30229225007	RW20-MW(S)	EPA 3005A	270942	EPA 6010C	271062
30229225008	RW20-MW(I)	EPA 3005A	270942	EPA 6010C	271062

## REPORT OF LABORATORY ANALYSIS

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Section C  
Invoice Information:

Invoice Information: Laura Sargent

Company Name: **EnviroAnalytics Group**

Company Name: **EnviroAnalytics Group**  
Address: **1650 Des Peres Road, Suite 303 St. Louis, MO 63131**

**Paga Quinto**

Reference:

**Samantha Bayura**  
Project Manager

Face Profile #:

Requested Amount	Requested Amount

↑ N

Preservatives	1/1			
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1. The first part of the document is a title page. It contains the title of the document, the author's name, and the date of the document. The title is "The History of the City of New York from 1624 to 1789". The author is "John Smith". The date is "1789".

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Figure 1 consists of seven panels arranged in a vertical column. The top two panels show a network of nodes and edges. The middle three panels show a single node with a central core and a surrounding shell. The bottom two panels show a single node with a central core and a surrounding shell.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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NAME \_\_\_\_\_ ACCEPTED BY / AFFILIATION \_\_\_\_\_

David L. Dickson

1945

*[Handwritten signature]*

2011-11-11

100

# ATURE

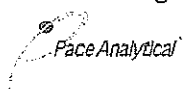
DATE	Signed
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<p>month for any invoices not paid within 30 days</p>	<p>(MM/DD/YY):</p>
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...and any services not paid within 30 days.

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# Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

EnviroAna.

Project #

**30229225**

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	<u>AM</u>
LIMS Login	<u>AM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 6 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.8 °C Correction Factor: 10.0 °C Final Temp: 2.8 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 9-7-17

Comments:	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
exceptions: VOA, coliform, TOC, O&G, Phenolics				
				Initial when completed <u>AM</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

September 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229376

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 07, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229376001	RW18-MWI	Water	09/07/17 10:25	09/07/17 23:00
30229376002	RW18-MWS	Water	09/07/17 11:00	09/07/17 23:00
30229376003	RW09-MWS	Water	09/07/17 11:42	09/07/17 23:00
30229376004	RW09-MWI	Water	09/07/17 12:05	09/07/17 23:00
30229376005	RW10-MWI	Water	09/07/17 13:03	09/07/17 23:00
30229376006	RW08-MWI	Water	09/07/17 14:15	09/07/17 23:00
30229376007	RW08-MWS	Water	09/07/17 15:00	09/07/17 23:00

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229376001	RW18-MWI	EPA 6010C	PJD	2
30229376002	RW18-MWS	EPA 6010C	PJD	2
30229376003	RW09-MWS	EPA 6010C	PJD	2
30229376004	RW09-MWI	EPA 6010C	PJD	2
30229376005	RW10-MWI	EPA 6010C	PJD	2
30229376006	RW08-MWI	EPA 6010C	PJD	2
30229376007	RW08-MWS	EPA 6010C	PJD	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229376

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 14, 2017

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 271239

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229376001,30229570004

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1334722)
- Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MSD (Lab ID: 1334723)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cadmium failed on the PDS.
- QC Batch: 271286

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

Analyte Comments:

QC Batch: 271239

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1334719)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334721)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334724)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1334720)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334722)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334725)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1334723)
  - Cadmium
  - Zinc
- RW08-MWI (Lab ID: 30229376006)
  - Cadmium
  - Zinc
- RW08-MWS (Lab ID: 30229376007)
  - Cadmium
  - Zinc
- RW09-MWI (Lab ID: 30229376004)
  - Cadmium
  - Zinc
- RW09-MWS (Lab ID: 30229376003)
  - Cadmium
  - Zinc
- RW10-MWI (Lab ID: 30229376005)
  - Cadmium
  - Zinc
- RW18-MWI (Lab ID: 30229376001)
  - Cadmium
  - Zinc
- RW18-MWS (Lab ID: 30229376002)
  - Cadmium
  - Zinc

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Sample: RW18-MWI		Lab ID: 30229376001		Collected: 09/07/17 10:25		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>72.2</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:22	7440-43-9	1c
Zinc	<b>382000</b>	ug/L	10000	1080	1000	09/11/17 14:14	09/14/17 01:57	7440-66-6	1c,MH, ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Sample: RW18-MWS		Lab ID: 30229376002		Collected: 09/07/17 11:00		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>156</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:38	7440-43-9	1c
Zinc	<b>6160</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:00	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

<b>Sample: RW09-MWS</b>		<b>Lab ID: 30229376003</b>		Collected: 09/07/17 11:42		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>12.3</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:40	7440-43-9	1c
Zinc	<b>8750</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:02	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30229376004</b>		Collected: 09/07/17 12:05		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>9.1</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:47	7440-43-9	1c
Zinc	<b>39400</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:10	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

<b>Sample: RW10-MWI</b>		<b>Lab ID: 30229376005</b>		Collected: 09/07/17 13:03		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>17.7</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:50	7440-43-9	1c
Zinc	<b>8220</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:13	7440-66-6	1c

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

<b>Sample: RW08-MWI</b>		<b>Lab ID: 30229376006</b>		Collected: 09/07/17 14:15		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>0.77J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:15	7440-43-9	1c
Zinc	<b>69.4</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:15	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

<b>Sample: RW08-MWS</b>		<b>Lab ID: 30229376007</b>		Collected: 09/07/17 15:00		Received: 09/07/17 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>2.5J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/13/17 22:55	7440-43-9	1c
Zinc	<b>4460</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:17	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

QC Batch:	271239	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples: 30229376001, 30229376002, 30229376003, 30229376004, 30229376005, 30229376006, 30229376007			

METHOD BLANK:	1334719	Matrix:	Water
Associated Lab Samples: 30229376001, 30229376002, 30229376003, 30229376004, 30229376005, 30229376006, 30229376007			

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/14/17 00:41	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/14/17 00:41	1c

LABORATORY CONTROL SAMPLE: 1334720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	499	100	80-120	1c
Zinc	ug/L	500	498	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1334722 1334723

Parameter	Units	30229376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	72.2	500	500	608	569	107	99	75-125	7	20	1c
Zinc	ug/L	382000	500	500	399000	368000	3400	-2680	75-125	8	20	1c,MH, ML

MATRIX SPIKE SAMPLE: 1334725

Parameter	Units	30229570004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.37J	500	497	99	75-125	1c
Zinc	ug/L	184	500	677	99	75-125	1c

SAMPLE DUPLICATE: 1334721

Parameter	Units	30229376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	72.2	74.4	3	20	1c
Zinc	ug/L	382000	397000	4	20	1c

SAMPLE DUPLICATE: 1334724

Parameter	Units	30229570004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.37J	0.48J		20	1c
Zinc	ug/L	184	189	3	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 271286

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229376

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229376001	RW18-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376002	RW18-MWS	EPA 3005A	271239	EPA 6010C	271286
30229376003	RW09-MWS	EPA 3005A	271239	EPA 6010C	271286
30229376004	RW09-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376005	RW10-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376006	RW08-MWI	EPA 3005A	271239	EPA 6010C	271286
30229376007	RW08-MWS	EPA 3005A	271239	EPA 6010C	271286

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A  
Required Client Information:

Company: EnviroAnalytics Group  
Address: 1600 Sparrows Point Blvd, Suite B2  
Sparrows Point, MD 21219  
Email To: jcalenda@enviroanalyticsgroup.com  
Phone: 314-620-3056 Fax:  
Requested Due Date/TAT: 5 Day

Section B  
Required Project Information:

Report To: James Calenda  
Copy To: Stewart Kabis  
Purchase Order No.:  
Project Name: Rod and Wire Mill GW Sampling  
Project Number: 17702066m 1770384m-1

Section C  
Invoice Information:

Attention: Laura Sargent  
Company Name: EnviroAnalytics Group  
Address: 1850 Des Peres Road, Suite 303 St. Louis, MO 63131  
Pace Quote Reference:  
Pace Project Manager: Samantha Bayura  
Pace Profile #:

Section D  
Required Client Information

Valid Matrix Codes  
MATRIX CODE  
DW DRINKING WATER  
WT WASTE WATER  
WP WASTE PRODUCT  
SL SOLID  
OL OIL  
WI WIFE  
AR AIR  
OT OTHER  
TS TISSUE

SAMPLE ID  
(A-Z, 0-9 / -)  
Sample IDs MUST BE UNIQUE

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER  
☐ UST ☐ RCRA ☐ OTHER  
Site Location  
STATE: MD

ITEM #	Valid Matrix Codes	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)														Pace Project No./ Lab I.D.	
				COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other															
1	RW18-MWI	WT G	G			9/7/17	1025																								
2	RW18-MWS	WT G	G			9/7/17	1108																								
3	RW09-MWS	WT G	G			9/7/17	1142																								
4	RW09-MWS	WT G	G			9/7/17	1205																								
5	RW10-MWI	WT G	G			9/7/17	1303																								
6	RW08-MWI	WT G	G			9/7/17	1415																								
7	RW08-MWS	WT G	G			9/7/17	1500																								
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS

Data Package  
Data validated

RELINQUISHED BY / AFFILIATION

James Calenda - ARN  
David S. Allegre - Pace

DATE

9/7/17  
9/7/17

TIME

1533  
1905

ACCEPTED BY / AFFILIATION

David S. Allegre - Pace  
Whitney Pace

DATE

9/7/17  
9/7/17

TIME

1533  
1930

SAMPLE CONDITIONS

Temp in °C

4.0

Received on

Y

Cooler (Y/N)

N

Custody Sealed

Y

Samples Intact

Y

SAMPLER NAME AND SIGNATURE

Lisa Davis

PRINT Name of SAMPLER

Sherry Davis

SIGNATURE of SAMPLER

9/7/17

DATE Signed (MM/DD/YY)

9/7/17

DATE

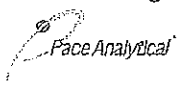
9/7/17

TIME

1533

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Page 18 of 20



Client Name:

EnviroAna

Project #

30229376Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label

AM

LIMS Login

BLMCustody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

6Type of Ice: Wet Blue None

Cooler Temperature

Observed Temp

4.0 °CCorrection Factor: 10.0 °CFinal Temp: 4.0 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 9-8-17

Comments:

Yes No N/A

Chain of Custody Present:

☒☐☐

1.

Chain of Custody Filled Out:

☒☐☐

2.

Chain of Custody Relinquished:

☒☐☐

3.

Sampler Name &amp; Signature on COC:

☒☐☐

4.

Sample Labels match COC:

☒☐☐

5.

-Includes date/time/ID

Matrix:

WT

Samples Arrived within Hold Time:

☒☐☐

6.

Short Hold Time Analysis (&lt;72hr remaining):

☒☒☐

7.

Rush Turn Around Time Requested:

☒☐☐

8.

Sufficient Volume:

☒☐☐

9.

Correct Containers Used:

☒☐☐

10.

-Pace Containers Used:

☒☐☐

Containers Intact:

☒☐☐

11.

Orthophosphate field filtered

☐☐☒

12.

Hex Cr Aqueous Compliance/NPDES sample field filtered

☐☐☒

13.

Organic Samples checked for dechlorination:

☐☐☒

14.

Filtered volume received for Dissolved tests

☐☐☒

15.

All containers have been checked for preservation.

☒☐☐

16.

All containers needing preservation are found to be in compliance with EPA recommendation.

☒☐☐

exceptions: VOA, coliform, TOC, O&amp;G, Phenolics

Initial when completed

AM

Date/time of preservation

Lot # of added preservative

Headspace in VOA Vials (&gt;6mm):

☐☐☒

17.

Trip Blank Present:

☐☒☐

18.

Trip Blank Custody Seals Present

☐☐☒

Rad Aqueous Samples Screened &gt; 0.5 mrem/hr

☐☐☒

Initial when completed:

Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

**Section A**

Required Client Information:

Company: EnviroAnalytics Group

Address: 1430 Sparrows Point Blvd

Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-620-3056

Fax:

Requested Due Date/TAI:

**Section B**

Required Project Information:

Report To: James Calenda

Copy To:

PO Number:

Project Name:

Project Number:

**Section C**

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Das Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote

Pace Project

Pace Profile #:

Page:

of

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE: MD

Requested Analysis Filtered (Y/N)

Residual Chlorine (Y/N)

Pace Project No./ Lab I.D.

