



October 28, 2016

Maryland Department of the Environment  
1800 Washington Blvd.  
Baltimore MD 21230  
Attention: Ms. Jeannette DeBartolomeo, Case Manager

RE: Off-Site Ozone Treatability Bench-Scale Study  
Calvert Citgo  
2802 Northeast Road (Harrison Residence)  
2794 Northeast Road (O'Brien Residence)  
North East, Maryland 21901  
Facility No. 5678  
**REPSG Project Reference No. 005977.130.01**

Dear Ms. DeBartolomeo,

On August 23, 2016, REPSG conducted an ozone treatability in-lab bench-scale study at the 2794 Northeast Rd residence. As per email correspondence between REPSG and the MDE on August 1, 2016, this in-lab bench scale study was conducted in order to make sure that the planned field-based pilot test ozone treatment study would be appropriately calibrated, allowing for a more effective pilot-test and subsequent full-scale system installation.

Complete details pertaining to the process and results of this bench-scale study are attached. In summary, the results of this treatability study indicated that a combination of ozone and ultraviolet oxidation will be a viable remedial method for addressing both ongoing methyl-tert-butyl ether (MTBE) and tert-butyl alcohol (TBA) concentrations present in drinking water at the off-Site residences.

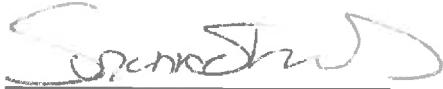
At this time, REPSG is working in conjunction with selected Ozone treatment vendors to put together an appropriately scaled Ozone/Ultraviolet Oxidation treatment pilot test, with the potential for full-scale treatment system implementation, to employ at the residences. REPSG anticipates completion of the Ozone/Ultraviolet Oxidation treatment pilot test at the 2794 Northeast Rd residence by no later than December 31, 2016.

Maryland Department of the Environment  
October 28, 2016

Response to Notice of Non-Compliance  
Calvert Citgo  
2815 Northeast Road  
North East, Cecil County, MD  
REPSG Project Reference No: 005977.130.01

If you have any questions or concerns, please do not hesitate to contact our offices at 215-729-3220.

Sincerely,



Suzanne Shourds  
Project Manager



Brenda MacPhail Kellogg  
Senior Project Manager

**React Environmental Professional Services Group, Inc.**

*Cc:* Susan Bull, MDE  
Andrew Miller, MDE  
Country Stores, Inc.  
James A. Johnson, Esquire (Semmes, Bowen & Semmens)  
Prag Patel, Calvert Citgo  
Robert Valliant Jones, Esquire (Law Offices of Robert Valliant Jones)



October 17, 2016

Suzanne Shrouds  
React Environmental Professional Services Group, Inc.  
6901 Kingsessing Ave., Suite 201  
Philadelphia, PA 19412

Via: Electronic Mail

**RE: Ozone/UV Treatability Study- Potable Well  
2794 North East Rd, NE Maryland**

Dear Ms. Shrouds,

An oxidation/ultraviolet ( $O^3/UV$ ) treatability study was conducted on August 23, 2016 to determine whether volatile organic compounds (VOCs) including methyl tertiary butyl ether (MTBE), 1,2 Dichloroethane and tertiary butyl alcohol (TBA) could be remediated to meet the Maryland Department of Environmental (MDE) public drinking water regulations/target goals and/or the Environmental Protection Agency (EPA) Drinking Water Quality Standards.

The potable drinking water standard for 1,2 Dichloroethane is 5 micrograms per liter ( $\mu g/l$ ). MDE has adopted a drinking water standard for MTBE to be 20  $\mu g/l$ . There is no established formal drinking water standard for TBA; however, the MDE case manager has indicated an acceptable target standard to be 250  $\mu g/l$ .

On August 23, 2016, Brownfield Science & Technology, Inc. (BSTI) collected two 5- gallon potable water samples from the basement of the residence located at 2794 North East Rd, North East, Maryland. One 5-gallon sample was collected post carbon treatment and was labeled as sample PC. The other 5-gallon sample was collected prior to carbon treatment representing an untreated raw potable water sample and was labeled as sample UT.

Subsequently following the collection of the samples, an  $O^3/UV$  treatability study consisting of two treatability tests to verify the effectiveness of chemically oxidizing groundwater impacted with VOCs collected from the potable well.

**SITE HISTORY**

Groundwater contamination consisting of the above compounds of concern and other petroleum related compounds are suspected to have migrated from the Calvert Citgo gasoline retail station. These compounds have reached the potable well located at the above reference residence.

A carbon treatment system was installed on the potable well in the basement of the residence after the pressure bladder tank. Carbon treatment has been ineffective at removing the TBA compounds from the potable water.

### **PRE-TREATABILITY STUDY ACTIVITIES**

Prior to conducting the treatability study, a baseline grab sample was collected from the UT and PC potable water samples.

Calibration of the ozone gas meter, and YSI multi-meter was performed. A pre-water blank test of the treatability bubble column test apparatus was performed to record and check system performance baseline standards.

Two (2) recirculation O<sup>3</sup>/UV treatability tests were conducted using an ozone bubbler chamber followed by a UV system with a lamp 05-1426. During each test, ozone was applied to the ozone bubbler chamber, water was pumped at a flow rate of 0.5 gallons per minute (gpm) from the bottom of the ozone bubbler chamber through the UV system with the water being returned to the top of the ozone bubbler chamber. The ozone injection gas and off-gassing from the Bubbler Chamber was monitored and recorded. Water samples were collected every five (5) minutes from the outlet side of the UV system and field monitored for water quality parameters. Samples of the treated water are also collected and placed into laboratory supplied bottleware every 5 to 10 minutes. The O<sup>3</sup>/UV treatability test consisted of the following equipment:

- Air compressor,
- Oxygen concentrator,
- Ozone generator,
- Column bubbler chamber,
- Ozone analyzer,
- Ozone off-gas air destruct unit,
- UV system,
- Electric recirculation pump,
- Horiba water quality analyzer, and
- Pressure, flow gauges and sampling ports.

The treatability equipment was set at the flows and pressures estimated to demonstrate treatment of the VOCs based upon historical potable water quality data.

Treatability Test #1 (PC) was conducted for 25 minutes. Samples for laboratory analyses were collected at 5, 10, 15 and 25 minutes. Treatability Test #2 (UT) was conducted for 30 minutes with samples collected at 5, 10, 20 and 30 minutes. The baseline samples and the treatability samples were submitted to Alpha Analytical, located in Westborough, Ma (Maryland Certification #348).

Actual individual test measurements were recorded to account for slight variations that occur for each test. **Table 1** provides a summary of the bench-scale testing monitoring data. There was no foaming or other visual observations observed during any of the tests conducted for the treatability study. As shown in **Table 1**, for both tests the field measurements were fairly consistent. The field monitoring measurements indicate oxidation of the VOCs was occurring.

### **TREATABILITY STUDY ANALYTICAL RESULTS**

Alpha Analytical Laboratory's results are summarized in **Table 2** and contained in **Appendix A**.

The analytical results indicate that the treatment goals were satisfied within the first ten (10) minutes of the treatability test conducted on the water sample collected post carbon treatment (PC), and within 20 minutes for the untreated potable water sample (UT). The following tables summarize the results for the three main compounds of concern identified above a standard for this sampling event:

PostCarbonTreatmentSample

<u>Compound</u>	<u>PC-T-00 (Raw)</u> ( $\mu\text{g/l}$ )	<u>PC-T-05 Concentration</u> ( $\mu\text{g/l}$ )	<u>PC-T-10 Concentration</u> ( $\mu\text{g/l}$ )	<u>Regulatory Standard</u> ( $\mu\text{g/l}$ )
1,2-Dichloroethane	ND (0.5)	ND (0.5)	ND (0.5)	5
MTBE	0.19 J	ND (0.5)	ND (0.5)	20
TBA	3600	600	44	250

UntreatedTreatmentSample(Raw)

<u>Compound</u>	<u>UT-T- 00 (Raw)</u> ( $\mu\text{g/l}$ )	<u>UT-T-05 Concentration</u> ( $\mu\text{g/l}$ )	<u>UT-T-10 Concentration</u> ( $\mu\text{g/l}$ )	<u>UT-T-20 Concentration</u> ( $\mu\text{g/l}$ )	<u>Regulatory Standard</u> ( $\mu\text{g/l}$ )
1,2-Dichloroethane	11	6.3	3.2	1.1	5
MTBE	380	120	18	ND (0.5)	20
TBA	3400	1600	480	19	250

(J)- estimated value above method detection limit

ND (0.5) - not detected above the method detection limit (0.5)

PC-T-00 & UT-T-00 represent baseline sample results prior to starting the treatability testing.

PC-T-05- the last two digits represent the # of minutes the sample was collected into the treatability testing.

### **TREATABILITY STUDY SUMMARY**

For both treatability tests, all compounds were oxidized to below the MDE regulatory limit goal within 20 minutes

The applied ozone demand was calculated for each test conducted per treatability study using the total ozone applied flow rate and concentration, total volume of water used during the test and the treatment time period required for all analytical results to be below the MDE regulatory limit/target goal; which, for Treatability Test # 1 was for 10 minutes, and Treatability Test # 2 was 20 minutes.

During the treatability tests ozone injection gas and off-gassing were monitored and recorded. The mass transfer of ozone gas within a bubble column is not as efficient as other full-scale treatment systems. By measuring the injection gas and off-gassing the percent of ozone transfer and an applied ozone oxygen demand can be calculated. Results of these calculations are provided in the table below:

Test #	Avg. Ozone Injected g/m <sup>3</sup>	Avg. Ozone Off-gas g/m <sup>3</sup>	Mass Transfer Efficiency %	Total Applied Ozone g/liter	Effective Applied Ozone g/liter
1	103	71	31	0.12	0.04
2	114	53	54	0.27	0.14

Where;

g/m<sup>3</sup> = grams per cubic meter

g/liter = grams of ozone per liter

Test 1 Applied Ozone g/liter was calculated based upon 10 minutes; Test 2 was calculated based upon 20 minutes to achieve the potable well drinking water standards.

Though the two potable well samples contained similar total VOC concentrations, the applied ozone rate for the untreated (raw) potable well sample was calculated to be over twice that of the portable well sample that had been pre-treated with carbon. Historical water usage data was provided for the period of February 13, 2015 to February 19, 2016. The average daily usage was calculated to be 220 gallons per day (gpd) with the highest average reported to be 318 gpd. Using the maximum daily average an ozone system output of approximately  $\frac{3}{4}$  pound per day would be sufficient to treat the potable water.