Section D Required Client Information		Valid Matrix Codes																				
MATRIX CODE DW WT DISKING WATER WATER WASTE WATER PRODUCT SOLID OIL WIFE MS OTHER TISSE		CODE P SL WP AR OT TS																				
SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE																						
ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)																				
1	RUD18-MUSI	WT 6	DATE	TIME	DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	↓ Analysis Test ↓	Y/N	Total cadmium	Total zinc	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
2	RUD18-MUS	WT 6			9-7-17	10:05		1														
3	RUD09-MUS	WT 6				11:42		1														
4	RUD09-MUSI	WT 6				12:05		1														
5	RUD10-MUSI	WT 6				13:03		1														
6	RUD08-MUSI	WT 6				14:15		1														
7	RUD08-MUS	WT 6				15:00		1														
8																						
9																						
10																						
11																						
12																						
ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS								
Data Package Required? (Y/N)		Jueckel		9-7-17		15:33																
Data Validation Required? (Y/N)																						
If data package is required, attach data package checklist.																						

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

Data Package Required? (Y/N)

Data Validation Required? (Y/N)

If data package is required, attach data package checklist.

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

9-7-17

Temp in °C

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Intact (Y/N)

September 14, 2017

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on September 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30229570001	RW19-MW(I)	Water	09/08/17 09:10	09/08/17 23:30
30229570002	RW19-MW(S)	Water	09/08/17 08:45	09/08/17 23:30
30229570003	RW22-MW(I)	Water	09/08/17 13:16	09/08/17 23:30
30229570004	RW22-MW(S)	Water	09/08/17 12:44	09/08/17 23:30
30229570005	RW02-MW(S)	Water	09/08/17 12:12	09/08/17 23:30
30229570006	RW02-MW(I)	Water	09/08/17 11:34	09/08/17 23:30
30229570007	RW21-MW(D)	Water	09/08/17 10:25	09/08/17 23:30
30229570008	RW01-MW(S)	Water	09/08/17 14:54	09/08/17 23:30
30229570009	RW01-MW(I)	Water	09/08/17 14:17	09/08/17 23:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30229570001	RW19-MW(I)	EPA 6010C	PJD	2
30229570002	RW19-MW(S)	EPA 6010C	PJD	2
30229570003	RW22-MW(I)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570004	RW22-MW(S)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570005	RW02-MW(S)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570006	RW02-MW(I)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570007	RW21-MW(D)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570008	RW01-MW(S)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1
30229570009	RW01-MW(I)	EPA 6010C	PJD	2
		SM4500H+B-00	SEF	1

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30229570

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** September 14, 2017

### General Information:

9 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 271239

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30229376001,30229570004

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1334722)
- Zinc

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MSD (Lab ID: 1334723)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

Batch Comments:

- Cadmium failed on the PDS.
- QC Batch: 271286

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

Analyte Comments:

QC Batch: 271239

1c: Cadmium failed on the PDS.

- BLANK (Lab ID: 1334719)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334721)
  - Cadmium
  - Zinc
- DUP (Lab ID: 1334724)
  - Cadmium
  - Zinc
- LCS (Lab ID: 1334720)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334722)
  - Cadmium
  - Zinc
- MS (Lab ID: 1334725)
  - Cadmium
  - Zinc
- MSD (Lab ID: 1334723)
  - Cadmium
  - Zinc
- RW01-MW(I) (Lab ID: 30229570009)
  - Cadmium
  - Zinc
- RW01-MW(S) (Lab ID: 30229570008)
  - Cadmium
  - Zinc
- RW02-MW(I) (Lab ID: 30229570006)
  - Cadmium
  - Zinc
- RW02-MW(S) (Lab ID: 30229570005)
  - Cadmium
  - Zinc
- RW19-MW(I) (Lab ID: 30229570001)
  - Cadmium
  - Zinc
- RW19-MW(S) (Lab ID: 30229570002)
  - Cadmium
  - Zinc
- RW21-MW(D) (Lab ID: 30229570007)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

Analyte Comments:

QC Batch: 271239

1c: Cadmium failed on the PDS.

- RW22-MW(I) (Lab ID: 30229570003)
  - Cadmium
  - Zinc
- RW22-MW(S) (Lab ID: 30229570004)
  - Cadmium
  - Zinc

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

---

**Method:** SM4500H+B-00

**Description:** 4500H+ pH, Electrometric

**Client:** EnviroAnalytics Group, LLC

**Date:** September 14, 2017

### General Information:

7 samples were analyzed for SM4500H+B-00. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- RW01-MW(I) (Lab ID: 30229570009)
- RW01-MW(S) (Lab ID: 30229570008)
- RW02-MW(I) (Lab ID: 30229570006)
- RW02-MW(S) (Lab ID: 30229570005)
- RW21-MW(D) (Lab ID: 30229570007)
- RW22-MW(I) (Lab ID: 30229570003)
- RW22-MW(S) (Lab ID: 30229570004)

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

<b>Sample: RW19-MW(I)</b>		<b>Lab ID: 30229570001</b>		Collected: 09/08/17 09:10		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1320</b>	ug/L	15.0	1.7	5	09/11/17 14:14	09/14/17 01:20	7440-43-9	1c
Zinc	<b>2500000</b>	ug/L	100000	10800	10000	09/11/17 14:14	09/14/17 02:17	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW19-MW(S)		Lab ID: 30229570002		Collected: 09/08/17 08:45		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.6J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:25	7440-43-9	1c
Zinc	<b>2990</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:25	7440-66-6	1c

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW22-MW(I)		Lab ID: 30229570003		Collected: 09/08/17 13:16		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.7</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:27	7440-43-9	1c
Zinc	<b>328</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:27	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>7.2</b>	Std. Units	2.0	2.0	1		09/11/17 22:21		H6

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW22-MW(S)		Lab ID: 30229570004		Collected: 09/08/17 12:44		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.37J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:30	7440-43-9	1c
Zinc	<b>184</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:30	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>10.1</b>	Std. Units	2.0	2.0	1		09/11/17 22:21		H6

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW02-MW(S)		Lab ID: 30229570005		Collected: 09/08/17 12:12		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>11.8</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:42	7440-43-9	1c
Zinc	<b>3220</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:42	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>6.1</b>	Std. Units	2.0	2.0	1		09/11/17 22:23		H6

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW02-MW(I)		Lab ID: 30229570006		Collected: 09/08/17 11:34		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:44	7440-43-9	1c
Zinc	<b>203</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:44	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>12.2</b>	Std. Units	2.0	2.0	1		09/11/17 22:25		H6

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW21-MW(D)		Lab ID: 30229570007		Collected: 09/08/17 10:25		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.3J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:47	7440-43-9	1c
Zinc	<b>43000</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 01:50	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>5.4</b>	Std. Units	2.0	2.0	1		09/11/17 22:26		H6

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW01-MW(S)		Lab ID: 30229570008		Collected: 09/08/17 14:54		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:52	7440-43-9	1c
Zinc	<b>5730</b>	ug/L	1000	108	100	09/11/17 14:14	09/14/17 02:19	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>5.3</b>	Std. Units	2.0	2.0	1		09/11/17 22:27		H6

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

Sample: RW01-MW(I)		Lab ID: 30229570009		Collected: 09/08/17 14:17		Received: 09/08/17 23:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>0.51J</b>	ug/L	3.0	0.34	1	09/11/17 14:14	09/14/17 01:54	7440-43-9	1c
Zinc	<b>90.0</b>	ug/L	10.0	1.1	1	09/11/17 14:14	09/14/17 01:54	7440-66-6	1c
<b>4500H+ pH, Electrometric</b>		Analytical Method: SM4500H+B-00							
pH at 25 Degrees C	<b>12.3</b>	Std. Units	2.0	2.0	1		09/11/17 22:28		H6

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

QC Batch:	271239	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30229570001, 30229570002, 30229570003, 30229570004, 30229570005, 30229570006, 30229570007, 30229570008, 30229570009		

METHOD BLANK:	1334719	Matrix:	Water
Associated Lab Samples:	30229570001, 30229570002, 30229570003, 30229570004, 30229570005, 30229570006, 30229570007, 30229570008, 30229570009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.34	09/14/17 00:41	1c
Zinc	ug/L	10.0 U	10.0	1.1	09/14/17 00:41	1c

LABORATORY CONTROL SAMPLE: 1334720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	499	100	80-120	1c
Zinc	ug/L	500	498	100	80-120	1c

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1334722 1334723

Parameter	Units	30229376001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	72.2	500	500	608	569	107	99	75-125	7	20	1c
Zinc	ug/L	382000	500	500	399000	368000	3400	-2680	75-125	8	20	1c, MH, ML

MATRIX SPIKE SAMPLE: 1334725

Parameter	Units	30229570004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	0.37J	500	497	99	75-125	1c
Zinc	ug/L	184	500	677	99	75-125	1c

SAMPLE DUPLICATE: 1334721

Parameter	Units	30229376001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	72.2	74.4	3	20	1c
Zinc	ug/L	382000	397000	4	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

SAMPLE DUPLICATE: 1334724

Parameter	Units	30229570004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	0.37J	0.48J		20	1c
Zinc	ug/L	184	189	3	20	1c

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

QC Batch:	271273	Analysis Method:	SM4500H+B-00
QC Batch Method:	SM4500H+B-00	Analysis Description:	4500H+B pH
Associated Lab Samples: 30229570003, 30229570004, 30229570005, 30229570006, 30229570007, 30229570008, 30229570009			

SAMPLE DUPLICATE: 1334856

Parameter	Units	30229627001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.7	9.7	0	10	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### BATCH QUALIFIERS

Batch: 271286

[1] Cadmium failed on the PDS.

### ANALYTE QUALIFIERS

1c Cadmium failed on the PDS.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30229570

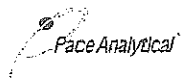
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30229570001	RW19-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570002	RW19-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570003	RW22-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570004	RW22-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570005	RW02-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570006	RW02-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570007	RW21-MW(D)	EPA 3005A	271239	EPA 6010C	271286
30229570008	RW01-MW(S)	EPA 3005A	271239	EPA 6010C	271286
30229570009	RW01-MW(I)	EPA 3005A	271239	EPA 6010C	271286
30229570003	RW22-MW(I)	SM4500H+B-00	271273		
30229570004	RW22-MW(S)	SM4500H+B-00	271273		
30229570005	RW02-MW(S)	SM4500H+B-00	271273		
30229570006	RW02-MW(I)	SM4500H+B-00	271273		
30229570007	RW21-MW(D)	SM4500H+B-00	271273		
30229570008	RW01-MW(S)	SM4500H+B-00	271273		
30229570009	RW01-MW(I)	SM4500H+B-00	271273		

## REPORT OF LABORATORY ANALYSIS

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## Pittsburgh Lab Sample Condition Upon Receipt



Client Name:

SPARROW

Project #

30229570

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label	AM
LIMS Login	EH

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

8

Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.2 °C Correction Factor: +0.0 °C Final Temp: 1.2 °C

Temp should be above freezing to 6°C

Date and Initials of person examining contents: AM 9/19/17

Comments:	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC:	/			5.
-Includes date/time/ID Matrix: WT				
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:	/			8.
Sufficient Volume:	/			9.
Correct Containers Used:	/			10.
-Pace Containers Used:	/			
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation.	/			16. Samples 006 and 009
All containers needing preservation are found to be in compliance with EPA recommendation.	/			unpreserved bottles were basic.
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed AM
				Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			/	17.
Trip Blank Present:			/	18.
Trip Blank Custody Seals Present			/	
Rad Aqueous Samples Screened > 0.5 mrem/hr			/	Initial when completed:
				Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 13, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod & Wire Mill GW Sampling  
Pace Project No.: 30248825

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30248825001	RW08-MWI	Water	04/08/18 10:05	04/09/18 22:25
30248825002	RW08-MWS	Water	04/08/18 10:40	04/09/18 22:25
30248825003	RW07-MWI	Water	04/08/18 11:30	04/09/18 22:25
30248825004	RW07-MWS	Water	04/08/18 12:05	04/09/18 22:25
30248825005	RW11-MWI	Water	04/08/18 13:30	04/09/18 22:25
30248825006	RW11-MWS	Water	04/08/18 14:20	04/09/18 22:25

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## SAMPLE ANALYTE COUNT

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30248825001	RW08-MWI	EPA 6010C	KAS	2
30248825002	RW08-MWS	EPA 6010C	KAS	2
30248825003	RW07-MWI	EPA 6010C	KAS	2
30248825004	RW07-MWS	EPA 6010C	KAS	2
30248825005	RW11-MWI	EPA 6010C	KAS	2
30248825006	RW11-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 13, 2018

### General Information:

6 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

Sample: RW08-MWI		Lab ID: 30248825001		Collected: 04/08/18 10:05		Received: 04/09/18 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>6.2</b>	ug/L	3.0	0.87	1	04/10/18 15:27	04/12/18 15:57	7440-43-9	
Zinc	<b>1050</b>	ug/L	10.0	1.0	1	04/10/18 15:27	04/12/18 15:57	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