The ozone benchscale test was effective in oxidizing the contaminants of concern in the groundwater to below the MDE drinking water standards. The calculated effective applied ozone demand is reasonably low, making the use of ozone/UV oxidation a viable remedial alternative. The system can be scaled up without other technologies to address higher flow rates. Often these full-scale systems are designed in batch type operations to avoid having to size equipment for maximum single flow one-pass system.

Ozone/UV Treatability Study- Potable Well

October 17, 2016

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Thank you for the opportunity to provide the treatability testing. Please feel free to contact us with any questions regarding the testing and summary results.

Sincerely,

**Brownfield Science& Technology, Inc.**



Tony Finding, CHMM  
Senior Project Manager

Attachments



## **TABLES**

**TABLE 1**  
**TREATABILITY TESTING FIELD MEASUREMENTS**  
**Residence Potable Well**  
**2784 North East Rd, North East MD**  
**Combined Ozone UV Treatment**

Date: Tuesday August 23, 2016

Test #	Time	Treatability Column Test Parameters								HORIBA								Analytical		
		Water Flow Volume (liters)	Oxygen Concentrator Pressure (psi)	Ozone Flow Rate (lpm)	Column Pressure (psi)	Injection Gas Analyzer g/m3 Ozone	Injection Gas Analyzer % Ozone	Injection Gas Off-gas Analyzer g/m3 Ozone	Injection Gas Off-gas % Ozone	GPM Flow rate	Temp degree C	pH	pHmV	ORP mV	mS/cm	TSS NTU	DO mg/l	TDS g/l	ppt	
<b>Water Baseline</b>	<b>16:25</b>	Ozonated & UV tap water								25.86	6.69	2	196	0.932	0.100	5.07	0.597	0.5		
	<b>18:08</b>	base line sample Test 1- treated sample with carbon before testing								12.12	6.06	55	356	0.722	0.00	5.07	0.46	0.30		
	<b>19:02</b>	base line sample Test 2- untreated sample before carbon treatment (raw)								24.25	6.74	0	199	0.406	0.00	3.41	0.26	0.20		
<b>Test 1</b>	<b>18:26</b>	17.03435	NA	2	2.5	92	6.43	20	1.39	0.5	24.17	6.77	-4	352	0.551	0	12.44	0.353	0.3	<b>Baseline</b>
<b>Test 2</b>	<b>19:20</b>	17.03435	NA	2	2.5	112	7.83	20.90667	1.46	0.5	24.31	6.73	-1	179	0.453	0	8.83	0.294	0.2	<b>Baseline</b>

Date: Tuesday August 23, 2016

Test # 1-Potable Water Pre-treated with carbon	Time	Treatability Column Test Parameters								HORIBA								Analytical		
		Water Flow Volume (liters)	Oxygen Concentrator Pressure (psi)	Ozone Flow Rate (lpm)	Column Pressure (psi)	Injection Gas Analyzer g/m3 Ozone	Injection Gas Analyzer % Ozone	Injection Gas Off-gas Analyzer g/m3 Ozone	Injection Gas Off-gas % Ozone	GPM Flow rate	Temp degree C	pH	pHmV	ORP mV	mS/cm	TSS NTU	DO mg/l	TDS g/l	ppt	
<b>Baseline</b>	<b>18:08</b>									12.12	6.06	55	356	0.722	0.0	5.07	0.461	0.3	<b>PC-T-00</b>	
<b>Test 1</b>	<b>18:26</b>	17.03	NA	2.00	2.5	92	6.43	20	1.39	0.5	24.17	6.77	-4	352	0.551	0.0	12.44	0.353	0.3	
<b>Test 1</b>	<b>18:31</b>	16.88	NA	2.00	2.5	104	7.27	96	6.70	0.5	24.22	6.83	-11	344	0.551	0.0	12.44	0.353	0.3	<b>PC-T-05</b>
<b>Test 1</b>	<b>18:36</b>	16.73	NA	2.00	2.5	114	7.97	97	6.80	0.5	24.46	7.01	-17	292	0.547	0.0	12.46	0.350	0.3	<b>PC-T-10</b>
<b>Test 1</b>	<b>18:41</b>	16.58	NA	2.00	2.5	116	8.11	112	7.84	0.5	24.67	7.18	-27	256	0.544	0.0	13.12	0.348	0.3	<b>PC-T-15</b>
<b>Test 1</b>	<b>18:46</b>	16.43	NA	2.00	2.5	115	8.04	108	7.59	0.5	24.87	7.37	-38	281	0.550	0.0	16.71	0.352	0.3	
<b>Test 1</b>	<b>18:51</b>	16.28	NA	2.00	2.5	118	8.25	115	8.05	0.5	24.98	7.5	-46	262	0.550	0.0	14.74	0.353	0.3	<b>PC-T-25</b>
<b>End Test1</b>	<b>18:55</b>									25.13	7.62	-54	234	0.557	0.0	8.76	0.356	0.3		
		Average		110	7.68	91	6.39													

**TABLE 1**  
**TREATABILITY TESTING FIELD MEASUREMENTS**  
**Residence Potable Well**  
**2784 North East Rd, North East MD**  
**Combined Ozone UV Treatment**

Date: Tuesday August 23, 2016

Test # 2- Potable Untreated Water from Well	Time	Treatability Column Test Parameters								HORIBA									Analytical	
		Water Flow Volume (liters)	Oxygen Concentrator Pressure (psi)	Ozone Flow Rate (lpm)	Column Pressure (psi)	Injection Gas Analyzer g/m3 Ozone	Injection Gas Analyzer % Ozone	Injection Gas Off- gas Analyzer g/m3 Ozone	Injection Gas Off- gas % Ozone	GPM	Temp degree C	pH	pHmV	ORP mV	mS/cm	TSS NTU	DO mg/l	TDS g/l	ppt	
Baseline	19:02	17.03	NA								24.25	6.74	0	199	0.406	0.0	3.41	0.264	0.2	UT-T-00
Test 2	19:20	17.03	NA	2.00	2.5	112	7.83	21	1.46	0.5	24.31	6.73	-1	179	0.453	0.0	8.83	0.294	0.2	<del>UT-T-01</del>
Test 2	19:25	16.88	NA	2.00	2.5	114	7.97	70	4.89	0.5	24.38	6.82	-6	384	0.448	0.0	10.44	0.291	0.2	UT-T-05
Test 2	19:30	16.73	NA	2.00	2.5	115	8.04	60	4.17	0.5	24.47	6.91	-11	323	0.446	0.0	11.82	0.290	0.2	UT-T-10
Test 2	19:35	16.58	NA	2.00	2.5	115	8.04	61	4.26	0.5	24.59	7.02	-18	283	0.446	0.0	10.61	0.299	0.2	<del>UT-T-11</del>
Test 2	19:40	16.43	NA	2.00	2.5	116	8.11	56	3.89	0.5	24.70	7.08	-21	330	0.448	0.0	10.82	0.291	0.2	UT-T-20
Test 2	19:45	16.28	NA	2.00	2.5	116	8.11	66	4.61	0.5	24.79	7.13	-25	354	0.449	0.0	12.63	0.292	0.2	<del>UT-T-21</del>
Test 2	19:50	16.13	NA	2.00	2.5	114	7.97	58	4.08	0.50	24.85	7.25	-32	292	0.449	0.0	12.61	0.292	0.2	UT-T-30
End Test 2											24.93	7.33	-37	291	0.450	0.0	12.67	0.292	0.2	<del>UT-T-31</del>
					Average	115	8.01	56	3.91											

pH - measure of acidic/basic water

pHmV - pH measured in millivolts

ORP mV - Oxidation-reduction potential measured in millivolts

Ms/cm - Specific Conductivity

TSS NTU - Total Suspended Solids Nephelometric Turbidity Unit

DO - Dissolved Oxygen

mg/L - milligrams per liter

TDS - Total Dissolved Solids

g/l - gallons per liter

ppt - parts per trillion

VOC - Volatile Organic Compounds

ug/L - micrograms per liter

psi - pounds per square inch



**TABLE 2**  
**TREATABILITY ANALYTICAL RESULTS**  
**Residence Potable Well**  
**2784 North East Rd, North East MD**  
**Combined Ozone UV Treatment**

Sample Location Lab ID Sample Date Matrix	Maryland Public Drinking Water Regulations MCL's for Organic Chemicals in Drinking Water	PC-T-00			PC-T-05			PC-T-10			PC-T-15			PC-T-25					
		L1626616-01			L1626616-02			L1626616-03			L1626616-04			L1626616-05					
		8/23/2016			8/23/2016			8/23/2016			8/23/2016			8/23/2016					
		Drinking Water			Drinking Water			Drinking Water			Drinking Water			Drinking Water					
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL			
<b>Volatiles</b>																			
1,1,1,2-Tetrachloroethane	ug/l	U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	U	0.5		
	200	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,1,1-Trichloroethane	ug/l	U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	U	0.5		
1,1,2,2-Tetrachloroethane	ug/l	U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	U	0.5		
1,1,2-Trichloroethane	5	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,1-Dichloroethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,1-Dichloroethene	7	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,1-Dichloropropene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2,3-Trichlorobenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2,3-Trichloropropane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2,4-Trichlorobenzene	70	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2,4-Trimethylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2-Dibromo-3-chloropropane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2-Dibromoethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2-Dichlorobenzene	600	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2-Dichloroethane	5	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,2-Dichloropropane	5	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,3,5-Trimethylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,3-Dichlorobenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,3-Dichloropropane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
1,4-Dichlorobenzene	75	ug/l	0.32	J	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	
2,2-Dichloropropane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Benzene	5	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Bromobenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Bromochloromethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Bromodichloromethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Bromoform	ug/l	U	0.5		U	0.5	0.12	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Bromomethane	ug/l	U	0.5		U	0.5	0.16	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Carbon tetrachloride	5	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Chlorobenzene	100	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Chloroethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Chloroform	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Chloromethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
cis-1,2-Dichloroethene	70	ug/l	U	0.5	0.12	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
cis-1,3-Dichloropropene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Dibromochloromethane	60	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Dibromomethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Dichlorodifluoromethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Ethylbenzene	700	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Hexachlorobutadiene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Isopropylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Methyl tert butyl ether	20*	ug/l	0.19	J	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	
Methylene chloride	5	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Naphthalene	ug/l	0.19	J	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
n-Butylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
n-Propylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
o-Chlorotoluene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
o-Xylene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
p/m-Xylene	ug/l	0.18	J	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
p-Chlorotoluene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
p-Isopropyltoluene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
sec-Butylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Styrene	100	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Tert-Butyl Alcohol	ug/l	3600	1500	600		150	44		30	5	J	30	U	30					
tert-Butylbenzene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Tetrachloroethene	5	ug/l	0.18	J	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	
THMs, Total	80	ug/l	U	0.5	U	0.5		U	0.5	0.12	J	0.5	U	0.5	U	0.5	U	0.5	
Toluene	1000	ug/l	0.2	J	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	
trans-1,2-Dichloroethene	100	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
trans-1,3-Dichloropropene	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5		
Trichloroethene	5	ug/l	U	0.5	0.19	J	0.5	0.18	J	0.5	0.18	J	0.5	0.17	J	0.5	0.17	U	0.5
Trichlorofluoromethane	ug/l	U	0.5		U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Vinyl chloride	2	ug/l	U	0.5	U	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Xylenes, Total	10000	ug/l	0.18	J	0.5		U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	