Sample: RW08-MWS		Lab ID: 30248825002		Collected: 04/08/18 10:40		Received: 04/09/18 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>2.2J</b>	ug/L	3.0	0.87	1	04/10/18 15:27	04/12/18 16:11	7440-43-9	
Zinc	<b>13200</b>	ug/L	1000	104	100	04/10/18 15:27	04/12/18 16:31	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

<b>Sample: RW07-MWI</b>		<b>Lab ID: 30248825003</b>		Collected: 04/08/18 11:30		Received: 04/09/18 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.3J</b>	ug/L	3.0	0.87	1	04/10/18 15:27	04/12/18 16:13	7440-43-9	
Zinc	<b>756</b>	ug/L	10.0	1.0	1	04/10/18 15:27	04/12/18 16:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

Sample: RW07-MWS		Lab ID: 30248825004		Collected: 04/08/18 12:05		Received: 04/09/18 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.6</b>	ug/L	3.0	0.87	1	04/10/18 15:27	04/12/18 16:23	7440-43-9	
Zinc	<b>204</b>	ug/L	10.0	1.0	1	04/10/18 15:27	04/12/18 16:23	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

<b>Sample: RW11-MWI</b>		<b>Lab ID: 30248825005</b>		Collected: 04/08/18 13:30		Received: 04/09/18 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1660</b>	ug/L	3.0	0.87	1	04/10/18 15:27	04/12/18 16:25	7440-43-9	
Zinc	<b>215000</b>	ug/L	10000	1040	1000	04/10/18 15:27	04/12/18 16:34	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

<b>Sample: RW11-MWS</b>		<b>Lab ID: 30248825006</b>		Collected: 04/08/18 14:20		Received: 04/09/18 22:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.1</b>	ug/L	3.0	0.87	1	04/10/18 15:27	04/12/18 16:28	7440-43-9	
Zinc	<b>37100</b>	ug/L	1000	104	100	04/10/18 15:27	04/12/18 16:37	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

QC Batch: 294181 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30248825001, 30248825002, 30248825003, 30248825004, 30248825005, 30248825006

METHOD BLANK: 1440582 Matrix: Water  
Associated Lab Samples: 30248825001, 30248825002, 30248825003, 30248825004, 30248825005, 30248825006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	04/12/18 15:52	
Zinc	ug/L	10.0 U	10.0	1.0	04/12/18 15:52	

LABORATORY CONTROL SAMPLE: 1440583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	519	104	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440585 1440586

Parameter	Units	30248825001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	6.2	500	500	515	502	102	99	75-125	3	20	
Zinc	ug/L	1050	500	500	1550	1500	100	90	75-125	3	20	

SAMPLE DUPLICATE: 1440584

Parameter	Units	30248825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	6.2	6.4	3	20	
Zinc	ug/L	1050	1080	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod & Wire Mill GW Sampling

Pace Project No.: 30248825

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30248825001	RW08-MWI	EPA 3005A	294181	EPA 6010C	294236
30248825002	RW08-MWS	EPA 3005A	294181	EPA 6010C	294236
30248825003	RW07-MWI	EPA 3005A	294181	EPA 6010C	294236
30248825004	RW07-MWS	EPA 3005A	294181	EPA 6010C	294236
30248825005	RW11-MWI	EPA 3005A	294181	EPA 6010C	294236
30248825006	RW11-MWS	EPA 3005A	294181	EPA 6010C	294236

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CHAIN-OF-CUSTODY  
The Chain-of-Custody is a LEGAL

NO#: 30248825



Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-820-3056 Fax:

Requested Due Date/TAT: 5 Day

Section B

Required Project Information:

Report To: James Calenda

Copy To: Stewart Kabis

Purchase Order No.:

Project Name: Rod and Wire Mill GW Sampling

Project Number: 170384m-1

Section C

Invoice Info:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference:

Pace Project Manager:

Pace Profile #:

REGULATORY AGENCY

NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐

UST ☐ RCRA ☐ OTHER ☐

Site Location STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED			SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Y/N	Requested Analysis Filtered (Y/N)		Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
					DATE	TIME	DATE					TIME	DATE			TIME
1	Free-Stank		WTG			4/18/18	1605									001
2	RW03-MWT		WTG			4/18/18	1640									002
3	RW08-MWS		WTG			4/18/18	1130									003
4	RW07-MWT		WTG			4/18/18	1205									004
5	RW07-MWS		WTG			4/18/18	1330									005
6	RW11-MWT		WTG			4/18/18	1430									006
7	RW11-MWS		WTG													
8																
9																
10																
11																
12																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
							Received on	Custody Sealed	Cooler (Y/N)	Samples Intact (Y/N)	
		4/18/18	1600		4-18-18	1600					
		4-18-18	1900		4-18-18	1800					
		4-18-18	2235		4-18-18	2252	Y	Y	Y	Y	Y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	DATE Signed (MM/DD/YY):
SIGNATURE of SAMPLER:	4/18/18

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name:

EnviroAna

Project #

30248825

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label

BSH

LIMS Login

BLM

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

6

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

2.1 °C

Correction Factor:

+0.0 °C

Final Temp:

2.1 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:
Chain of Custody Present:	X			10D1071	AM 4-10-18
Chain of Custody Filled Out:	X				
Chain of Custody Relinquished:	X				
Sampler Name & Signature on COC:	X				
Sample Labels match COC:	X				
-Includes date/time/ID Matrix: WF					
Samples Arrived within Hold Time:	X				
Short Hold Time Analysis (<72hr remaining):	X				
Rush Turn Around Time Requested:	X				
Sufficient Volume:	X				
Correct Containers Used:	X				
-Pace Containers Used:	X				
Containers Intact:	X				
Orthophosphate field filtered			X		
Hex Cr Aqueous Compliance/NPDES sample field filtered			X		
Organic Samples checked for dechlorination:			X		
Filtered volume received for Dissolved tests			X		
All containers have been checked for preservation.	X				
All containers needing preservation are found to be in compliance with EPA recommendation.	X				
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed AM	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			X		
Trip Blank Present:		X			
Trip Blank Custody Seals Present		X			
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed AM	Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 16, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30248944

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30248944001	RW04-MWS	Water	04/10/18 10:00	04/10/18 22:50
30248944002	RW03-MWI	Water	04/10/18 10:55	04/10/18 22:50
30248944003	RW03-MWS	Water	04/10/18 11:40	04/10/18 22:50
30248944004	RW06-MWI	Water	04/10/18 12:29	04/10/18 22:50
30248944005	RW09-MWI	Water	04/10/18 14:25	04/10/18 22:50
30248944006	RW09-MWS	Water	04/10/18 14:50	04/10/18 22:50
30248944007	RW16-MWS	Water	04/10/18 15:30	04/10/18 22:50

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30248944001	RW04-MWS	EPA 6010C	KAS	2
30248944002	RW03-MWI	EPA 6010C	KAS	2
30248944003	RW03-MWS	EPA 6010C	KAS	2
30248944004	RW06-MWI	EPA 6010C	KAS	2
30248944005	RW09-MWI	EPA 6010C	KAS	2
30248944006	RW09-MWS	EPA 6010C	KAS	2
30248944007	RW16-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 16, 2018

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW04-MWS</b>		<b>Lab ID: 30248944001</b>		Collected: 04/10/18 10:00		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 15:58	7440-43-9	
Zinc	<b>300</b>	ug/L	10.0	1.0	1	04/12/18 15:57	04/13/18 15:58	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW03-MWI</b>		<b>Lab ID: 30248944002</b>		Collected: 04/10/18 10:55		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>128</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:12	7440-43-9	
Zinc	<b>6920</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:06	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW03-MWS</b>		<b>Lab ID: 30248944003</b>		Collected: 04/10/18 11:40		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>11.8</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:15	7440-43-9	
Zinc	<b>44000</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW06-MWI</b>		<b>Lab ID: 30248944004</b>		Collected: 04/10/18 12:29		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>89.2</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:24	7440-43-9	
Zinc	<b>27900</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:11	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW09-MWI</b>		<b>Lab ID: 30248944005</b>		Collected: 04/10/18 14:25		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1.8J</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:27	7440-43-9	
Zinc	<b>38400</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW09-MWS</b>		<b>Lab ID: 30248944006</b>		Collected: 04/10/18 14:50		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>9.8</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:29	7440-43-9	
Zinc	<b>8980</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:16	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

<b>Sample: RW16-MWS</b>		<b>Lab ID: 30248944007</b>		Collected: 04/10/18 15:30		Received: 04/10/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:31	7440-43-9	
Zinc	<b>25.0</b>	ug/L	10.0	1.0	1	04/12/18 15:57	04/13/18 16:31	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30248944

QC Batch: 294517 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30248944001, 30248944002, 30248944003, 30248944004, 30248944005, 30248944006, 30248944007

METHOD BLANK: 1441805 Matrix: Water  
Associated Lab Samples: 30248944001, 30248944002, 30248944003, 30248944004, 30248944005, 30248944006, 30248944007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	04/13/18 15:53	
Zinc	ug/L	10.0 U	10.0	1.0	04/13/18 15:53	

LABORATORY CONTROL SAMPLE: 1441806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	
Zinc	ug/L	500	505	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1441808 1441809

Parameter	Units	30248944001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	506	504	101	101	75-125	0	20	
Zinc	ug/L	300	500	500	782	774	97	95	75-125	1	20	

MATRIX SPIKE SAMPLE: 1441811

Parameter	Units	30249071004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	41.2	500	548	101	75-125	
Zinc	ug/L	5940	500	6470	105	75-125	

SAMPLE DUPLICATE: 1441807

Parameter	Units	30248944001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	300	298	0	20	

SAMPLE DUPLICATE: 1441810

Parameter	Units	30249071004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	41.2	40.8	1	20	
Zinc	ug/L	5940	5960	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30248944

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30248944001	RW04-MWS	EPA 3005A	294517	EPA 6010C	294562
30248944002	RW03-MWI	EPA 3005A	294517	EPA 6010C	294562
30248944003	RW03-MWS	EPA 3005A	294517	EPA 6010C	294562
30248944004	RW06-MWI	EPA 3005A	294517	EPA 6010C	294562
30248944005	RW09-MWI	EPA 3005A	294517	EPA 6010C	294562
30248944006	RW09-MWS	EPA 3005A	294517	EPA 6010C	294562
30248944007	RW16-MWS	EPA 3005A	294517	EPA 6010C	294562

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Requested Due Date/TAT: 5 Day		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: EnviroAnalytics Group		Report To: James Calenda		Attention: Laura Sargent	
Address: 1600 Sparrows Point Blvd, Suite B2		Copy To: Stewart Kabis		Company Name: EnviroAnalytics Group	
Sparrows Point, MD 21219				Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Email To: jcalenda@enviroanalyticsgroup.com		Purchase Order No.:		Pace Quote Reference:	
Phone: 314-620-3056		Project Name: Rod and Wire Mill GW Sampling		Pace Project Manager: Samantha Bayura	
Fax:		Project Number:		Pace Profile #:	
		17028440-1-1			
<b>REGULATORY AGENCY</b>					
<input type="checkbox"/> NPDES		<input type="checkbox"/> GROUND WATER		<input type="checkbox"/> DRINKING WATER	
<input type="checkbox"/> UST		<input type="checkbox"/> RCRA		<input type="checkbox"/> OTHER	
Site Location				MD	
STATE:					

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				Temp in °C	Received on Ice (Y/N)	Cooler Sealed (Y/N)	Samples Intact (Y/N)
	David F. Haggan Fore	4/10/18	1600	David F. Haggan Fore	4/10/18	1621								
	David F. Haggan Fore	4/10/18	1930	David F. Haggan Fore	4/10/18	1930								
	David F. Haggan Fore	4/10/18	2050	David F. Haggan Fore	4/10/18	2250								

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Lisa Penn

SIGNATURE of SAMPLER: *Lisa Penn*

DATE Signed (MM/DD/YYYY): 4/10/18

Page 16 of 17

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: EnviroAnalytics

Project #

30248944

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Face Other

Tracking #: N/A

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 10 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 0.1 °C Correction Factor: 10.0 °C Final Temp: 0.1 °C

Temp should be above freezing to 6°C

Label	<u>BHH</u>
LIMS Login	<u>DNU</u>

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>10D1071</u>	<u>BHH 4-11-18</u>
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Includes date/time/ID Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<u>5day</u>
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Face Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>BHH</u>	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: <u>BHH</u>	Date: <u>4-11-18</u>

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 16, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30249071

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 11, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30249071001	RW12-MWI	Water	04/11/18 09:15	04/11/18 22:50
30249071002	RW12-MWS	Water	04/11/18 09:45	04/11/18 22:50
30249071003	RW15-MWI	Water	04/11/18 10:30	04/11/18 22:50
30249071004	RW15-MWS	Water	04/11/18 11:15	04/11/18 22:50
30249071005	RW18-MWI	Water	04/11/18 12:10	04/11/18 22:50
30249071006	RW18-MWS	Water	04/11/18 12:35	04/11/18 22:50
30249071007	RW19-MWI	Water	04/11/18 14:24	04/11/18 22:50
30249071008	RW19-MWS	Water	04/11/18 15:00	04/11/18 22:50