Notes:

RL - Reporting Limit

U - Undetected

J - Estimated value

ug/l - microgram per liter

Q - Qualifier

\* Maryland Department of the Environment Emergency Regulation (January 26, 2005) and Groundwater Standards

Sample results exceeds the Maryland Public Drinking Water Regulations MCL's for Organic Chemicals in Drinking Water



**TABLE 2**  
**TREATABILITY ANALYTICAL RESULTS**  
**Residence Potable Well**  
**2784 North East Rd, North East MD**  
**Combined Ozone UV Treatment**

Sample Location	Maryland Public Drinking Water Regulations MCL's for Organic Chemicals in Drinking Water		UT-T-00			UT-T-05			UT-T-10			UT-T-20			UT-T-30			Trip Blank				
Lab ID			L1626616-06			L1626616-07			L1626616-08			L1626616-09			L1626616-10			L1626616-11				
Sample Date			8/23/2016			8/23/2016			8/23/2016			8/23/2016			8/23/2016			8/22/2016				
Matrix	Drinking Water			Drinking Water			Drinking Water			Drinking Water			Drinking Water			Drinking Water			Aqueous			
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL												
<b>Volatiles</b>																						
1,1,1,2-Tetrachloroethane	ug/l	U	0.5		U	0.5		U	0.5													
1,1,1-Trichloroethane	200	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
1,1,2,2-Tetrachloroethane	ug/l	U	0.5		U	0.5		U	0.5													
1,1,2-Trichloroethane	5	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
1,1-Dichloroethane	ug/l	U	0.5		U	0.5		U	0.5													
1,1-Dichloroethene	7	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
1,1-Dichloropropene	ug/l	U	0.5		U	0.5		U	0.5													
1,2,3-Trichlorobenzene	ug/l	U	0.5		U	0.5		U	0.5													
1,2,3-Trichloropropane	ug/l	U	0.5		U	0.5		U	0.5													
1,2,4-Trichlorobenzene	70	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
1,2,4-Trimethylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
1,2-Dibromo-3-chloropropane	ug/l	U	0.5		U	0.5		U	0.5													
1,2-Dibromoethane	ug/l	U	0.5		U	0.5		U	0.5													
1,2-Dichlorobenzene	600	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
1,2-Dichloroethane	5	ug/l	11		0.5	6.3		0.5	3.2		0.5	1.1		0.5	0.5		U	0.5		U	0.5	
1,2-Dichloropropane	5	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
1,3,5-Trimethylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
1,3-Dichlorobenzene	ug/l	U	0.5		U	0.5		U	0.5													
1,3-Dichloropropane	ug/l	U	0.5		U	0.5		U	0.5													
1,4-Dichlorobenzene	75	ug/l	0.3	J	0.5	U	0.5	U	0.5		U	0.5		U	0.5		U	0.5		U	0.5	
2,2-Dichloropropane	ug/l	U	0.5		U	0.5		U	0.5													
Benzene	5	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Bromobenzene	ug/l	U	0.5		U	0.5		U	0.5													
Bromoform	ug/l	U	0.5		U	0.5		U	0.5													
Bromomethane	ug/l	U	0.5	0.26	J	0.5	0.29	J	0.5	0.38	J	0.5		U	0.5		U	0.5		U	0.5	
Carbon tetrachloride	5	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Chlorobenzene	100	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Chloroethane	ug/l	U	0.5		U	0.5		U	0.5													
Chloroform	ug/l	U	0.5		U	0.5		U	0.5													
Chlormethane	ug/l	U	0.5		U	0.5		U	0.5													
cis-1,2-Dichloroethene	70	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
cis-1,3-Dichloropropene	ug/l	U	0.5		U	0.5		U	0.5													
Dibromochloromethane	60	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Dibromomethane	ug/l	U	0.5		U	0.5		U	0.5													
Dichlorodifluoromethane	ug/l	U	0.5		U	0.5		U	0.5													
Ethylbenzene	700	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Hexachlorobutadiene	ug/l	U	0.5		U	0.5		U	0.5													
Isopropylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
Methyl tert butyl ether	20*	ug/l	380		10	120		5	18		0.5	U	0.5	U	0.5		U	0.5		U	0.5	
Methylene chloride	5	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Naphthalene	ug/l	0.29	J	0.5	U	0.5		U	0.5		U	0.5										
n-Butylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
n-Propylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
o-Chlorotoluene	ug/l	U	0.5		U	0.5		U	0.5													
o-Xylene	ug/l	U	0.5		U	0.5		U	0.5													
p/m-Xylene	ug/l	0.12	J	0.5	U	0.5		U	0.5		U	0.5										
p-Chlorotoluene	ug/l	U	0.5		U	0.5		U	0.5													
p-Isopropyltoluene	ug/l	U	0.5		U	0.5		U	0.5													
sec-Butylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
Styrene	100	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
tert-Butyl Alcohol	ug/l	3400		600	1600		300	480		150	19	J	30	U	30		U	30		U	30	
tert-Butylbenzene	ug/l	U	0.5		U	0.5		U	0.5													
Tetrachloroethene	5	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
THMs, Total	80	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Toluene	1000	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
trans-1,2-Dichloroethene	100	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
trans-1,3-Dichloropropene	ug/l	U	0.5		U	0.5		U	0.5													
Trichloroethene	5	ug/l	U	0.5	0.1	J	0.5	0.12	J	0.5	0.12	J	0.5									
Trichlorofluoromethane	ug/l	U	0.5		U	0.5		U	0.5													
Vinyl chloride	2	ug/l	U	0.5	U	0.5		U	0.5		U	0.5										
Xylenes, Total	10000	ug/l	0.12	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	

Notes:

RL - Reporting Limit

U - Undetected

J - Estimated value

**APPENDIX A**

**Alpha Analytical's Full Laboratory Report**



## ANALYTICAL REPORT

Lab Number:	L1626616
Client:	Advanced GeoServices Corporation 1055 Andrew Drive Suite A West Chester, PA 19380
ATTN:	Rick Shoyer
Phone:	(610) 840-9100
Project Name:	BSTI
Project Number:	20163496
Report Date:	08/31/16

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Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LA000299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1626616-01	PC-T-00	DW	NORTHEAST, MD	08/23/16 18:08	08/24/16
L1626616-02	PC-T-05	DW	NORTHEAST, MD	08/23/16 18:31	08/24/16
L1626616-03	PC-T-10	DW	NORTHEAST, MD	08/23/16 18:36	08/24/16
L1626616-04	PC-T-15	DW	NORTHEAST, MD	08/23/16 18:41	08/24/16
L1626616-05	PC-T-25	DW	NORTHEAST, MD	08/23/16 18:51	08/24/16
L1626616-06	UT-T-00	DW	NORTHEAST, MD	08/23/16 19:02	08/24/16
L1626616-07	UT-T-05	DW	NORTHEAST, MD	08/23/16 19:25	08/24/16
L1626616-08	UT-T-10	DW	NORTHEAST, MD	08/23/16 19:30	08/24/16
L1626616-09	UT-T-20	DW	NORTHEAST, MD	08/23/16 19:40	08/24/16
L1626616-10	UT-T-30	DW	NORTHEAST, MD	08/23/16 19:50	08/24/16
L1626616-11	TRIP BLANK	DW	NORTHEAST, MD	08/22/16 06:30	08/24/16

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

**Case Narrative (continued)**

**Report Submission**

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 08/31/16

# ORGANICS



# VOLATILES



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-01  
 Client ID: PC-T-00  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 19:59  
 Analyst: GT

Date Collected: 08/23/16 18:08  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	3900	E	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	0.19	J	ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	ND		ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	0.20	J	ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-01	Date Collected:	08/23/16 18:08
Client ID:	PC-T-00	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	0.18	J	ug/l	0.50	0.09	1
Dibromochloromethane	ND		ug/l	0.50	0.08	1
1,2-Dibromoethane	ND		ug/l	0.50	0.06	1
Chlorobenzene	ND		ug/l	0.50	0.08	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.09	1
Ethylbenzene	ND		ug/l	0.50	0.06	1
p/m-Xylene	0.18	J	ug/l	0.50	0.12	1
o-Xylene	ND		ug/l	0.50	0.09	1
Styrene	ND		ug/l	0.50	0.06	1
Isopropylbenzene	ND		ug/l	0.50	0.08	1
Bromoform	ND		ug/l	0.50	0.09	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.09	1
1,2,3-Trichloropropane	ND		ug/l	0.50	0.11	1
Xylenes, Total <sup>1</sup>	0.18	J	ug/l	0.50	0.09	1
n-Propylbenzene	ND		ug/l	0.50	0.08	1
Bromobenzene	ND		ug/l	0.50	0.09	1
1,3,5-Trimethylbenzene	ND		ug/l	0.50	0.10	1
THMs, Total	ND		ug/l	0.50	0.05	1
o-Chlorotoluene	ND		ug/l	0.50	0.10	1
p-Chlorotoluene	ND		ug/l	0.50	0.08	1
tert-Butylbenzene	ND		ug/l	0.50	0.09	1
1,2,4-Trimethylbenzene	ND		ug/l	0.50	0.08	1
sec-Butylbenzene	ND		ug/l	0.50	0.06	1
p-Isopropyltoluene	ND		ug/l	0.50	0.07	1
1,3-Dichlorobenzene	ND		ug/l	0.50	0.05	1
1,4-Dichlorobenzene	0.32	J	ug/l	0.50	0.05	1
n-Butylbenzene	ND		ug/l	0.50	0.06	1
1,2-Dichlorobenzene	ND		ug/l	0.50	0.07	1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	0.16	1
1,2,4-Trichlorobenzene	ND		ug/l	0.50	0.07	1
Hexachlorobutadiene	ND		ug/l	0.50	0.11	1
Naphthalene	0.19	J	ug/l	0.50	0.06	1
1,2,3-Trichlorobenzene	ND		ug/l	0.50	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	104		80-120
4-Bromofluorobenzene	93		80-120

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-01	D	Date Collected:	08/23/16 18:08
Client ID:	PC-T-00		Date Received:	08/24/16
Sample Location:	NORTHEAST, MD		Field Prep:	Not Specified
Matrix:	Dw			
Analytical Method:	16,524.2			
Analytical Date:	08/29/16 13:14			
Analyst:	GT			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tert-Butyl Alcohol	3600		ug/l	1500	100	50
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,2-Dichlorobenzene-d4	100		80-120			
4-Bromofluorobenzene	99		80-120			

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-02  
 Client ID: PC-T-05  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 20:36  
 Analyst: GT

Date Collected: 08/23/16 18:31  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	690	E	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	0.12	J	ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	0.19	J	ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-02	Date Collected:	08/23/16 18:31
Client ID:	PC-T-05	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	101		80-120
4-Bromofluorobenzene	98		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-02 D  
 Client ID: PC-T-05  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/29/16 15:50  
 Analyst: GT

Date Collected: 08/23/16 18:31  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tert-Butyl Alcohol	600		ug/l	150	10.	5
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,2-Dichlorobenzene-d4	99		80-120			
4-Bromofluorobenzene	101		80-120			

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-03  
 Client ID: PC-T-10  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 21:16  
 Analyst: GT

Date Collected: 08/23/16 18:36  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	0.16	J	ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	44		ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	0.18	J	ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-03	Date Collected:	08/23/16 18:36
Client ID:	PC-T-10	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND		ug/l	0.50	0.09	1
Dibromochloromethane	ND		ug/l	0.50	0.08	1
1,2-Dibromoethane	ND		ug/l	0.50	0.06	1
Chlorobenzene	ND		ug/l	0.50	0.08	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.09	1
Ethylbenzene	ND		ug/l	0.50	0.06	1
p/m-Xylene	ND		ug/l	0.50	0.12	1
o-Xylene	ND		ug/l	0.50	0.09	1
Styrene	ND		ug/l	0.50	0.06	1
Isopropylbenzene	ND		ug/l	0.50	0.08	1
Bromoform	0.12	J	ug/l	0.50	0.09	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.09	1
1,2,3-Trichloropropane	ND		ug/l	0.50	0.11	1
Xylenes, Total <sup>1</sup>	ND		ug/l	0.50	0.09	1
n-Propylbenzene	ND		ug/l	0.50	0.08	1
Bromobenzene	ND		ug/l	0.50	0.09	1
1,3,5-Trimethylbenzene	ND		ug/l	0.50	0.10	1
THMs, Total	0.12	J	ug/l	0.50	0.05	1
o-Chlorotoluene	ND		ug/l	0.50	0.10	1
p-Chlorotoluene	ND		ug/l	0.50	0.08	1
tert-Butylbenzene	ND		ug/l	0.50	0.09	1
1,2,4-Trimethylbenzene	ND		ug/l	0.50	0.08	1
sec-Butylbenzene	ND		ug/l	0.50	0.06	1
p-Isopropyltoluene	ND		ug/l	0.50	0.07	1
1,3-Dichlorobenzene	ND		ug/l	0.50	0.05	1
1,4-Dichlorobenzene	ND		ug/l	0.50	0.05	1
n-Butylbenzene	ND		ug/l	0.50	0.06	1
1,2-Dichlorobenzene	ND		ug/l	0.50	0.07	1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	0.16	1
1,2,4-Trichlorobenzene	ND		ug/l	0.50	0.07	1
Hexachlorobutadiene	ND		ug/l	0.50	0.11	1
Naphthalene	ND		ug/l	0.50	0.06	1
1,2,3-Trichlorobenzene	ND		ug/l	0.50	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	105		80-120
4-Bromofluorobenzene	98		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-04  
 Client ID: PC-T-15  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 21:53  
 Analyst: GT

Date Collected: 08/23/16 18:41  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	5.0	J	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	0.17	J	ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-04	Date Collected:	08/23/16 18:41
Client ID:	PC-T-15	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	101		80-120
4-Bromofluorobenzene	96		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-05  
 Client ID: PC-T-25  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 22:30  
 Analyst: GT

Date Collected: 08/23/16 18:51  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	ND		ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	ND		ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-05	Date Collected:	08/23/16 18:51
Client ID:	PC-T-25	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	101		80-120
4-Bromofluorobenzene	96		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-06  
 Client ID: UT-T-00  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 23:06  
 Analyst: GT

Date Collected: 08/23/16 19:02  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	3400	E	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	420	E	ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	11		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	ND		ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-06	Date Collected:	08/23/16 19:02
Client ID:	UT-T-00	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND		ug/l	0.50	0.09	1
Dibromochloromethane	ND		ug/l	0.50	0.08	1
1,2-Dibromoethane	ND		ug/l	0.50	0.06	1
Chlorobenzene	ND		ug/l	0.50	0.08	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.09	1
Ethylbenzene	ND		ug/l	0.50	0.06	1
p/m-Xylene	0.12	J	ug/l	0.50	0.12	1
o-Xylene	ND		ug/l	0.50	0.09	1
Styrene	ND		ug/l	0.50	0.06	1
Isopropylbenzene	ND		ug/l	0.50	0.08	1
Bromoform	ND		ug/l	0.50	0.09	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.09	1
1,2,3-Trichloropropane	ND		ug/l	0.50	0.11	1
Xylenes, Total <sup>1</sup>	0.12	J	ug/l	0.50	0.09	1
n-Propylbenzene	ND		ug/l	0.50	0.08	1
Bromobenzene	ND		ug/l	0.50	0.09	1
1,3,5-Trimethylbenzene	ND		ug/l	0.50	0.10	1
THMs, Total	ND		ug/l	0.50	0.05	1
o-Chlorotoluene	ND		ug/l	0.50	0.10	1
p-Chlorotoluene	ND		ug/l	0.50	0.08	1
tert-Butylbenzene	ND		ug/l	0.50	0.09	1
1,2,4-Trimethylbenzene	ND		ug/l	0.50	0.08	1
sec-Butylbenzene	ND		ug/l	0.50	0.06	1
p-Isopropyltoluene	ND		ug/l	0.50	0.07	1
1,3-Dichlorobenzene	ND		ug/l	0.50	0.05	1
1,4-Dichlorobenzene	0.30	J	ug/l	0.50	0.05	1
n-Butylbenzene	ND		ug/l	0.50	0.06	1
1,2-Dichlorobenzene	ND		ug/l	0.50	0.07	1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	0.16	1
1,2,4-Trichlorobenzene	ND		ug/l	0.50	0.07	1
Hexachlorobutadiene	ND		ug/l	0.50	0.11	1
Naphthalene	0.29	J	ug/l	0.50	0.06	1
1,2,3-Trichlorobenzene	ND		ug/l	0.50	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	98		80-120
4-Bromofluorobenzene	98		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-06	D	Date Collected:	08/23/16 19:02
Client ID:	UT-T-00		Date Received:	08/24/16
Sample Location:	NORTHEAST, MD		Field Prep:	Not Specified
Matrix:	Dw			
Analytical Method:	16,524.2			
Analytical Date:	08/29/16 16:26			
Analyst:	GT			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tert-Butyl Alcohol	3400		ug/l	600	41.	20
Methyl tert butyl ether	380		ug/l	10	1.2	20

Surrogate	% Recovery	Qualifier	Acceptance
			Criteria
1,2-Dichlorobenzene-d4	102		80-120
4-Bromofluorobenzene	96		80-120

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-07  
 Client ID: UT-T-05  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/26/16 23:43  
 Analyst: GT

Date Collected: 08/23/16 19:25  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	0.26	J	ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	2000	E	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	130	E	ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	6.3		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	0.10	J	ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-07	Date Collected:	08/23/16 19:25		
Client ID:	UT-T-05	Date Received:	08/24/16		
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified		
Parameter	Result	Qualifier	Units	RL	MDL
<b>Volatile Organics by GC/MS - Westborough Lab</b>					
Tetrachloroethene	ND	ug/l	0.50	0.09	1
Dibromochloromethane	ND	ug/l	0.50	0.08	1
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1
Chlorobenzene	ND	ug/l	0.50	0.08	1
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1
Ethylbenzene	ND	ug/l	0.50	0.06	1
p/m-Xylene	ND	ug/l	0.50	0.12	1
o-Xylene	ND	ug/l	0.50	0.09	1
Styrene	ND	ug/l	0.50	0.06	1
Isopropylbenzene	ND	ug/l	0.50	0.08	1
Bromoform	ND	ug/l	0.50	0.09	1
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1
n-Propylbenzene	ND	ug/l	0.50	0.08	1
Bromobenzene	ND	ug/l	0.50	0.09	1
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1
THMs, Total	ND	ug/l	0.50	0.05	1
o-Chlorotoluene	ND	ug/l	0.50	0.10	1
p-Chlorotoluene	ND	ug/l	0.50	0.08	1
tert-Butylbenzene	ND	ug/l	0.50	0.09	1
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1
sec-Butylbenzene	ND	ug/l	0.50	0.06	1
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1
n-Butylbenzene	ND	ug/l	0.50	0.06	1
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1
Naphthalene	ND	ug/l	0.50	0.06	1
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	102		80-120
4-Bromofluorobenzene	97		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-07	D	Date Collected:	08/23/16 19:25
Client ID:	UT-T-05		Date Received:	08/24/16
Sample Location:	NORTHEAST, MD		Field Prep:	Not Specified
Matrix:	Dw			
Analytical Method:	16,524.2			
Analytical Date:	08/30/16 14:38			
Analyst:	GT			

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Tert-Butyl Alcohol	1600		ug/l	300	20.	10
Methyl tert butyl ether	120		ug/l	5.0	0.60	10

Surrogate	% Recovery	Qualifier	Acceptance
			Criteria
1,2-Dichlorobenzene-d4	103		80-120
4-Bromofluorobenzene	99		80-120

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-08  
 Client ID: UT-T-10  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/27/16 00:20  
 Analyst: GT

Date Collected: 08/23/16 19:30  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	0.29	J	ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	500	E	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	18		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	3.2		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	0.12	J	ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-08	Date Collected:	08/23/16 19:30
Client ID:	UT-T-10	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	103		80-120
4-Bromofluorobenzene	97		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-08 D  
 Client ID: UT-T-10  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/30/16 15:14  
 Analyst: GT

Date Collected: 08/23/16 19:30  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tert-Butyl Alcohol	480		ug/l	150	10.	5
<hr/>						
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,2-Dichlorobenzene-d4	102		80-120			
4-Bromofluorobenzene	98		80-120			