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30249071001	RW12-MWI	EPA 6010C	KAS	2
30249071002	RW12-MWS	EPA 6010C	KAS	2
30249071003	RW15-MWI	EPA 6010C	KAS	2
30249071004	RW15-MWS	EPA 6010C	KAS	2
30249071005	RW18-MWI	EPA 6010C	KAS	2
30249071006	RW18-MWS	EPA 6010C	KAS	2
30249071007	RW19-MWI	EPA 6010C	KAS	2
30249071008	RW19-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 16, 2018

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

**Sample:** RW12-MWI **Lab ID:** 30249071001 Collected: 04/11/18 09:15 Received: 04/11/18 22:50 Matrix: Water

Comments: • Sample ID on containers does not match COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>121</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:34	7440-43-9	
Zinc	<b>103000</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:19	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

**Sample: RW12-MWS**      **Lab ID: 30249071002**      Collected: 04/11/18 09:45      Received: 04/11/18 22:50      Matrix: Water

Comments: • Sample ID on containers does not match COC.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C    Preparation Method: EPA 3005A									
Cadmium	<b>11.0</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:36	7440-43-9	
Zinc	<b>10600</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:27	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

<b>Sample: RW15-MWI</b>		<b>Lab ID: 30249071003</b>		Collected: 04/11/18 10:30		Received: 04/11/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:39	7440-43-9	
Zinc	<b>252</b>	ug/L	10.0	1.0	1	04/12/18 15:57	04/13/18 16:39	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

<b>Sample: RW15-MWS</b>		<b>Lab ID: 30249071004</b>		Collected: 04/11/18 11:15		Received: 04/11/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>41.2</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:41	7440-43-9	
Zinc	<b>5940</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:30	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

<b>Sample: RW18-MWI</b>		<b>Lab ID: 30249071005</b>		Collected: 04/11/18 12:10		Received: 04/11/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>55.8</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:55	7440-43-9	
Zinc	<b>396000</b>	ug/L	10000	1040	1000	04/12/18 15:57	04/13/18 17:37	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

<b>Sample: RW18-MWS</b>		<b>Lab ID: 30249071006</b>		Collected: 04/11/18 12:35		Received: 04/11/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>448</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 16:58	7440-43-9	
Zinc	<b>25900</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:40	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

<b>Sample: RW19-MWI</b>		<b>Lab ID: 30249071007</b>		Collected: 04/11/18 14:24		Received: 04/11/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>1700</b>	ug/L	300	87.0	100	04/12/18 15:57	04/13/18 17:45	7440-43-9	
Zinc	<b>4190000</b>	ug/L	100000	10400	10000	04/12/18 15:57	04/13/18 17:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

<b>Sample: RW19-MWS</b>		<b>Lab ID: 30249071008</b>		Collected: 04/11/18 15:00		Received: 04/11/18 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>6.6</b>	ug/L	3.0	0.87	1	04/12/18 15:57	04/13/18 17:03	7440-43-9	
Zinc	<b>7060</b>	ug/L	1000	104	100	04/12/18 15:57	04/13/18 17:51	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

QC Batch:	294517	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30249071001, 30249071002, 30249071003, 30249071004, 30249071005, 30249071006, 30249071007, 30249071008		

METHOD BLANK:	1441805	Matrix:	Water
Associated Lab Samples:	30249071001, 30249071002, 30249071003, 30249071004, 30249071005, 30249071006, 30249071007, 30249071008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	04/13/18 15:53	
Zinc	ug/L	10.0 U	10.0	1.0	04/13/18 15:53	

LABORATORY CONTROL SAMPLE: 1441806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	512	102	80-120	
Zinc	ug/L	500	505	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1441808 1441809

Parameter	Units	30248944001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	506	504	101	101	75-125	0	20	
Zinc	ug/L	300	500	500	782	774	97	95	75-125	1	20	

MATRIX SPIKE SAMPLE: 1441811

Parameter	Units	30249071004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		41.2	500	548	101	75-125
Zinc	ug/L		5940	500	6470	105	75-125

SAMPLE DUPLICATE: 1441807

Parameter	Units	30248944001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	300	298	0	20	

SAMPLE DUPLICATE: 1441810

Parameter	Units	30249071004 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	41.2	40.8	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

SAMPLE DUPLICATE: 1441810

Parameter	Units	30249071004 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	5940	5960	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249071

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30249071001	RW12-MWI	EPA 3005A	294517	EPA 6010C	294562
30249071002	RW12-MWS	EPA 3005A	294517	EPA 6010C	294562
30249071003	RW15-MWI	EPA 3005A	294517	EPA 6010C	294562
30249071004	RW15-MWS	EPA 3005A	294517	EPA 6010C	294562
30249071005	RW18-MWI	EPA 3005A	294517	EPA 6010C	294562
30249071006	RW18-MWS	EPA 3005A	294517	EPA 6010C	294562
30249071007	RW19-MWI	EPA 3005A	294517	EPA 6010C	294562
30249071008	RW19-MWS	EPA 3005A	294517	EPA 6010C	294562

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Secti Invoice	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1600 Sparrows Point Blvd, Suite B2	Copy To:	Stewart Kabis	Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219			Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	icalenda@enviroanalyticsgroup.com	Purchase Order No.:		Pace Quote Reference:	
Phone:	314-620-3056	Project Name:	Rod and Wire Mill GW Sampling	Pace Project Manager:	Samantha Bayura
Requested Due Date/TAT:	5 Day	Project Number:	10384m-1-1	Pace Profile #:	

Page: 1 of 1

**REGULATORY AGENCY**

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location: MD

STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
					COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME			DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol			Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1	Rw12-mwI		WT G	G			4/11/18	915		1									X	Total Zinc 6010	N																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		4/11/18	1555		4/11/18	1604	
		4/11/18	1759		4/11/18	1845	
		4/11/18	2250		4/11/18	2250	Y

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: Lisa Perrin

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YY): 4/11/18

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name:

EnviroAna

Project #

30249071

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label

APL

LIMS Login

BLM

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used

6

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 3.7 °C Correction Factor: 10.0 °C Final Temp: 3.7 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10D1071	APL 4-11-18
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sample Labels match COC: APL 4-11-18	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
-Includes date/time/ID Matrix:					
Samples Arrived within Hold Time:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sufficient Volume:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Correct Containers Used:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Pace Containers Used:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed:	Date:

## Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 18, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30249283

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 13, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30249283001	RW22-MWI	Water	04/12/18 09:55	04/13/18 00:25
30249283002	RW10-MWI	Water	04/12/18 10:30	04/13/18 00:25
30249283003	RW13-MWI	Water	04/12/18 11:10	04/13/18 00:25
30249283004	RW14-MWS	Water	04/12/18 11:45	04/13/18 00:25
30249283005	RW16-MWI	Water	04/12/18 12:20	04/13/18 00:25
30249283006	RW02-MWI	Water	04/12/18 13:05	04/13/18 00:25
30249283007	RW01-MWS	Water	04/12/18 13:35	04/13/18 00:25
30249283008	RW05-MWS	Water	04/12/18 14:30	04/13/18 00:25

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30249283001	RW22-MWI	EPA 6010C	KAS	2
30249283002	RW10-MWI	EPA 6010C	KAS	2
30249283003	RW13-MWI	EPA 6010C	KAS	2
30249283004	RW14-MWS	EPA 6010C	KAS	2
30249283005	RW16-MWI	EPA 6010C	KAS	2
30249283006	RW02-MWI	EPA 6010C	KAS	2
30249283007	RW01-MWS	EPA 6010C	KAS	2
30249283008	RW05-MWS	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30249283

---

**Method:** EPA 6010C  
**Description:** 6010C MET ICP  
**Client:** EnviroAnalytics Group, LLC  
**Date:** April 18, 2018

### General Information:

8 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 294831

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30249283001,30249472003

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1443730)
  - Zinc
- MSD (Lab ID: 1443731)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW22-MWI</b>		<b>Lab ID: 30249283001</b>		Collected: 04/12/18 09:55		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:39	7440-43-9	
Zinc	<b>44700</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 16:49	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW10-MWI</b>		<b>Lab ID: 30249283002</b>		Collected: 04/12/18 10:30		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>44.4</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 15:52	7440-43-9	
Zinc	<b>13500</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 16:59	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW13-MWI</b>		<b>Lab ID: 30249283003</b>		Collected: 04/12/18 11:10		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>19400</b>	ug/L	300	87.0	100	04/16/18 15:46	04/17/18 17:01	7440-43-9	
Zinc	<b>201000</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 17:01	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW14-MWS</b>		<b>Lab ID: 30249283004</b>		Collected: 04/12/18 11:45		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3220</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 15:56	7440-43-9	
Zinc	<b>62100</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 17:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW16-MWI</b>		<b>Lab ID: 30249283005</b>		Collected: 04/12/18 12:20		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.1J</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 15:59	7440-43-9	
Zinc	<b>11200</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 17:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW02-MWI</b>		<b>Lab ID: 30249283006</b>		Collected: 04/12/18 13:05		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:08	7440-43-9	
Zinc	<b>452</b>	ug/L	10.0	1.0	1	04/16/18 15:46	04/17/18 16:08	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW01-MWS</b>		<b>Lab ID: 30249283007</b>		Collected: 04/12/18 13:35		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>7.6</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:11	7440-43-9	
Zinc	<b>52000</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 17:14	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

<b>Sample: RW05-MWS</b>		<b>Lab ID: 30249283008</b>		Collected: 04/12/18 14:30		Received: 04/13/18 00:25		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:13	7440-43-9	
Zinc	<b>75.3</b>	ug/L	10.0	1.0	1	04/16/18 15:46	04/17/18 16:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

QC Batch:	294831	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30249283001, 30249283002, 30249283003, 30249283004, 30249283005, 30249283006, 30249283007, 30249283008		

METHOD BLANK:	1443727	Matrix:	Water
Associated Lab Samples:	30249283001, 30249283002, 30249283003, 30249283004, 30249283005, 30249283006, 30249283007, 30249283008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	04/17/18 15:37	
Zinc	ug/L	10.0 U	10.0	1.0	04/17/18 15:37	

LABORATORY CONTROL SAMPLE: 1443728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	488	98	80-120	
Zinc	ug/L	500	497	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443730 1443731

Parameter	Units	30249283001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	540	537	108	107	75-125	1	20	
Zinc	ug/L	44700	500	500	44500	44900	-46	34	75-125	1	20 ML	

MATRIX SPIKE SAMPLE: 1443733

Parameter	Units	30249472003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L		2.6J	500	532	106	75-125
Zinc	ug/L		402	500	869	93	75-125

SAMPLE DUPLICATE: 1443729

Parameter	Units	30249283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	44700	44400	1	20	

SAMPLE DUPLICATE: 1443732

Parameter	Units	30249472003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2.6J	2.8J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

SAMPLE DUPLICATE: 1443732

Parameter	Units	30249472003 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	402	399	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249283

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30249283001	RW22-MWI	EPA 3005A	294831	EPA 6010C	294864
30249283002	RW10-MWI	EPA 3005A	294831	EPA 6010C	294864
30249283003	RW13-MWI	EPA 3005A	294831	EPA 6010C	294864
30249283004	RW14-MWS	EPA 3005A	294831	EPA 6010C	294864
30249283005	RW16-MWI	EPA 3005A	294831	EPA 6010C	294864
30249283006	RW02-MWI	EPA 3005A	294831	EPA 6010C	294864
30249283007	RW01-MWS	EPA 3005A	294831	EPA 6010C	294864
30249283008	RW05-MWS	EPA 3005A	294831	EPA 6010C	294864

## REPORT OF LABORATORY ANALYSIS

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# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name:

Enviro Ang.

Project # 30249283

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label BSH

LIMS Login ANL

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 6 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.0 °C Correction Factor: 10.0 °C Final Temp: 3.1 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:
Chain of Custody Present:	X			100101	1702-4-13-18
Chain of Custody Filled Out:	X				
Chain of Custody Relinquished:	X				
Sampler Name & Signature on COC:	X				
Sample Labels match COC:	X				
-Includes date/time/ID Matrix: WT					
Samples Arrived within Hold Time:	X				
Short Hold Time Analysis (<72hr remaining):		X			
Rush Turn Around Time Requested:	X				
Sufficient Volume:	X				
Correct Containers Used:	X				
-Pace Containers Used:	X				
Containers Intact:	X				
Orthophosphate field filtered			X		
Hex Cr Aqueous Compliance/NPDES sample field filtered			X		
Organic Samples checked for dechlorination:			X		
Filtered volume received for Dissolved tests			X		
All containers have been checked for preservation.	X				
All containers needing preservation are found to be in compliance with EPA recommendation.	X				
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed AM	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			X		
Trip Blank Present:		X			
Trip Blank Custody Seals Present			X		
Rad Aqueous Samples Screened > 0.5 mrem/hr			X	Initial when completed:	Date:

## Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

April 18, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: Rod and Wire Mill GW Sampling  
Pace Project No.: 30249472

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on April 13, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30249472001	RW01-MWI	Water	04/13/18 10:00	04/13/18 23:15
30249472002	RW02-MWS	Water	04/13/18 10:50	04/13/18 23:15
30249472003	RW05-MWI	Water	04/13/18 11:45	04/13/18 23:15

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30249472001	RW01-MWI	EPA 6010C	KAS	2
30249472002	RW02-MWS	EPA 6010C	KAS	2
30249472003	RW05-MWI	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** April 18, 2018

### General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 294831

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30249283001,30249472003

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1443730)
  - Zinc
- MSD (Lab ID: 1443731)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

<b>Sample: RW01-MWI</b>		<b>Lab ID: 30249472001</b>		Collected: 04/13/18 10:00		Received: 04/13/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>16.5</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:15	7440-43-9	
Zinc	<b>576</b>	ug/L	10.0	1.0	1	04/16/18 15:46	04/17/18 16:15	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

<b>Sample: RW02-MWS</b>		<b>Lab ID: 30249472002</b>		Collected: 04/13/18 10:50		Received: 04/13/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>16.7</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:18	7440-43-9	
Zinc	<b>5320</b>	ug/L	1000	104	100	04/16/18 15:46	04/17/18 17:17	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

<b>Sample: RW05-MWI</b>		<b>Lab ID: 30249472003</b>		Collected: 04/13/18 11:45		Received: 04/13/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>2.6J</b>	ug/L	3.0	0.87	1	04/16/18 15:46	04/17/18 16:20	7440-43-9	
Zinc	<b>402</b>	ug/L	10.0	1.0	1	04/16/18 15:46	04/17/18 16:20	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

QC Batch: 294831 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30249472001, 30249472002, 30249472003

METHOD BLANK: 1443727 Matrix: Water

Associated Lab Samples: 30249472001, 30249472002, 30249472003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	04/17/18 15:37	
Zinc	ug/L	10.0 U	10.0	1.0	04/17/18 15:37	

LABORATORY CONTROL SAMPLE: 1443728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	488	98	80-120	
Zinc	ug/L	500	497	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443730 1443731

Parameter	Units	30249283001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	540	537	108	107	75-125	1	20	
Zinc	ug/L	44700	500	500	44500	44900	-46	34	75-125	1	20 ML	

MATRIX SPIKE SAMPLE: 1443733

Parameter	Units	30249472003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	2.6J	500	532	106	75-125	
Zinc	ug/L	402	500	869	93	75-125	

SAMPLE DUPLICATE: 1443729

Parameter	Units	30249283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	44700	44400	1	20	

SAMPLE DUPLICATE: 1443732

Parameter	Units	30249472003 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	2.6J	2.8J		20	
Zinc	ug/L	402	399	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Rod and Wire Mill GW Sampling

Pace Project No.: 30249472

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30249472001	RW01-MWI	EPA 3005A	294831	EPA 6010C	294864
30249472002	RW02-MWS	EPA 3005A	294831	EPA 6010C	294864
30249472003	RW05-MWI	EPA 3005A	294831	EPA 6010C	294864

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

30249472

## Section A

Required Client Information:

Company: EnviroAnalytics Group

Address: 1600 Sparrows Point Blvd, Suite B2

Sparrows Point, MD 21219

Email To: jcalenda@enviroanalyticsgroup.com

Phone: 314-620-3056 Fax:

Requested Due Date/TAT: 5 Day

## Section B

Required Project Information:

Report To: James Calenda

Copy To: Stewart Kabis

Purchase Order No.:

Project Name: Rod and Wire Mill GW Sampling

Project Number: 170384M-L-1

## Section C

Invoice Information:

Attention: Laura Sargent

Company Name: EnviroAnalytics Group

Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131

Pace Quote Reference:

Pace Project Manager: Samantha Bayura

Pace Profile #:

## REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location

STATE: MD

Requested Analysis: Etkin/VIN

WO#: 30249472



30249472

ITEM #	Valid Matrix Codes		Matrix Code		Sample Type (G-GRAB C-COMP)		Collected		Sample Temp at Collection		Preservatives		Analysis Test		Total Zinc 6010		Total Cadmium 6010		Residual Chlorine		Pace Project No./ Lab I.D.	
	MATRIX	CODE	MATRIX	CODE	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME
1	DRINKING WATER	DW	WASTE WATER	WW	4/13/18	1000	4/13/18	1000													001	
2	WASTE WATER	WW	PRODUCT	P	4/13/18	1050	4/13/18	1050													002	
3	SOIL/SOLID	SL	WASTE WATER	WW	4/13/18	1145	4/13/18	1145													003	
4	OIL	OL	WASTE WATER	WW																		
5	WIPE	WP	WASTE WATER	WW																		
6	AIR	AR	WASTE WATER	WW																		
7	OTHER	OT	WASTE WATER	WW																		
8	TISSUE	TS	WASTE WATER	WW																		
9																						
10																						
11																						
12																						

## ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

Temp in °C

Received on

Cooler (Y/N)

Samples Intact (Y/N)

## SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: SPARROWS

Project #

30249472-

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label	<u>ARM</u>
LIMS Login	<u>ARM</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used Q Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.5 °C Correction Factor: +0.0 °C Final Temp: 1.5 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10D1071	ARM 4/14/18
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Includes date/time/ID Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>ARM</u>	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>8mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed:	Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 03, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: A3 metals gw 3rd Quarter  
Pace Project No.: 30260765

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 30, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

---

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30260765001	RW05-MW(I)	Water	07/30/18 11:44	07/30/18 23:00
30260765002	RW05-MW(S)	Water	07/30/18 12:27	07/30/18 23:00
30260765003	RW18-MW(S)	Water	07/30/18 13:51	07/30/18 23:00
30260765004	RW18-MW(I)	Water	07/30/18 14:34	07/30/18 23:00

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30260765001	RW05-MW(I)	EPA 6010C	KAS	2
30260765002	RW05-MW(S)	EPA 6010C	KAS	2
30260765003	RW18-MW(S)	EPA 6010C	KAS	2
30260765004	RW18-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 03, 2018

### General Information:

4 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 308040

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30260765001,30260854007

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1505750)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Sample: RW05-MW(I)		Lab ID: 30260765001		Collected: 07/30/18 11:44		Received: 07/30/18 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.3J</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 14:59	7440-43-9	
Zinc	<b>282</b>	ug/L	10.0	1.0	1	08/01/18 16:04	08/02/18 14:59	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Sample: RW05-MW(S)		Lab ID: 30260765002	Collected: 07/30/18 12:27	Received: 07/30/18 23:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:13	7440-43-9	
Zinc	<b>32.6</b>	ug/L	10.0	1.0	1	08/01/18 16:04	08/02/18 15:13	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Sample: RW18-MW(S)		Lab ID: 30260765003		Collected: 07/30/18 13:51		Received: 07/30/18 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>7.1</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:16	7440-43-9	
Zinc	<b>439</b>	ug/L	10.0	1.0	1	08/01/18 16:04	08/02/18 15:16	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Sample: RW18-MW(I)		Lab ID: 30260765004		Collected: 07/30/18 14:34		Received: 07/30/18 23:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>35.1</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:24	7440-43-9	
Zinc	<b>330000</b>	ug/L	10000	1040	1000	08/01/18 16:04	08/02/18 15:57	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: A3 metals gw 3rd Quarter  
Pace Project No.: 30260765

QC Batch: 308040 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30260765001, 30260765002, 30260765003, 30260765004

METHOD BLANK: 1505744 Matrix: Water  
Associated Lab Samples: 30260765001, 30260765002, 30260765003, 30260765004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	08/02/18 15:54	
Zinc	ug/L	10.0 U	10.0	1.0	08/02/18 15:54	

LABORATORY CONTROL SAMPLE: 1505745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	524	105	80-120	
Zinc	ug/L	500	517	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1505747 1505748

Parameter	Units	30260765001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1.3J	500	500	530	532	106	106	75-125	0	20	
Zinc	ug/L	282	500	500	770	771	98	98	75-125	0	20	

MATRIX SPIKE SAMPLE: 1505750

Parameter	Units	30260854007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	44.7	500	600	111	75-125	
Zinc	ug/L	17600	500	18400	158	75-125 MH	

SAMPLE DUPLICATE: 1505746

Parameter	Units	30260765001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.3J	1.2J		20	
Zinc	ug/L	282	277	2	20	

SAMPLE DUPLICATE: 1505749

Parameter	Units	30260854007 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	44.7	45.5	2	20	
Zinc	ug/L	17600	18000	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH	Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.
----	--

## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A3 metals gw 3rd Quarter

Pace Project No.: 30260765

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30260765001	RW05-MW(I)	EPA 3005A	308040	EPA 6010C	308108
30260765002	RW05-MW(S)	EPA 3005A	308040	EPA 6010C	308108
30260765003	RW18-MW(S)	EPA 3005A	308040	EPA 6010C	308108
30260765004	RW18-MW(I)	EPA 3005A	308040	EPA 6010C	308108

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargen
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219	PO Number:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	icalenda@enviroanalyticsgroup.com	Project Name:	A3 Metals and 3rd Quarter	Pace Quote Reference:	
Phone:	314-620-3056	Project Number:	180227M	Pace Project Manager:	
Requested Due Date/TAT:	5 day			Pace Profile #:	

Section D Required Client Information		Valid Matrix Codes		Sample ID		Sample IDs MUST BE UNIQUE	
ITEM #	Matrix Code	Matrix Code	Matrix Code	Matrix Code	Matrix Code	Matrix Code	Matrix Code
1	RW05-MW(1)	DW	WT	WW	SL	OL	WP
2	RW05-MW(5)	WASTE	WATER	PRODUCT	SOLID	WIFE	APR
3	RW18-MW(5)	OTHER	TISSUE				
4	RW18-MW(1)						
5							
6							
7							
8							
9							
10							
11							
12							

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
James Calenda	7/30/18	15:40	G. Birmingham	7/30/18	15:50	
G. Birmingham	7/30/18	19:00	James Calenda	7/30/18	19:35	
James Calenda	7/30/18	23:00	James Calenda	7/30/18	23:00	

Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
5.4	Y	Y	Y

## Pittsburgh Lab Sample Condition Upon Receipt

30260765

Face Analytical

Client Name:

EnviroAnalytics

Project #

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ noSeals intact: ☐ yes ☐ no

Thermometer Used

10

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

5.3 °C

Correction Factor: 10.1 °C

Final Temp: 5.4 °C

Temp should be above freezing to 6°C

Label

ANL

LIMS Login

ANL

Comments:

Chain of Custody Present:

Chain of Custody Filled Out:

Chain of Custody Relinquished:

Sampler Name &amp; Signature on COC:

Sample Labels match COC:

-Includes date/time/ID

Matrix:

WT

Samples Arrived within Hold Time:

Short Hold Time Analysis (&lt;72hr remaining):

Rush Turn Around Time Requested:

Sufficient Volume:

Correct Containers Used:

-Pace Containers Used:

Containers Intact:

Orthophosphate field filtered

Hex Cr Aqueous Compliance/NPDES sample field filtered

Organic Samples checked for dechlorination:

Filtered volume received for Dissolved tests

All containers have been checked for preservation.