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-09	Date Collected:	08/23/16 19:40
Client ID:	UT-T-20	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified
Matrix:	Dw		
Analytical Method:	16,524.2		
Analytical Date:	08/27/16 00:56		
Analyst:	GT		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	0.38	J	ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	19	J	ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	1.1		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	0.12	J	ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-09	Date Collected:	08/23/16 19:40
Client ID:	UT-T-20	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	100		80-120
4-Bromofluorobenzene	100		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-10  
 Client ID: UT-T-30  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/27/16 01:33  
 Analyst: GT

Date Collected: 08/23/16 19:50  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	ND		ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	ND		ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-10	Date Collected:	08/23/16 19:50
Client ID:	UT-T-30	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	101		80-120
4-Bromofluorobenzene	95		80-120



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID: L1626616-11  
 Client ID: TRIP BLANK  
 Sample Location: NORTHEAST, MD  
 Matrix: Dw  
 Analytical Method: 16,524.2  
 Analytical Date: 08/27/16 02:10  
 Analyst: GT

Date Collected: 08/22/16 06:30  
 Date Received: 08/24/16  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Dichlorodifluoromethane	ND		ug/l	0.50	0.10	1
Chloromethane	ND		ug/l	0.50	0.15	1
Vinyl chloride	ND		ug/l	0.50	0.08	1
Bromomethane	ND		ug/l	0.50	0.13	1
Chloroethane	ND		ug/l	0.50	0.12	1
Trichlorofluoromethane	ND		ug/l	0.50	0.11	1
1,1-Dichloroethene	ND		ug/l	0.50	0.06	1
Tert-Butyl Alcohol	ND		ug/l	30	2.0	1
Methylene chloride	ND		ug/l	0.50	0.15	1
Methyl tert butyl ether	ND		ug/l	0.50	0.06	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09	1
1,1-Dichloroethane	ND		ug/l	0.50	0.09	1
2,2-Dichloropropane	ND		ug/l	0.50	0.11	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11	1
Chloroform	ND		ug/l	0.50	0.05	1
Bromochloromethane	ND		ug/l	0.50	0.10	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08	1
1,1-Dichloropropene	ND		ug/l	0.50	0.11	1
Carbon tetrachloride	ND		ug/l	0.50	0.10	1
1,2-Dichloroethane	ND		ug/l	0.50	0.08	1
Benzene	ND		ug/l	0.50	0.09	1
Trichloroethene	ND		ug/l	0.50	0.09	1
1,2-Dichloropropane	ND		ug/l	0.50	0.09	1
Bromodichloromethane	ND		ug/l	0.50	0.05	1
Dibromomethane	ND		ug/l	0.50	0.09	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10	1
Toluene	ND		ug/l	0.50	0.12	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09	1
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12	1
1,3-Dichloropropane	ND		ug/l	0.50	0.11	1



Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

**SAMPLE RESULTS**

Lab ID:	L1626616-11	Date Collected:	08/22/16 06:30
Client ID:	TRIP BLANK	Date Received:	08/24/16
Sample Location:	NORTHEAST, MD	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Tetrachloroethene	ND	ug/l	0.50	0.09	1	
Dibromochloromethane	ND	ug/l	0.50	0.08	1	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	1	
Chlorobenzene	ND	ug/l	0.50	0.08	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
Ethylbenzene	ND	ug/l	0.50	0.06	1	
p/m-Xylene	ND	ug/l	0.50	0.12	1	
o-Xylene	ND	ug/l	0.50	0.09	1	
Styrene	ND	ug/l	0.50	0.06	1	
Isopropylbenzene	ND	ug/l	0.50	0.08	1	
Bromoform	ND	ug/l	0.50	0.09	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	1	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	1	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	1	
n-Propylbenzene	ND	ug/l	0.50	0.08	1	
Bromobenzene	ND	ug/l	0.50	0.09	1	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	1	
THMs, Total	ND	ug/l	0.50	0.05	1	
o-Chlorotoluene	ND	ug/l	0.50	0.10	1	
p-Chlorotoluene	ND	ug/l	0.50	0.08	1	
tert-Butylbenzene	ND	ug/l	0.50	0.09	1	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	1	
sec-Butylbenzene	ND	ug/l	0.50	0.06	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	1	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	1	
n-Butylbenzene	ND	ug/l	0.50	0.06	1	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	0.50	0.16	1	
1,2,4-Trichlorobenzene	ND	ug/l	0.50	0.07	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.11	1	
Naphthalene	ND	ug/l	0.50	0.06	1	
1,2,3-Trichlorobenzene	ND	ug/l	0.50	0.06	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	100		80-120
4-Bromofluorobenzene	93		80-120



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 16,524.2  
Analytical Date: 08/26/16 18:09  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-11 Batch: WG926901-10					
Dichlorodifluoromethane	ND	ug/l	0.50	0.10	
Chloromethane	ND	ug/l	0.50	0.15	
Vinyl chloride	ND	ug/l	0.50	0.08	
Bromomethane	ND	ug/l	0.50	0.13	
Chloroethane	ND	ug/l	0.50	0.12	
Trichlorofluoromethane	ND	ug/l	0.50	0.11	
1,1-Dichloroethene	ND	ug/l	0.50	0.06	
Tert-Butyl Alcohol	ND	ug/l	30	2.0	
Methylene chloride	ND	ug/l	0.50	0.15	
Methyl tert butyl ether	ND	ug/l	0.50	0.06	
trans-1,2-Dichloroethene	ND	ug/l	0.50	0.09	
1,1-Dichloroethane	ND	ug/l	0.50	0.09	
2,2-Dichloropropane	ND	ug/l	0.50	0.11	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.11	
Chloroform	ND	ug/l	0.50	0.05	
Bromochloromethane	ND	ug/l	0.50	0.10	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.08	
1,1-Dichloropropene	ND	ug/l	0.50	0.11	
Carbon tetrachloride	ND	ug/l	0.50	0.10	
1,2-Dichloroethane	ND	ug/l	0.50	0.08	
Benzene	ND	ug/l	0.50	0.09	
Trichloroethene	ND	ug/l	0.50	0.09	
1,2-Dichloropropane	ND	ug/l	0.50	0.09	
Bromodichloromethane	ND	ug/l	0.50	0.05	
Dibromomethane	ND	ug/l	0.50	0.09	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.10	
Toluene	ND	ug/l	0.50	0.12	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.09	
1,1,2-Trichloroethane	ND	ug/l	0.50	0.12	



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### Method Blank Analysis Batch Quality Control

Analytical Method: 16,524.2  
Analytical Date: 08/26/16 18:09  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-11 Batch: WG926901-10					
1,3-Dichloropropane	ND	ug/l	0.50	0.11	
Tetrachloroethene	ND	ug/l	0.50	0.09	
Dibromochloromethane	ND	ug/l	0.50	0.08	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	
Chlorobenzene	ND	ug/l	0.50	0.08	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	
Ethylbenzene	ND	ug/l	0.50	0.06	
p/m-Xylene	ND	ug/l	0.50	0.12	
o-Xylene	ND	ug/l	0.50	0.09	
Styrene	ND	ug/l	0.50	0.06	
Isopropylbenzene	ND	ug/l	0.50	0.08	
Bromoform	ND	ug/l	0.50	0.09	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	
n-Propylbenzene	ND	ug/l	0.50	0.08	
Bromobenzene	ND	ug/l	0.50	0.09	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	
THMs, Total	ND	ug/l	0.50	0.05	
o-Chlorotoluene	ND	ug/l	0.50	0.10	
p-Chlorotoluene	ND	ug/l	0.50	0.08	
tert-Butylbenzene	ND	ug/l	0.50	0.09	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	
sec-Butylbenzene	ND	ug/l	0.50	0.06	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	
n-Butylbenzene	ND	ug/l	0.50	0.06	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 16,524.2  
Analytical Date: 08/26/16 18:09  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-11				Batch:	WG926901-10
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	0.16
1,2,4-Trichlorobenzene	ND		ug/l	0.50	0.07
Hexachlorobutadiene	ND		ug/l	0.50	0.11
Naphthalene	ND		ug/l	0.50	0.06
1,2,3-Trichlorobenzene	ND		ug/l	0.50	0.06

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	105		80-120
4-Bromofluorobenzene	96		80-120

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 16,524.2  
Analytical Date: 08/29/16 07:57  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,06 Batch: WG926901-14					
Dichlorodifluoromethane	ND		ug/l	0.50	0.10
Chloromethane	ND		ug/l	0.50	0.15
Vinyl chloride	ND		ug/l	0.50	0.08
Bromomethane	ND		ug/l	0.50	0.13
Chloroethane	ND		ug/l	0.50	0.12
Trichlorofluoromethane	ND		ug/l	0.50	0.11
1,1-Dichloroethene	ND		ug/l	0.50	0.06
Tert-Butyl Alcohol	ND		ug/l	30	2.0
Methylene chloride	ND		ug/l	0.50	0.15
Methyl tert butyl ether	ND		ug/l	0.50	0.06
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09
1,1-Dichloroethane	ND		ug/l	0.50	0.09
2,2-Dichloropropane	ND		ug/l	0.50	0.11
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11
Chloroform	ND		ug/l	0.50	0.05
Bromochloromethane	ND		ug/l	0.50	0.10
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08
1,1-Dichloropropene	ND		ug/l	0.50	0.11
Carbon tetrachloride	ND		ug/l	0.50	0.10
1,2-Dichloroethane	ND		ug/l	0.50	0.08
Benzene	ND		ug/l	0.50	0.09
Trichloroethene	ND		ug/l	0.50	0.09
1,2-Dichloropropane	ND		ug/l	0.50	0.09
Bromodichloromethane	ND		ug/l	0.50	0.05
Dibromomethane	ND		ug/l	0.50	0.09
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10
Toluene	ND		ug/l	0.50	0.12
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### Method Blank Analysis Batch Quality Control

Analytical Method: 16,524.2  
Analytical Date: 08/29/16 07:57  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,06 Batch: WG926901-14					
1,3-Dichloropropane	ND	ug/l	0.50	0.11	
Tetrachloroethene	ND	ug/l	0.50	0.09	
Dibromochloromethane	ND	ug/l	0.50	0.08	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	
Chlorobenzene	ND	ug/l	0.50	0.08	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	
Ethylbenzene	ND	ug/l	0.50	0.06	
p/m-Xylene	ND	ug/l	0.50	0.12	
o-Xylene	ND	ug/l	0.50	0.09	
Styrene	ND	ug/l	0.50	0.06	
Isopropylbenzene	ND	ug/l	0.50	0.08	
Bromoform	ND	ug/l	0.50	0.09	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	
n-Propylbenzene	ND	ug/l	0.50	0.08	
Bromobenzene	ND	ug/l	0.50	0.09	
THMs, Total	ND	ug/l	0.50	0.05	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	
o-Chlorotoluene	ND	ug/l	0.50	0.10	
p-Chlorotoluene	ND	ug/l	0.50	0.08	
tert-Butylbenzene	ND	ug/l	0.50	0.09	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	
sec-Butylbenzene	ND	ug/l	0.50	0.06	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	
n-Butylbenzene	ND	ug/l	0.50	0.06	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### **Method Blank Analysis**