All containers needing preservation are found to be in compliance with EPA recommendation.

exceptions: VOA, coliform, TOC, O&amp;G, Phenolics

pH paper Lot#

10P3671

Date and Initials of person examining contents:

ANL 7-30-18

Yes No N/A

X

X

X

X

X

X

X

X

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Initial when completed

ANL

Date/time of preservation

Lot # of added preservative

Headspace in VOA Vials (&gt;6mm):

Trip Blank Present:

Trip Blank Custody Seals Present

Rad Aqueous Samples Screened &gt; 0.5 mrem/hr

Initial when completed:

Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 03, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: A3 Metals GW 3rd quarter  
Pace Project No.: 30260854

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on July 31, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30260854001	RW19-MW(S)	Water	07/31/18 10:15	07/31/18 23:15
30260854002	RW19-MW(I)	Water	07/31/18 10:50	07/31/18 23:15
30260854003	RW08-MW(S)	Water	07/31/18 11:40	07/31/18 23:15
30260854004	RW08-MW(I)	Water	07/31/18 12:20	07/31/18 23:15
30260854005	RW07-MW(S)	Water	07/31/18 14:00	07/31/18 23:15
30260854006	RW07-MW(I)	Water	07/31/18 14:45	07/31/18 23:15
30260854007	RW10-MW(I)	Water	07/31/18 15:35	07/31/18 23:15

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30260854001	RW19-MW(S)	EPA 6010C	KAS	2
30260854002	RW19-MW(I)	EPA 6010C	KAS	2
30260854003	RW08-MW(S)	EPA 6010C	KAS	2
30260854004	RW08-MW(I)	EPA 6010C	KAS	2
30260854005	RW07-MW(S)	EPA 6010C	KAS	2
30260854006	RW07-MW(I)	EPA 6010C	KAS	2
30260854007	RW10-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 03, 2018

### General Information:

7 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 308040

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30260765001,30260854007

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 1505750)
- Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Sample: RW19-MW(S)		Lab ID: 30260854001		Collected: 07/31/18 10:15		Received: 07/31/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.2J</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:27	7440-43-9	
Zinc	<b>10100</b>	ug/L	1000	104	100	08/01/18 16:04	08/02/18 15:59	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Sample: RW19-MW(I)		Lab ID: 30260854002		Collected: 07/31/18 10:50		Received: 07/31/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1560</b>	ug/L	30.0	8.7	10	08/01/18 16:04	08/02/18 16:02	7440-43-9	
Zinc	<b>4880000</b>	ug/L	20000	2080	2000	08/01/18 16:04	08/02/18 16:31	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Sample: RW08-MW(S)		Lab ID: 30260854003		Collected: 07/31/18 11:40		Received: 07/31/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:32	7440-43-9	
Zinc	<b>6640</b>	ug/L	1000	104	100	08/01/18 16:04	08/02/18 16:07	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

<b>Sample: RW08-MW(I)</b>		<b>Lab ID: 30260854004</b>		Collected: 07/31/18 12:20		Received: 07/31/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>14.1</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:34	7440-43-9	
Zinc	<b>2540</b>	ug/L	10.0	1.0	1	08/01/18 16:04	08/02/18 15:34	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Sample: RW07-MW(S)		Lab ID: 30260854005		Collected: 07/31/18 14:00		Received: 07/31/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.8</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:36	7440-43-9	
Zinc	<b>248</b>	ug/L	10.0	1.0	1	08/01/18 16:04	08/02/18 15:36	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

<b>Sample: RW07-MW(I)</b>		<b>Lab ID: 30260854006</b>	Collected: 07/31/18 14:45	Received: 07/31/18 23:15	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>52.9</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:39	7440-43-9	
Zinc	<b>26300</b>	ug/L	1000	104	100	08/01/18 16:04	08/02/18 16:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Sample: RW10-MW(I)		Lab ID: 30260854007		Collected: 07/31/18 15:35		Received: 07/31/18 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>44.7</b>	ug/L	3.0	0.87	1	08/01/18 16:04	08/02/18 15:41	7440-43-9	
Zinc	<b>17600</b>	ug/L	1000	104	100	08/01/18 16:04	08/02/18 16:11	7440-66-6	MH

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: A3 Metals GW 3rd quarter  
Pace Project No.: 30260854

QC Batch: 308040 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30260854001, 30260854002, 30260854003, 30260854004, 30260854005, 30260854006, 30260854007

METHOD BLANK: 1505744 Matrix: Water  
Associated Lab Samples: 30260854001, 30260854002, 30260854003, 30260854004, 30260854005, 30260854006, 30260854007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	08/02/18 15:54	
Zinc	ug/L	10.0 U	10.0	1.0	08/02/18 15:54	

LABORATORY CONTROL SAMPLE: 1505745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	524	105	80-120	
Zinc	ug/L	500	517	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1505747 1505748

Parameter	Units	30260765001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	1.3J	500	500	530	532	106	106	75-125	0	20	
Zinc	ug/L	282	500	500	770	771	98	98	75-125	0	20	

MATRIX SPIKE SAMPLE: 1505750

Parameter	Units	30260854007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	44.7	500	600	111	75-125	
Zinc	ug/L	17600	500	18400	158	75-125 MH	

SAMPLE DUPLICATE: 1505746

Parameter	Units	30260765001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	1.3J	1.2J		20	
Zinc	ug/L	282	277	2	20	

SAMPLE DUPLICATE: 1505749

Parameter	Units	30260854007 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	44.7	45.5	2	20	
Zinc	ug/L	17600	18000	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

MH	Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.
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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260854

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30260854001	RW19-MW(S)	EPA 3005A	308040	EPA 6010C	308108
30260854002	RW19-MW(I)	EPA 3005A	308040	EPA 6010C	308108
30260854003	RW08-MW(S)	EPA 3005A	308040	EPA 6010C	308108
30260854004	RW08-MW(I)	EPA 3005A	308040	EPA 6010C	308108
30260854005	RW07-MW(S)	EPA 3005A	308040	EPA 6010C	308108
30260854006	RW07-MW(I)	EPA 3005A	308040	EPA 6010C	308108
30260854007	RW10-MW(I)	EPA 3005A	308040	EPA 6010C	308108

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information:		<b>Section B</b> Report To: James Calenda		<b>Section C</b> Invoice Information:	
Company: EnviroAnalytics Group		Copy To:		Attention: Laura Sargent	
Address: 1430 Sparrows Point Blvd				Company Name: EnviroAnalytics Group	
Sparrows Point, MD 21219				Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131	
Email To: jcalenda@enviroanalyticsgroup.com		PO Number:		Pace Quote Reference:	
Phone: 314-620-3056		Fax:		Pace Project Manager:	
Requested Due Date/TAT: 5 days		Project Number: 180227M		Pace Profile #:	

<b>REGULATORY AGENCY</b>	
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER
<input type="checkbox"/> DRINKING WATER	<input type="checkbox"/> OTHER
<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER
Site Location	MD
STATE:	

ITEM #	Valid Matrix Codes MATRIX DRINKING WATER WASTE WATER PRODUCT SOLID OIL WIPE AIR OTHER TISSUE	MATRIX CODE DW WT WW P SL OL WP AR OT TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Analysis Test ↑	Y/N	Requested Analysis Filtered (Y/N)												Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB																									
1			WT G			7/31/18 1005	1									X														001
2						1050	1									X														002
3						1140	1									X														003
4						1220	1									X														004
5						1400	1									X														005
6						1445	1									X														006
7						1535	1									X														007
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package Required? (Y/N):	Liana (Signed)	7/31/18	16:00	A. B. Bermingham	7/31/18	16:40	
Data Validation Required? (Y/N):	A. B. Bermingham	7/31/18	19:10	A. B. Bermingham	7/31/18	19:15	
If data package is required, attach data package checklist.	A. B. Bermingham	7/31/18	23:15	A. B. Bermingham	7/31/18	23:15	

Temp in °C		Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER: Liana (Signed)				
SIGNATURE of SAMPLER: Liana (Signed)				
DATE Signed (MM/DD/YY): 07/31/18				

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name:

EnviroAnalytics

Project #

30260854

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Face Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no

Seals intact: ☐ yes ☐ no

Thermometer Used

10

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

3.3

°C

Correction Factor: 10.1

°C

Final Temp:

3.4

°C

Temp should be above freezing to 6°C

Label	ANL
LIMS Login	ANL

Comments:

Yes No N/A

pH paper Lot#

1003671

Date and Initials of person examining

contents: ANL 7-31-18

Chain of Custody Present:

X

1.

Chain of Custody Filled Out:

X

2.

Chain of Custody Relinquished:

X

3.

Sampler Name & Signature on COC:

X

4.

Sample Labels match COC:

X

5.

-Includes date/time/ID

Matrix:

Wt

Samples Arrived within Hold Time:

X

6.

Short Hold Time Analysis (<72hr remaining):

X

7.

Rush Turn Around Time Requested:

X

8.

Sufficient Volume:

X

9.

Correct Containers Used:

X

10.

-Pace Containers Used:

X

Containers Intact:

X

11.

Orthophosphate field filtered

X

12.

Hex Cr Aqueous Compliance/NPDES sample field filtered

X

13.

Organic Samples checked for dechlorination:

X

14.

Filtered volume received for Dissolved tests

X

15.

All containers have been checked for preservation.

X

16.

All containers needing preservation are found to be in compliance with EPA recommendation.

X

exceptions: VOA, coliform, TOC, O&G, Phenolics

Initial when completed

Date/time of preservation

Lot # of added preservative

Headspace in VOA Vials (>6mm):

X

17.

Trip Blank Present:

X

18.

Trip Blank Custody Seals Present

X

Rad Aqueous Samples Screened > 0.5 mrem/hr

X

Initial when completed:

Date:

Client Notification/ Resolution:

Person Contacted:

Date/Time:

Contacted By:

Comments/ Resolution:

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 08, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: A3 Metals GW 3rd quarter  
Pace Project No.: 30260983

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30260983001	RW02-MW(I)	Water	08/01/18 10:30	08/02/18 00:15
30260983002	RW02-MW(S)	Water	08/01/18 11:35	08/02/18 00:15
30260983003	RW01-MW(S)	Water	08/01/18 13:55	08/02/18 00:15
30260983004	RW01-MW(I)	Water	08/01/18 14:40	08/02/18 00:15
30260983005	RW03-MW(S)	Water	08/01/18 16:25	08/02/18 00:15

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30260983001	RW02-MW(I)	EPA 6010C	KAS	2
30260983002	RW02-MW(S)	EPA 6010C	KAS	2
30260983003	RW01-MW(S)	EPA 6010C	KAS	2
30260983004	RW01-MW(I)	EPA 6010C	KAS	2
30260983005	RW03-MW(S)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

---

**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 08, 2018

### General Information:

5 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 308395

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30260983001

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1507324)
  - Zinc
- MSD (Lab ID: 1507325)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

Sample: RW02-MW(I)		Lab ID: 30260983001		Collected: 08/01/18 10:30		Received: 08/02/18 00:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>79.9</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 15:35	7440-43-9	
Zinc	<b>5030</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:14	7440-66-6	ML

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

Sample: RW02-MW(S)		Lab ID: 30260983002		Collected: 08/01/18 11:35		Received: 08/02/18 00:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.2</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 15:49	7440-43-9	
Zinc	<b>5470</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:35	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

<b>Sample: RW01-MW(S)</b>		<b>Lab ID: 30260983003</b>		Collected: 08/01/18 13:55		Received: 08/02/18 00:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>1.6J</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 15:52	7440-43-9	
Zinc	<b>24100</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:37	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

<b>Sample: RW01-MW(I)</b>		<b>Lab ID: 30260983004</b>		Collected: 08/01/18 14:40		Received: 08/02/18 00:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>250</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 16:00	7440-43-9	
Zinc	<b>9710</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:40	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

Sample: RW03-MW(S)		Lab ID: 30260983005		Collected: 08/01/18 16:25		Received: 08/02/18 00:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>10.8</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 16:02	7440-43-9	
Zinc	<b>25600</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:42	7440-66-6	

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## QUALITY CONTROL DATA

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

QC Batch: 308395 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30260983001, 30260983002, 30260983003, 30260983004, 30260983005

METHOD BLANK: 1507321 Matrix: Water  
Associated Lab Samples: 30260983001, 30260983002, 30260983003, 30260983004, 30260983005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	08/07/18 15:30	
Zinc	ug/L	1.1J	10.0	1.0	08/07/18 15:30	

LABORATORY CONTROL SAMPLE: 1507322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	535	107	80-120	
Zinc	ug/L	500	529	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1507324 1507325

Parameter	Units	30260983001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	79.9	500	500	605	610	105	106	75-125	1	20	
Zinc	ug/L	5030	500	500	5300	5300	54	54	75-125	0	20 ML	

SAMPLE DUPLICATE: 1507323

Parameter	Units	30260983001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	79.9	72.9	9	20	
Zinc	ug/L	5030	4840	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30260983

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30260983001	RW02-MW(I)	EPA 3005A	308395	EPA 6010C	308422
30260983002	RW02-MW(S)	EPA 3005A	308395	EPA 6010C	308422
30260983003	RW01-MW(S)	EPA 3005A	308395	EPA 6010C	308422
30260983004	RW01-MW(I)	EPA 3005A	308395	EPA 6010C	308422
30260983005	RW03-MW(S)	EPA 3005A	308395	EPA 6010C	308422

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	EnviroAnalytics Group	Report To:	James Calenda	Attention:	Laura Sargent
Address:	1430 Sparrows Point Blvd	Copy To:		Company Name:	EnviroAnalytics Group
	Sparrows Point, MD 21219	PO Number:		Address:	1650 Des Peres Road, Suite 303 St. Louis, MO 63131
Email To:	icalenda@enviroanalyticsgroup.com	Project Name:	A3 metals and 3rd quarter	Pace Quote Reference:	
Phone:	314-620-3056	Project Number:	180227m	Pace Project Manager:	
Requested Due Date/TAT:	5 days			Pace Profile #:	