#### **Batch Quality Control**

Analytical Method: 16,524.2  
Analytical Date: 08/29/16 07:57  
Analyst: GT

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
<b>Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,06 Batch: WG926901-14</b>					
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	0.16
1,2,4-Trichlorobenzene	ND		ug/l	0.50	0.07
Hexachlorobutadiene	ND		ug/l	0.50	0.11
Naphthalene	ND		ug/l	0.50	0.06
1,2,3-Trichlorobenzene	ND		ug/l	0.50	0.06

<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>
1,2-Dichlorobenzene-d4	104		80-120
4-Bromofluorobenzene	98		80-120

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 16,524.2  
Analytical Date: 08/30/16 14:01  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07-08 Batch: WG926901-18					
Dichlorodifluoromethane	ND		ug/l	0.50	0.10
Chloromethane	ND		ug/l	0.50	0.15
Vinyl chloride	ND		ug/l	0.50	0.08
Bromomethane	ND		ug/l	0.50	0.13
Chloroethane	ND		ug/l	0.50	0.12
Trichlorofluoromethane	ND		ug/l	0.50	0.11
1,1-Dichloroethene	ND		ug/l	0.50	0.06
Tert-Butyl Alcohol	ND		ug/l	30	2.0
Methylene chloride	0.21	J	ug/l	0.50	0.15
Methyl tert butyl ether	ND		ug/l	0.50	0.06
trans-1,2-Dichloroethene	ND		ug/l	0.50	0.09
1,1-Dichloroethane	ND		ug/l	0.50	0.09
2,2-Dichloropropane	ND		ug/l	0.50	0.11
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.11
Chloroform	ND		ug/l	0.50	0.05
Bromochloromethane	ND		ug/l	0.50	0.10
1,1,1-Trichloroethane	ND		ug/l	0.50	0.08
1,1-Dichloropropene	ND		ug/l	0.50	0.11
Carbon tetrachloride	ND		ug/l	0.50	0.10
1,2-Dichloroethane	ND		ug/l	0.50	0.08
Benzene	ND		ug/l	0.50	0.09
Trichloroethene	ND		ug/l	0.50	0.09
1,2-Dichloropropane	ND		ug/l	0.50	0.09
Bromodichloromethane	ND		ug/l	0.50	0.05
Dibromomethane	ND		ug/l	0.50	0.09
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.10
Toluene	ND		ug/l	0.50	0.12
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.09
1,1,2-Trichloroethane	ND		ug/l	0.50	0.12



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### Method Blank Analysis Batch Quality Control

Analytical Method: 16,524.2  
Analytical Date: 08/30/16 14:01  
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07-08 Batch: WG926901-18					
1,3-Dichloropropane	ND	ug/l	0.50	0.11	
Tetrachloroethene	ND	ug/l	0.50	0.09	
Dibromochloromethane	ND	ug/l	0.50	0.08	
1,2-Dibromoethane	ND	ug/l	0.50	0.06	
Chlorobenzene	ND	ug/l	0.50	0.08	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.09	
Ethylbenzene	ND	ug/l	0.50	0.06	
p/m-Xylene	ND	ug/l	0.50	0.12	
o-Xylene	ND	ug/l	0.50	0.09	
Styrene	ND	ug/l	0.50	0.06	
Isopropylbenzene	ND	ug/l	0.50	0.08	
Bromoform	ND	ug/l	0.50	0.09	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.09	
1,2,3-Trichloropropane	ND	ug/l	0.50	0.11	
n-Propylbenzene	ND	ug/l	0.50	0.08	
Xylenes, Total <sup>1</sup>	ND	ug/l	0.50	0.09	
Bromobenzene	ND	ug/l	0.50	0.09	
1,3,5-Trimethylbenzene	ND	ug/l	0.50	0.10	
THMs, Total	ND	ug/l	0.50	0.05	
o-Chlorotoluene	ND	ug/l	0.50	0.10	
p-Chlorotoluene	ND	ug/l	0.50	0.08	
tert-Butylbenzene	ND	ug/l	0.50	0.09	
1,2,4-Trimethylbenzene	ND	ug/l	0.50	0.08	
sec-Butylbenzene	ND	ug/l	0.50	0.06	
p-Isopropyltoluene	ND	ug/l	0.50	0.07	
1,3-Dichlorobenzene	ND	ug/l	0.50	0.05	
1,4-Dichlorobenzene	ND	ug/l	0.50	0.05	
n-Butylbenzene	ND	ug/l	0.50	0.06	
1,2-Dichlorobenzene	ND	ug/l	0.50	0.07	



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### **Method Blank Analysis**

#### **Batch Quality Control**

Analytical Method: 16,524.2  
Analytical Date: 08/30/16 14:01  
Analyst: GT

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
Volatile Organics by GC/MS - Westborough Lab for sample(s):	07-08			Batch:	WG926901-18
1,2,4-Trichlorobenzene	ND		ug/l	0.50	0.07
Hexachlorobutadiene	ND		ug/l	0.50	0.11
Naphthalene	ND		ug/l	0.50	0.06
1,2,3-Trichlorobenzene	ND		ug/l	0.50	0.06

<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>
1,2-Dichlorobenzene-d4	103		80-120
4-Bromofluorobenzene	100		80-120

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,06 Batch: WG926901-13								
Dichlorodifluoromethane	85		-		70-130	-		20
Chloromethane	85		-		70-130	-		20
Vinyl chloride	105		-		70-130	-		20
Bromomethane	112		-		70-130	-		20
Chloroethane	78		-		70-130	-		20
Trichlorofluoromethane	102		-		70-130	-		20
1,1-Dichloroethene	98		-		70-130	-		20
tert-Butyl Alcohol	90		-		70-130	-		20
Methylene chloride	95		-		70-130	-		20
Methyl tert butyl ether	95		-		70-130	-		20
trans-1,2-Dichloroethene	98		-		70-130	-		20
1,1-Dichloroethane	102		-		70-130	-		20
2,2-Dichloropropane	100		-		70-130	-		20
cis-1,2-Dichloroethene	98		-		70-130	-		20
Chloroform	105		-		70-130	-		20
Bromochloromethane	102		-		70-130	-		20
1,1,1-Trichloroethane	102		-		70-130	-		20
1,1-Dichloropropene	100		-		70-130	-		20
Carbon tetrachloride	100		-		70-130	-		20
1,2-Dichloroethane	105		-		70-130	-		20
Benzene	100		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,06 Batch: WG926901-13								
Trichloroethene	100		-		70-130	-		20
1,2-Dichloropropane	98		-		70-130	-		20
Bromodichloromethane	95		-		70-130	-		20
Dibromomethane	102		-		70-130	-		20
cis-1,3-Dichloropropene	95		-		70-130	-		20
Toluene	98		-		70-130	-		20
trans-1,3-Dichloropropene	82		-		70-130	-		20
1,1,2-Trichloroethane	90		-		70-130	-		20
1,3-Dichloropropane	95		-		70-130	-		20
Tetrachloroethene	98		-		70-130	-		20
Dibromochloromethane	85		-		70-130	-		20
1,2-Dibromoethane	92		-		70-130	-		20
Chlorobenzene	95		-		70-130	-		20
1,1,1,2-Tetrachloroethane	90		-		70-130	-		20
Ethylbenzene	90		-		70-130	-		20
p/m-Xylene	94		-		70-130	-		20
o-Xylene	95		-		70-130	-		20
Styrene	90		-		70-130	-		20
Isopropylbenzene	95		-		70-130	-		20
Bromoform	78		-		70-130	-		20
1,1,2,2-Tetrachloroethane	88		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Project Number:** 20163496

**Lab Number:** L1626616

**Report Date:** 08/31/16

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,06 Batch: WG926901-13								
1,2,3-Trichloropropane	92		-		70-130	-		20
n-Propylbenzene	92		-		70-130	-		20
Bromobenzene	90		-		70-130	-		20
1,3,5-Trimethylbenzene	92		-		70-130	-		20
o-Chlorotoluene	95		-		70-130	-		20
p-Chlorotoluene	95		-		70-130	-		20
tert-Butylbenzene	92		-		70-130	-		20
1,2,4-Trimethylbenzene	90		-		70-130	-		20
sec-Butylbenzene	92		-		70-130	-		20
p-Isopropyltoluene	90		-		70-130	-		20
1,3-Dichlorobenzene	90		-		70-130	-		20
1,4-Dichlorobenzene	95		-		70-130	-		20
n-Butylbenzene	95		-		70-130	-		20
1,2-Dichlorobenzene	98		-		70-130	-		20
1,2-Dibromo-3-chloropropane	90		-		70-130	-		20
1,2,4-Trichlorobenzene	95		-		70-130	-		20
Hexachlorobutadiene	95		-		70-130	-		20
Naphthalene	90		-		70-130	-		20
1,2,3-Trichlorobenzene	95		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,06 Batch: WG926901-13

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichlorobenzene-d4	100				80-120
4-Bromofluorobenzene	96				80-120