ITEM #	Valid Matrix Codes MATRIX CODE DW WT WATER WASTE WATER PRODUCT SOLID OIL WIPE AIR OTHER Tissue	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> HCl NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other	Analysis Test ↑ Zinc/Cadmium	Temp in °C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
			DATE	TIME								
1	RW02-mw(I)	WTG	8/11/18	10:30		1						
2	RW02-mw(S)	WTG		11:35		1						
3	RW01-mw(S)	WTG		13:55		1						
4	RW01-mw(I)	WTG		14:40		1						
5	RW03-mw(S)	WTG		16:25		1						
6												
7												
8												
9												
10												
11												
12												

<b>ADDITIONAL COMMENTS</b>	<b>RELINQUISHED BY / AFFILIATION</b>	<b>DATE</b>	<b>TIME</b>	<b>ACCEPTED BY / AFFILIATION</b>	<b>DATE</b>	<b>TIME</b>	<b>SAMPLE CONDITIONS</b>
Data Package Required? (Y/N):	Liana Agrios	8/11/18	16:48	A. Bermingham	8/11/18	16:50	
Data Validation Required? (Y/N):	Liana Agrios	8/11/18	19:50	A. Bermingham	8/11/18	20:20	
If data package is required, attach data package checklist.	Liana Agrios	8/11/18	01:15	A. Bermingham	8/11/18	01:35	

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: Enviro Analytics

Project # 30260983

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other \_\_\_\_\_

Tracking #: \_\_\_\_\_

Label <u>ANV</u>
LIMS Login <u>ANV</u>

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 10 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 3.3 °C Correction Factor: 10.1 °C Final Temp: 3.4 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>1003671</u>	<u>AM 8-278</u>
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Includes date/time/ID Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>AM</u>	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Trip Blank Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed	Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 08, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: A3 Metals GW 3rd quarter  
Pace Project No.: 30261111

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## SAMPLE SUMMARY

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30261111001	RW22-MW(I)	Water	08/02/18 10:45	08/02/18 23:45
30261111002	RW14-MW(S)	Water	08/02/18 14:10	08/02/18 23:45
30261111003	RW15-MW(S)	Water	08/02/18 12:05	08/02/18 23:45
30261111004	RW15-MW(I)	Water	08/02/18 13:05	08/02/18 23:45

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## SAMPLE ANALYTE COUNT

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30261111001	RW22-MW(I)	EPA 6010C	KAS	2
30261111002	RW14-MW(S)	EPA 6010C	KAS	2
30261111003	RW15-MW(S)	EPA 6010C	KAS	2
30261111004	RW15-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 08, 2018

### General Information:

4 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 308395

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30260983001

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 1507324)
  - Zinc
- MSD (Lab ID: 1507325)
  - Zinc

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

<b>Sample: RW22-MW(I)</b>		<b>Lab ID: 30261111001</b>		Collected: 08/02/18 10:45		Received: 08/02/18 23:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 16:05	7440-43-9	
Zinc	<b>73300</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:45	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

Sample: RW14-MW(S)		Lab ID: 30261111002		Collected: 08/02/18 14:10		Received: 08/02/18 23:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3630</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 16:07	7440-43-9	
Zinc	<b>64100</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:47	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

Sample: RW15-MW(S)		Lab ID: 30261111003		Collected: 08/02/18 12:05		Received: 08/02/18 23:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>38.5</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 16:09	7440-43-9	
Zinc	<b>1320</b>	ug/L	10.0	1.0	1	08/03/18 17:48	08/07/18 16:09	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

<b>Sample: RW15-MW(I)</b>		<b>Lab ID: 30261111004</b>		Collected: 08/02/18 13:05		Received: 08/02/18 23:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>15.3</b>	ug/L	3.0	0.87	1	08/03/18 17:48	08/07/18 16:12	7440-43-9	
Zinc	<b>18600</b>	ug/L	1000	104	100	08/03/18 17:48	08/07/18 16:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

QC Batch: 308395 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30261111001, 30261111002, 30261111003, 30261111004

METHOD BLANK: 1507321 Matrix: Water  
Associated Lab Samples: 30261111001, 30261111002, 30261111003, 30261111004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	08/07/18 15:30	
Zinc	ug/L	1.1J	10.0	1.0	08/07/18 15:30	

LABORATORY CONTROL SAMPLE: 1507322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	535	107	80-120	
Zinc	ug/L	500	529	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1507324 1507325

Parameter	Units	30260983001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	79.9	500	500	605	610	105	106	75-125	1	20	
Zinc	ug/L	5030	500	500	5300	5300	54	54	75-125	0	20 ML	

SAMPLE DUPLICATE: 1507323

Parameter	Units	30260983001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	79.9	72.9	9	20	
Zinc	ug/L	5030	4840	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261111

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30261111001	RW22-MW(I)	EPA 3005A	308395	EPA 6010C	308422
30261111002	RW14-MW(S)	EPA 3005A	308395	EPA 6010C	308422
30261111003	RW15-MW(S)	EPA 3005A	308395	EPA 6010C	308422
30261111004	RW15-MW(I)	EPA 3005A	308395	EPA 6010C	308422

## REPORT OF LABORATORY ANALYSIS

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## Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name:

Enrico Analytics

Project #

30261111

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Label

ANL

LIMS Login

ANL

Custody Seal on Cooler/Box Present: ☐ yes ☒ noSeals intact: ☐ yes ☐ no

Thermometer Used

10

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature

Observed Temp

4.3 °C

Correction Factor:

+0.1 °C

Final Temp:

4.4 °C

Temp should be above freezing to 6°C

Comments:	pH paper Lot#			Date and Initials of person examining contents:
	Yes	No	N/A	
Chain of Custody Present:	X			1. 1003671
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:	X			4.
Sample Labels match COC:	X			5.
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:	X			8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:	X			
Containers Intact:	X			11.
Orthophosphate field filtered			X	12.
Hex Cr Aqueous Compliance/NPDES sample field filtered			X	13.
Organic Samples checked for dechlorination:			X	14.
Filtered volume received for Dissolved tests			X	15.
All containers have been checked for preservation.	X			16.
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>ANL</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):		X	X	17.
Trip Blank Present:		X	X	18.
Trip Blank Custody Seals Present		X	X	
Rad Aqueous Samples Screened > 0.5 mrem/hr		X	X	Initial when completed: Date:

## Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 08, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: A3 metals gw 3rd quarter  
Pace Project No.: 30261276

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## SAMPLE SUMMARY

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30261276001	RW16-MW(S)	Water	08/03/18 08:15	08/04/18 00:45
30261276002	RW16-MW(I)	Water	08/03/18 08:40	08/04/18 00:45
30261276003	RW13-MW(I)	Water	08/03/18 09:20	08/04/18 00:45
30261276004	RW12-MW(S)	Water	08/03/18 09:50	08/04/18 00:45
30261276005	RW12-MW(I)	Water	08/03/18 10:29	08/04/18 00:45
30261276006	RW11-MW(I)	Water	08/03/18 11:35	08/04/18 00:45
30261276007	RW11-MW(S)	Water	08/03/18 12:14	08/04/18 00:45
30261276008	RW04-MW(S)	Water	08/03/18 13:09	08/04/18 00:45
30261276009	RW06-MW(S)	Water	08/03/18 13:40	08/04/18 00:45
30261276010	RW06-MW(I)	Water	08/03/18 14:30	08/04/18 00:45
30261276011	RW06-MW(D)	Water	08/03/18 15:45	08/04/18 00:45

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## SAMPLE ANALYTE COUNT

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30261276001	RW16-MW(S)	EPA 6010C	KAS	2
30261276002	RW16-MW(I)	EPA 6010C	KAS	2
30261276003	RW13-MW(I)	EPA 6010C	KAS	2
30261276004	RW12-MW(S)	EPA 6010C	KAS	2
30261276005	RW12-MW(I)	EPA 6010C	KAS	2
30261276006	RW11-MW(I)	EPA 6010C	KAS	2
30261276007	RW11-MW(S)	EPA 6010C	KAS	2
30261276008	RW04-MW(S)	EPA 6010C	KAS	2
30261276009	RW06-MW(S)	EPA 6010C	KAS	2
30261276010	RW06-MW(I)	EPA 6010C	KAS	2
30261276011	RW06-MW(D)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 08, 2018

### General Information:

11 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW16-MW(S)		Lab ID: 30261276001		Collected: 08/03/18 08:15		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:09	7440-43-9	
Zinc	<b>35.9</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:09	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW16-MW(I)		Lab ID: 30261276002		Collected: 08/03/18 08:40		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:23	7440-43-9	
Zinc	<b>1230</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:23	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

<b>Sample: RW13-MW(I)</b>		<b>Lab ID: 30261276003</b>		Collected: 08/03/18 09:20		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>21000</b>	ug/L	300	87.0	100	08/06/18 16:46	08/07/18 20:12	7440-43-9	
Zinc	<b>274000</b>	ug/L	1000	104	100	08/06/18 16:46	08/07/18 20:12	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW12-MW(S)		Lab ID: 30261276004		Collected: 08/03/18 09:50		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>5.2</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:34	7440-43-9	
Zinc	<b>2900</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:34	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

<b>Sample: RW12-MW(I)</b>		<b>Lab ID: 30261276005</b>		Collected: 08/03/18 10:29		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>134</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:37	7440-43-9	
Zinc	<b>2410</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:37	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

<b>Sample: RW11-MW(I)</b>		<b>Lab ID: 30261276006</b>		Collected: 08/03/18 11:35		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>4.7</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:39	7440-43-9	
Zinc	<b>15700</b>	ug/L	1000	104	100	08/06/18 16:46	08/07/18 20:14	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW11-MW(S)		Lab ID: 30261276007		Collected: 08/03/18 12:14		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>66.3</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:42	7440-43-9	
Zinc	<b>109000</b>	ug/L	1000	104	100	08/06/18 16:46	08/07/18 20:17	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW04-MW(S)		Lab ID: 30261276008		Collected: 08/03/18 13:09		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 20:19	7440-43-9	
Zinc	<b>7.9J</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 20:19	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW06-MW(S)		Lab ID: 30261276009		Collected: 08/03/18 13:40		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:46	7440-43-9	
Zinc	<b>22.0</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:46	7440-66-6	

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW06-MW(I)		Lab ID: 30261276010		Collected: 08/03/18 14:30		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:49	7440-43-9	
Zinc	<b>191</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:49	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Sample: RW06-MW(D)		Lab ID: 30261276011		Collected: 08/03/18 15:45		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 19:51	7440-43-9	
Zinc	<b>72.6</b>	ug/L	10.0	1.0	1	08/06/18 16:46	08/07/18 19:51	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

QC Batch:	308580	Analysis Method:	EPA 6010C
QC Batch Method:	EPA 3005A	Analysis Description:	6010C MET
Associated Lab Samples:	30261276001, 30261276002, 30261276003, 30261276004, 30261276005, 30261276006, 30261276007, 30261276008, 30261276009, 30261276010, 30261276011		

METHOD BLANK:	1507957	Matrix:	Water
Associated Lab Samples:	30261276001, 30261276002, 30261276003, 30261276004, 30261276005, 30261276006, 30261276007, 30261276008, 30261276009, 30261276010, 30261276011		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	08/07/18 19:04	
Zinc	ug/L	10.0 U	10.0	1.0	08/07/18 19:04	

LABORATORY CONTROL SAMPLE: 1507958						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	516	103	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 15079601507961												
Parameter	Units	30261276001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.								Result
Cadmium	ug/L	3.0 U	500	500	518	527	103	105	75-125	2	20	
Zinc	ug/L	35.9	500	500	531	536	99	100	75-125	1	20	

MATRIX SPIKE SAMPLE:		1507963					
		30261276011	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Cadmium	ug/L	3.0 U	500	535	107	75-125	
Zinc	ug/L	72.6	500	566	99	75-125	

SAMPLE DUPLICATE: 1507959						
Parameter	Units	30261276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	35.9	34.6	4	20	

SAMPLE DUPLICATE: 1507962						
Parameter	Units	30261276011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

SAMPLE DUPLICATE: 1507962

Parameter	Units	30261276011 Result	Dup Result	RPD	Max RPD	Qualifiers
Zinc	ug/L	72.6	72.3	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A3 metals gw 3rd quarter

Pace Project No.: 30261276

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30261276001	RW16-MW(S)	EPA 3005A	308580	EPA 6010C	308602
30261276002	RW16-MW(I)	EPA 3005A	308580	EPA 6010C	308602
30261276003	RW13-MW(I)	EPA 3005A	308580	EPA 6010C	308602
30261276004	RW12-MW(S)	EPA 3005A	308580	EPA 6010C	308602
30261276005	RW12-MW(I)	EPA 3005A	308580	EPA 6010C	308602
30261276006	RW11-MW(I)	EPA 3005A	308580	EPA 6010C	308602
30261276007	RW11-MW(S)	EPA 3005A	308580	EPA 6010C	308602
30261276008	RW04-MW(S)	EPA 3005A	308580	EPA 6010C	308602
30261276009	RW06-MW(S)	EPA 3005A	308580	EPA 6010C	308602
30261276010	RW06-MW(I)	EPA 3005A	308580	EPA 6010C	308602
30261276011	RW06-MW(D)	EPA 3005A	308580	EPA 6010C	308602

## REPORT OF LABORATORY ANALYSIS

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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		<b>Section D</b> Requested Analysis Filtered (Y/N)	
Company: EnviroAnalytics Group		Report To: James Calenda		Attention: Laura Sargent		Requested Analysis Filtered (Y/N)	
Address: 1430 Sparrows Point Blvd		Copy To:		Company Name: EnviroAnalytics Group		Requested Analysis Filtered (Y/N)	
Sparrows Point, MD 21219		PO Number:		Address: 1650 Des Peres Road, Suite 303 St. Louis, MO 63131		Requested Analysis Filtered (Y/N)	
Email To: jcalenda@enviroanalyticsgroup.com		Project Name: A3 Metals 910 3rd grade		Pace Quote Reference:		Requested Analysis Filtered (Y/N)	
Phone: 314-620-3056		Project Number: 180227M		Pace Project Manager:		Requested Analysis Filtered (Y/N)	
Requested Due Date/TAT: 5 day				Pace Profile #:		Requested Analysis Filtered (Y/N)	

ITEM #	Valid Matrix Codes		COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS		PRESERVATIVES		Analysis Test ↑	Residual Cl	Pace Project No./ Lab I.D.		
	MATRIX	CODE	COMPOSITE START	COMPOSITE END/GRAB	DATE	TIME	DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>				HNO <sub>3</sub>	HCl
1	RW16-MW(S)	DW			8/3/18	0915		1					001		
2	RW16-MW(S)	WT				0840		1					002		
3	RW13-MW(S)	WW				0920		1					003		
4	RW12-MW(S)	P				0955		1					004		
5	RW12-MW(S)	SL				1029		1					005		
6	RW11-MW(S)	OL				1135		1					006		
7	RW11-MW(S)	WP				1214		1					007		
8	RW04-MW(S)	AR				1309		1					008		
9	RW06-MW(S)	TS				1340		1					009		
10	RW06-MW(S)					1430		1					010		
11	RW06-MW(S)					1535		1					011		
12															

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package Required? (Y/N):		A. Benninghouse / Pace	8/3/18	1600	A. Benninghouse / Pace	8/3/18	1615	
Data Validation Required? (Y/N):		A. Benninghouse / Pace	8/3/18		A. Benninghouse / Pace	8/3/18	0030	
If data package is required, attach data package checklist.		A. Benninghouse / Pace	8/4/18	0945	A. Benninghouse / Pace	8/4/18	0040	

Temp in °C		Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: Laura M. Alvarado	DATE Signed (MM/DD/YYYY): 08/03/18
SIGNATURE of SAMPLER: <i>[Signature]</i>	

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: Sparrows

Project #

30261276

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 9 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 3.9 °C Correction Factor: +0.0 °C Final Temp: 3.9 °C

Temp should be above freezing to 6°C

Label <u>ARM</u>
LIMS Login <u>BVM</u>

Comments:

	Yes	No	N/A	pH paper Lot# <u>10D3071</u>	Date and Initials of person examining contents: <u>ARM 8/4/18</u>
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.	
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.	
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.	
-Includes date/time/ID Matrix: <u>WT</u>					
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.	
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.	
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.	
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.	
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.	
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.	
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.	
Hex Cr Aqueous Compliance/NPDES sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.	
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.	
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.	
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed: <u>ARM</u>	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.	
Trip Blank Present:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18.	
Trip Blank Custody Seals Present	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Rad Aqueous Samples Screened > 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed:	Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

August 08, 2018

Mr. James Calenda  
EnviroAnalytics Group, LLC  
1600 Sparrows Point Blvd  
Suite B2  
Sparrows Point, MD 21219

RE: Project: A3 Metals GW 3rd quarter  
Pace Project No.: 30261277

Dear Mr. Calenda:

Enclosed are the analytical results for sample(s) received by the laboratory on August 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Samantha Bayura  
samantha.bayura@pacelabs.com  
(724)850-5622  
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.  
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

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### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 9526

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30261277001	RW09-MW(S)	Water	08/02/18 17:50	08/04/18 00:45
30261277002	RW09-MW(I)	Water	08/02/18 18:30	08/04/18 00:45
30261277003	RW03-MW(I)	Water	08/02/18 20:10	08/04/18 00:45

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30261277001	RW09-MW(S)	EPA 6010C	KAS	2
30261277002	RW09-MW(I)	EPA 6010C	KAS	2
30261277003	RW03-MW(I)	EPA 6010C	KAS	2

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

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**Method:** EPA 6010C

**Description:** 6010C MET ICP

**Client:** EnviroAnalytics Group, LLC

**Date:** August 08, 2018

### General Information:

3 samples were analyzed for EPA 6010C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3005A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

Sample: RW09-MW(S)		Lab ID: 30261277001		Collected: 08/02/18 17:50		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>13.1</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 20:05	7440-43-9	
Zinc	<b>10700</b>	ug/L	1000	104	100	08/06/18 16:46	08/07/18 20:22	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

<b>Sample: RW09-MW(I)</b>		<b>Lab ID: 30261277002</b>		Collected: 08/02/18 18:30		Received: 08/04/18 00:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>		Analytical Method: EPA 6010C Preparation Method: EPA 3005A							
Cadmium	<b>3.0 U</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 20:07	7440-43-9	
Zinc	<b>54700</b>	ug/L	1000	104	100	08/06/18 16:46	08/07/18 20:24	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

**Sample:** RW03-MW(I) **Lab ID:** 30261277003 Collected: 08/02/18 20:10 Received: 08/04/18 00:45 Matrix: Water

Comments: • Sample collection times were not present on the sample containers.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010C MET ICP</b>									
Analytical Method: EPA 6010C Preparation Method: EPA 3005A									
Cadmium	<b>236</b>	ug/L	3.0	0.87	1	08/06/18 16:46	08/07/18 20:09	7440-43-9	
Zinc	<b>9710</b>	ug/L	1000	104	100	08/06/18 16:46	08/07/18 20:27	7440-66-6	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

QC Batch: 308580 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3005A Analysis Description: 6010C MET  
Associated Lab Samples: 30261277001, 30261277002, 30261277003

METHOD BLANK: 1507957 Matrix: Water

Associated Lab Samples: 30261277001, 30261277002, 30261277003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cadmium	ug/L	3.0 U	3.0	0.87	08/07/18 19:04	
Zinc	ug/L	10.0 U	10.0	1.0	08/07/18 19:04	

LABORATORY CONTROL SAMPLE: 1507958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	500	516	103	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1507960 1507961

Parameter	Units	30261276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cadmium	ug/L	3.0 U	500	500	518	527	103	105	75-125	2	20	
Zinc	ug/L	35.9	500	500	531	536	99	100	75-125	1	20	

MATRIX SPIKE SAMPLE: 1507963

Parameter	Units	30261276011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	3.0 U	500	535	107	75-125	
Zinc	ug/L	72.6	500	566	99	75-125	

SAMPLE DUPLICATE: 1507959

Parameter	Units	30261276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	35.9	34.6	4	20	

SAMPLE DUPLICATE: 1507962

Parameter	Units	30261276011 Result	Dup Result	RPD	Max RPD	Qualifiers
Cadmium	ug/L	3.0 U	3.0 U		20	
Zinc	ug/L	72.6	72.3	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: A3 Metals GW 3rd quarter

Pace Project No.: 30261277

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30261277001	RW09-MW(S)	EPA 3005A	308580	EPA 6010C	308602
30261277002	RW09-MW(I)	EPA 3005A	308580	EPA 6010C	308602
30261277003	RW03-MW(I)	EPA 3005A	308580	EPA 6010C	308602

## REPORT OF LABORATORY ANALYSIS

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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<b>Section A</b> Required Client Information: Company: <b>EnviroAnalytics Group</b> Address: <b>1430 Sparrows Point Blvd</b> Sparrows Point, MD 21219 Email To: <b>icalenda@enviroanalyticsgroup.com</b> Phone: <b>314-620-3056</b> Fax: Requested Due Date/TAT: <b>5 days</b>		<b>Section B</b> Required Project Information: Report To: <b>James Calenda</b> Copy To: Project Name: <b>H3 metals GW 3rd quarter</b> Project Number: <b>180227M</b>		<b>Section C</b> Invoice Information: Attention: <b>Laura Sargent</b> Company Name: <b>EnviroAnalytics Group</b> Address: <b>550 Des Peres Road, Suite 303 St. Louis, MO 63131</b> Pace Quote Reference: Pace Project Manager: Pace Profile #:	
Regulatory Agency <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		Site Location STATE: <b>MD</b>		Page: <b>1</b> of <b>1</b>	

ITEM #	Valid Matrix Codes MATRIX DRINKING WATER WATER WASTE WATER PRODUCT SOL/SOLID OIL WPE AIR OTHER TISSE	Valid Matrix Codes CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other			
1	RW09-mw(I)		WTG			8/2/18 17:50		1											001
2	RW09-mw(I)		WTG			8/2/18 18:30		1											002
3	RW03-mw(I)		WTG			8/2/18 20:10		1											003
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

WO# : 30261277



30261277

ADDITIONAL COMMENTS Data Package Required? (Y/N): Data Validation Required? (Y/N): If data package is required, attach data package checklist.		RELINQUISHED BY / AFFILIATION DATE TIME		ACCEPTED BY / AFFILIATION DATE TIME		SAMPLE CONDITIONS Received on Ice (Y/N) Custody Sealed (Y/N) Samples Intact (Y/N)	
SAMPALER NAME AND SIGNATURE PRINT Name of SAMPALER: <b>Liam Agrios</b> SIGNATURE of SAMPALER: <b>Liam Agrios</b>		DATE Signed (MM/DD/YY): <b>08/02/18</b>					

# Pittsburgh Lab Sample Condition Upon Receipt

Face Analytical

Client Name: Sparrows

Project # 30261277

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Face Other

Tracking #: \_\_\_\_\_

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Thermometer Used 9

Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temperature Observed Temp 3.9 °C Correction Factor: +0.0 °C Final Temp: 3.9 °C

Temp should be above freezing to 6°C

Label <u>ARM</u>
LIMS Login <u>BUM</u>

Comments:

Yes No N/A

pH paper Lot#

10B3071

Date and Initials of person examining contents: ARM 8/4/18

Chain of Custody Present: ☒ Yes ☐ No ☐ N/A

Chain of Custody Filled Out: ☒ Yes ☐ No ☐ N/A

Chain of Custody Relinquished: ☒ Yes ☐ No ☐ N/A

Sampler Name & Signature on COC: ☒ Yes ☐ No ☐ N/A

Sample Labels match COC: ☐ Yes ☒ No ☐ N/A

-Includes date/time/ID

Matrix: WJ

Samples Arrived within Hold Time: ☒ Yes ☐ No ☐ N/A

Short Hold Time Analysis (<72hr remaining): ☐ Yes ☒ No ☐ N/A

Rush Turn Around Time Requested: ☒ Yes ☐ No ☐ N/A

Sufficient Volume: ☒ Yes ☐ No ☐ N/A

Correct Containers Used: ☒ Yes ☐ No ☐ N/A

-Pace Containers Used: ☒ Yes ☐ No ☐ N/A

Containers Intact: ☒ Yes ☐ No ☐ N/A

Orthophosphate field filtered ☐ Yes ☒ No ☐ N/A

Hex Cr Aqueous Compliance/NPDES sample field filtered ☐ Yes ☒ No ☐ N/A

Organic Samples checked for dechlorination: ☐ Yes ☒ No ☐ N/A

Filtered volume received for Dissolved tests ☐ Yes ☒ No ☐ N/A

All containers have been checked for preservation. ☒ Yes ☐ No ☐ N/A

All containers needing preservation are found to be in compliance with EPA recommendation. ☒ Yes ☐ No ☐ N/A

exceptions: VOA, coliform, TOC, O&G, Phenolics

Initial when completed: ARM

Date/time of preservation

Lot # of added preservative

Headspace in VOA Vials (>6mm): ☐ Yes ☒ No ☐ N/A

Trip Blank Present: ☐ Yes ☒ No ☐ N/A

Trip Blank Custody Seals Present ☐ Yes ☒ No ☐ N/A

Rad Aqueous Samples Screened > 0.5 mrem/hr ☐ Yes ☒ No ☐ N/A

Initial when completed:

Date:

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

☐ A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

\*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.