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07-08 Batch: WG926901-17								
Dichlorodifluoromethane	82		-		70-130	-		20
Chloromethane	88		-		70-130	-		20
Vinyl chloride	105		-		70-130	-		20
Bromomethane	100		-		70-130	-		20
Chloroethane	78		-		70-130	-		20
Trichlorofluoromethane	98		-		70-130	-		20
1,1-Dichloroethene	95		-		70-130	-		20
tert-Butyl Alcohol	90		-		70-130	-		20
Methylene chloride	98		-		70-130	-		20
Methyl tert butyl ether	90		-		70-130	-		20
trans-1,2-Dichloroethene	98		-		70-130	-		20
1,1-Dichloroethane	98		-		70-130	-		20
2,2-Dichloropropane	95		-		70-130	-		20
cis-1,2-Dichloroethene	95		-		70-130	-		20
Chloroform	105		-		70-130	-		20
Bromochloromethane	98		-		70-130	-		20
1,1,1-Trichloroethane	100		-		70-130	-		20
1,1-Dichloropropene	95		-		70-130	-		20
Carbon tetrachloride	98		-		70-130	-		20
1,2-Dichloroethane	98		-		70-130	-		20
Benzene	95		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07-08 Batch: WG926901-17								
Trichloroethene	100		-		70-130	-		20
1,2-Dichloropropane	95		-		70-130	-		20
Bromodichloromethane	85		-		70-130	-		20
Dibromomethane	98		-		70-130	-		20
cis-1,3-Dichloropropene	88		-		70-130	-		20
Toluene	95		-		70-130	-		20
trans-1,3-Dichloropropene	75		-		70-130	-		20
1,1,2-Trichloroethane	85		-		70-130	-		20
1,3-Dichloropropane	88		-		70-130	-		20
Tetrachloroethene	95		-		70-130	-		20
Dibromochloromethane	75		-		70-130	-		20
1,2-Dibromoethane	88		-		70-130	-		20
Chlorobenzene	95		-		70-130	-		20
1,1,1,2-Tetrachloroethane	88		-		70-130	-		20
Ethylbenzene	92		-		70-130	-		20
p/m-Xylene	95		-		70-130	-		20
o-Xylene	95		-		70-130	-		20
Styrene	88		-		70-130	-		20
Isopropylbenzene	95		-		70-130	-		20
Bromoform	70		-		70-130	-		20
1,1,2,2-Tetrachloroethane	78		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07-08 Batch: WG926901-17								
1,2,3-Trichloropropane	85		-		70-130	-		20
n-Propylbenzene	92		-		70-130	-		20
Bromobenzene	90		-		70-130	-		20
1,3,5-Trimethylbenzene	92		-		70-130	-		20
o-Chlorotoluene	98		-		70-130	-		20
p-Chlorotoluene	88		-		70-130	-		20
tert-Butylbenzene	95		-		70-130	-		20
1,2,4-Trimethylbenzene	82		-		70-130	-		20
sec-Butylbenzene	92		-		70-130	-		20
p-Isopropyltoluene	90		-		70-130	-		20
1,3-Dichlorobenzene	90		-		70-130	-		20
1,4-Dichlorobenzene	82		-		70-130	-		20
n-Butylbenzene	88		-		70-130	-		20
1,2-Dichlorobenzene	88		-		70-130	-		20
1,2,4-Trichlorobenzene	80		-		70-130	-		20
Hexachlorobutadiene	88		-		70-130	-		20
Naphthalene	75		-		70-130	-		20
1,2,3-Trichlorobenzene	80		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07-08 Batch: WG926901-17

<b>Surrogate</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>Acceptance</i> <i>Criteria</i>
1,2-Dichlorobenzene-d4	96				80-120
4-Bromofluorobenzene	104				80-120

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 Batch: WG926901-9								
Dichlorodifluoromethane	100		-		70-130	-		20
Chloromethane	105		-		70-130	-		20
Vinyl chloride	108		-		70-130	-		20
Bromomethane	105		-		70-130	-		20
Chloroethane	105		-		70-130	-		20
Trichlorofluoromethane	105		-		70-130	-		20
1,1-Dichloroethene	108		-		70-130	-		20
tert-Butyl Alcohol	110		-		70-130	-		20
Methylene chloride	105		-		70-130	-		20
Methyl tert butyl ether	100		-		70-130	-		20
trans-1,2-Dichloroethene	110		-		70-130	-		20
1,1-Dichloroethane	105		-		70-130	-		20
2,2-Dichloropropane	100		-		70-130	-		20
cis-1,2-Dichloroethene	108		-		70-130	-		20
Chloroform	105		-		70-130	-		20
Bromochloromethane	102		-		70-130	-		20
1,1,1-Trichloroethane	100		-		70-130	-		20
1,1-Dichloropropene	108		-		70-130	-		20
Carbon tetrachloride	100		-		70-130	-		20
1,2-Dichloroethane	110		-		70-130	-		20
Benzene	108		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Project Number:** 20163496

**Lab Number:** L1626616

**Report Date:** 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 Batch: WG926901-9								
Trichloroethene	108		-		70-130	-		20
1,2-Dichloropropane	100		-		70-130	-		20
Bromodichloromethane	88		-		70-130	-		20
Dibromomethane	108		-		70-130	-		20
cis-1,3-Dichloropropene	90		-		70-130	-		20
Toluene	105		-		70-130	-		20
trans-1,3-Dichloropropene	85		-		70-130	-		20
1,1,2-Trichloroethane	100		-		70-130	-		20
1,3-Dichloropropane	102		-		70-130	-		20
Tetrachloroethene	108		-		70-130	-		20
Dibromochloromethane	85		-		70-130	-		20
1,2-Dibromoethane	98		-		70-130	-		20
Chlorobenzene	100		-		70-130	-		20
1,1,1,2-Tetrachloroethane	92		-		70-130	-		20
Ethylbenzene	102		-		70-130	-		20
p/m-Xylene	104		-		70-130	-		20
o-Xylene	108		-		70-130	-		20
Styrene	100		-		70-130	-		20
Isopropylbenzene	102		-		70-130	-		20
Bromoform	78		-		70-130	-		20
1,1,2,2-Tetrachloroethane	102		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** BSTI

**Lab Number:** L1626616

**Project Number:** 20163496

**Report Date:** 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 Batch: WG926901-9								
1,2,3-Trichloropropane	102		-		70-130	-		20
n-Propylbenzene	105		-		70-130	-		20
Bromobenzene	102		-		70-130	-		20
1,3,5-Trimethylbenzene	102		-		70-130	-		20
o-Chlorotoluene	102		-		70-130	-		20
p-Chlorotoluene	100		-		70-130	-		20
tert-Butylbenzene	100		-		70-130	-		20
1,2,4-Trimethylbenzene	98		-		70-130	-		20
sec-Butylbenzene	102		-		70-130	-		20
p-Isopropyltoluene	102		-		70-130	-		20
1,3-Dichlorobenzene	98		-		70-130	-		20
1,4-Dichlorobenzene	100		-		70-130	-		20
n-Butylbenzene	108		-		70-130	-		20
1,2-Dichlorobenzene	100		-		70-130	-		20
1,2-Dibromo-3-chloropropane	88		-		70-130	-		20
1,2,4-Trichlorobenzene	105		-		70-130	-		20
Hexachlorobutadiene	108		-		70-130	-		20
Naphthalene	108		-		70-130	-		20
1,2,3-Trichlorobenzene	105		-		70-130	-		20

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: BSTI

Lab Number: L1626616

Project Number: 20163496

Report Date: 08/31/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 Batch: WG926901-9

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichlorobenzene-d4	104				80-120
4-Bromofluorobenzene	100				80-120

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-6 QC Sample: L1626570-02 Client ID: MS Sample												
Dichlorodifluoromethane	ND	4	4.8	120	-	-	-	-	70-130	-	-	20
Chloromethane	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
Vinyl chloride	ND	4	4.8	120	-	-	-	-	70-130	-	-	20
Bromomethane	ND	4	4.0	100	-	-	-	-	70-130	-	-	20
Chloroethane	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
Trichlorofluoromethane	ND	4	4.9	123	-	-	-	-	70-130	-	-	20
1,1-Dichloroethene	ND	4	4.8	120	-	-	-	-	70-130	-	-	20
Methylene chloride	ND	4	4.3	108	-	-	-	-	70-130	-	-	20
Methyl tert butyl ether	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
trans-1,2-Dichloroethene	ND	4	4.7	118	-	-	-	-	70-130	-	-	20
1,1-Dichloroethane	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
2,2-Dichloropropane	ND	4	4.1	103	-	-	-	-	70-130	-	-	20
cis-1,2-Dichloroethene	ND	4	4.7	118	-	-	-	-	70-130	-	-	20
Chloroform	ND	4	4.8	120	-	-	-	-	70-130	-	-	20
Bromochloromethane	ND	4	4.4	110	-	-	-	-	70-130	-	-	20
1,1,1-Trichloroethane	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
1,1-Dichloropropene	ND	4	4.7	118	-	-	-	-	70-130	-	-	20
Carbon tetrachloride	ND	4	4.7	118	-	-	-	-	70-130	-	-	20
1,2-Dichloroethane	ND	4	4.8	120	-	-	-	-	70-130	-	-	20
Benzene	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
Trichloroethene	ND	4	4.5	113	-	-	-	-	70-130	-	-	20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-6 QC Sample: L1626570-02 Client ID: MS Sample												
1,2-Dichloropropane	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
Bromodichloromethane	ND	4	4.2	105	-	-	-	-	70-130	-	-	20
Dibromomethane	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
cis-1,3-Dichloropropene	ND	4	4.0	100	-	-	-	-	70-130	-	-	20
Toluene	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
trans-1,3-Dichloropropene	ND	4	3.9	98	-	-	-	-	70-130	-	-	20
1,1,2-Trichloroethane	ND	4	4.7	118	-	-	-	-	70-130	-	-	20
1,3-Dichloropropane	ND	4	4.7	118	-	-	-	-	70-130	-	-	20
Tetrachloroethene	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
Dibromochloromethane	ND	4	4.0	100	-	-	-	-	70-130	-	-	20
1,2-Dibromoethane	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
Chlorobenzene	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
1,1,1,2-Tetrachloroethane	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
Ethylbenzene	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
p/m-Xylene	ND	8	9.4	118	-	-	-	-	70-130	-	-	20
o-Xylene	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
Styrene	ND	4	4.5	113	-	-	-	-	70-130	-	-	20
Isopropylbenzene	ND	4	4.6	115	-	-	-	-	70-130	-	-	20
Bromoform	ND	4	3.8	95	-	-	-	-	70-130	-	-	20
1,1,2,2-Tetrachloroethane	ND	4	4.8	120	-	-	-	-	70-130	-	-	20
1,2,3-Trichloropropane	ND	4	5.0	125	-	-	-	-	70-130	-	-	20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-6 QC Sample: L1626570-02 Client ID: MS Sample												
n-Propylbenzene	ND	4	4.6	115		-	-	-	70-130	-	-	20
Bromobenzene	ND	4	4.5	113		-	-	-	70-130	-	-	20
1,3,5-Trimethylbenzene	ND	4	4.5	113		-	-	-	70-130	-	-	20
o-Chlorotoluene	ND	4	4.8	120		-	-	-	70-130	-	-	20
p-Chlorotoluene	ND	4	4.5	113		-	-	-	70-130	-	-	20
tert-Butylbenzene	ND	4	4.6	115		-	-	-	70-130	-	-	20
1,2,4-Trimethylbenzene	ND	4	4.5	113		-	-	-	70-130	-	-	20
sec-Butylbenzene	ND	4	4.5	113		-	-	-	70-130	-	-	20
p-Isopropyltoluene	ND	4	4.4	110		-	-	-	70-130	-	-	20
1,3-Dichlorobenzene	ND	4	4.4	110		-	-	-	70-130	-	-	20
1,4-Dichlorobenzene	ND	4	4.5	113		-	-	-	70-130	-	-	20
n-Butylbenzene	ND	4	4.4	110		-	-	-	70-130	-	-	20
1,2-Dichlorobenzene	ND	4	4.5	113		-	-	-	70-130	-	-	20
1,2-Dibromo-3-chloropropane	ND	4	4.6	115		-	-	-	70-130	-	-	20
1,2,4-Trichlorobenzene	ND	4	4.4	110		-	-	-	70-130	-	-	20
Hexachlorobutadiene	ND	4	4.3	108		-	-	-	70-130	-	-	20
Naphthalene	ND	4	4.9	123		-	-	-	70-130	-	-	20
1,2,3-Trichlorobenzene	ND	4	4.6	115		-	-	-	70-130	-	-	20

**Matrix Spike Analysis**  
**Batch Quality Control**

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

<b>Parameter</b>	<b>Native Sample</b>	<b>MS Added</b>	<b>MS Found</b>	<b>MS %Recovery</b>	<b>Qual</b>	<b>MSD Found</b>	<b>MSD %Recovery</b>	<b>Qual</b>	<b>Recovery Limits</b>	<b>RPD</b>	<b>RPD Qual</b>	<b>RPD Limits</b>
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Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-6 QC Sample: L1626570-02 Client ID: MS Sample

<b>Surrogate</b>	<b>MS</b>	<b>MSD</b>	<b>Acceptance Criteria</b>	
	<b>% Recovery</b>	<b>Qualifier</b>	<b>% Recovery</b>	<b>Qualifier</b>
1,2-Dichlorobenzene-d4	104			80-120
4-Bromofluorobenzene	104			80-120

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-5 QC Sample: L1626570-01 Client ID: DUP Sample						
Dichlorodifluoromethane	ND	ND	ug/l	NC		20
Chloromethane	ND	ND	ug/l	NC		20
Vinyl chloride	ND	ND	ug/l	NC		20
Bromomethane	ND	ND	ug/l	NC		20
Chloroethane	ND	ND	ug/l	NC		20
Trichlorofluoromethane	ND	ND	ug/l	NC		20
1,1-Dichloroethene	ND	ND	ug/l	NC		20
Methylene chloride	ND	ND	ug/l	NC		20
Methyl tert butyl ether	ND	ND	ug/l	NC		20
trans-1,2-Dichloroethene	ND	ND	ug/l	NC		20
1,1-Dichloroethane	ND	ND	ug/l	NC		20
2,2-Dichloropropane	ND	ND	ug/l	NC		20
cis-1,2-Dichloroethene	ND	ND	ug/l	NC		20
Chloroform	ND	ND	ug/l	NC		20
Bromochloromethane	ND	ND	ug/l	NC		20
1,1,1-Trichloroethane	ND	ND	ug/l	NC		20
1,1-Dichloropropene	ND	ND	ug/l	NC		20
Carbon tetrachloride	ND	ND	ug/l	NC		20
1,2-Dichloroethane	ND	ND	ug/l	NC		20

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-5 QC Sample: L1626570-01 Client ID: DUP Sample					
Benzene	ND	ND	ug/l	NC	20
Trichloroethene	ND	ND	ug/l	NC	20
1,2-Dichloropropane	ND	ND	ug/l	NC	20
Bromodichloromethane	ND	ND	ug/l	NC	20
Dibromomethane	ND	ND	ug/l	NC	20
cis-1,3-Dichloropropene	ND	ND	ug/l	NC	20
Toluene	ND	ND	ug/l	NC	20
trans-1,3-Dichloropropene	ND	ND	ug/l	NC	20
1,1,2-Trichloroethane	ND	ND	ug/l	NC	20
1,3-Dichloropropane	ND	ND	ug/l	NC	20
Tetrachloroethene	ND	ND	ug/l	NC	20
Dibromochloromethane	ND	ND	ug/l	NC	20
1,2-Dibromoethane	ND	ND	ug/l	NC	20
Chlorobenzene	ND	ND	ug/l	NC	20
1,1,1,2-Tetrachloroethane	ND	ND	ug/l	NC	20
Ethylbenzene	ND	ND	ug/l	NC	20
p/m-Xylene	ND	ND	ug/l	NC	20
o-Xylene	ND	ND	ug/l	NC	20
Styrene	ND	ND	ug/l	NC	20

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-5 QC Sample: L1626570-01 Client ID: DUP Sample					
Isopropylbenzene	ND	ND	ug/l	NC	20
Bromoform	ND	ND	ug/l	NC	20
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC	20
1,2,3-Trichloropropane	ND	ND	ug/l	NC	20
n-Propylbenzene	ND	ND	ug/l	NC	20
Xylene (Total) <sup>1</sup>	ND	ND	ug/l	NC	20
Bromobenzene	ND	ND	ug/l	NC	20
1,3,5-Trimethylbenzene	ND	ND	ug/l	NC	20
Trihalomethanes, Total	ND	ND	ug/l	NC	20
o-Chlorotoluene	ND	ND	ug/l	NC	20
p-Chlorotoluene	ND	ND	ug/l	NC	20
tert-Butylbenzene	ND	ND	ug/l	NC	20
1,2,4-Trimethylbenzene	ND	ND	ug/l	NC	20
sec-Butylbenzene	ND	ND	ug/l	NC	20
p-Isopropyltoluene	ND	ND	ug/l	NC	20
1,3-Dichlorobenzene	ND	ND	ug/l	NC	20
1,4-Dichlorobenzene	ND	ND	ug/l	NC	20
n-Butylbenzene	ND	ND	ug/l	NC	20
1,2-Dichlorobenzene	ND	ND	ug/l	NC	20

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-11 QC Batch ID: WG926901-5 QC Sample: L1626570-01 Client ID: DUP Sample					
1,2-Dibromo-3-chloropropane	ND	ND	ug/l	NC	20
1,2,4-Trichlorobenzene	ND	ND	ug/l	NC	20
Hexachlorobutadiene	ND	ND	ug/l	NC	20
Naphthalene	ND	ND	ug/l	NC	20
1,2,3-Trichlorobenzene	ND	ND	ug/l	NC	20

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	103		101		80-120
4-Bromofluorobenzene	97		96		80-120

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

#### Cooler Information Custody Seal

##### Cooler

A Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1626616-01A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-01B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-02A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-02B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-03A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-03B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-04A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-04B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-05A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-05B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-06A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-06B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-07A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-07B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-08A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-08B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-09A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-09B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-10A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-10B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-11A	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)
L1626616-11B	Vial HCl preserved	A	N/A	4.1	Y	Absent	524.2(14)

\*Values in parentheses indicate holding time in days

**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

## GLOSSARY

### **Acronyms**

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### **Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### **Terms**

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### **Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

**Data Qualifiers**

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with 'J' Qualifiers



**Project Name:** BSTI  
**Project Number:** 20163496

**Lab Number:** L1626616  
**Report Date:** 08/31/16

## REFERENCES

- 16 Methods for the Determination of Organic Compounds in Drinking Water - Supplement II. EPA/600/R-92/129, August 1992.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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**The following analytes are not included in our Primary NELAP Scope of Accreditation:**

**Westborough Facility**

EPA 624: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide

EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

SM5310C: DW: Dissolved Organic Carbon

**Mansfield Facility**

SM 2540D: TSS

EPA 3005A NPW

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix: EPA 3050B**

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation**

**Westborough Facility:**

**Drinking Water**

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C**, **SM4500CN-CE**, **EPA 180.1**,

**SM2130B**, **SM4500CI-D**, **SM2320B**, **SM2540C**, **SM4500H-B**

EPA 332: Perchlorate; **EPA 524.2**: THMs and VOCs; **EPA 504.1**: EDB, DBCP.

Microbiology: **SM9215B**; **SM9223-P/A**, **SM9223B-Colilert-QT**, **SM9222D**.

**Non-Potable Water**

**SM4500H,B**, **EPA 120.1**, **SM2510B**, **SM2540C**, **SM2320B**, **SM4500CL-E**, **SM4500F-BC**, **SM4500NH3-BH**, **EPA 350.1**: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, **SM4500NO3-F**, **EPA 353.2**: Nitrate-N, **EPA 351.1**, **SM4500P-E**, **SM4500P-B, E**, **SM4500SO4-E**, **SM5220D**, **EPA 410.4**, **SM5210B**, **SM5310C**, **SM4500CL-D**, **EPA 1664**, **EPA 420.1**, **SM4500-CN-CE**, **SM2540D**.

**EPA 624**: Volatile Halocarbons & Aromatics,

**EPA 608**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625**: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.

Microbiology: **SM9223B-Colilert-QT**; **Enterolert-QT**, **SM9222D-MF**.

**Mansfield Facility:**

**Drinking Water**

**EPA 200.7**: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8**: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg**.

**Non-Potable Water**

**EPA 200.7**: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8**: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

**EPA 245.1 Hg**.

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



## CHAIN OF CUSTODY

PAGE 1 OF 2

WESTBORO, MA MANSFIELD, MA  
TEL: 508-898-9220 TEL: 508-822-9300  
FAX: 508-898-9193 FAX: 508-822-3288

## Client Information

Client: Advanced GeoServices

Address: 1055 Andrew Drive  
West Chester PA

Phone: 610 840 9100

Fax: 610 840 9189

Email: RShoyer@AdvancedGeoServices.com

 These samples have been previously analyzed by Alpha

## Other Project Specific Requirements/Comments/Detection Limits:

Drinking Water Maryland + MTBE + TBA

 Standard       RUSH (only confirmed if pre-approved)

Date Due: 8/23/16 Time:

Date Rec'd in Lab: 8/25/16

ALPHA Job #: LG626616

## Project Information

Project Name: BSTI -

Project Location: North East MD

Project #: 2016 3496

Project Manager: Rick Shoyer

ALPHA Quote #: D. Boring

## Turn-Around Time

## Report Information - Data Deliverables

FAX       EMAIL  
 ADEx       Add'l Deliverables

## Billing Information

 Same as Client info PO #:

## Regulatory Requirements/Report Limits

State /Fed Program

Criteria  
Maryland DW

ANALYSIS	SAMPLE HANDLING												TOTAL # BOTTLES
	(Please specify below)												

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	SAMPLE HANDLING												TOTAL # BOTTLES
		Date	Time			(Please specify below)												
26616-01	PC-T-00	8/23/16	18:08	DW	RS	X	X											
02	PC-T-05	8/23/16	18:31	DW	RS	X	X											
03	PC-T-10	8/23/16	18:36	DW	RS	X	X											
04	PC-T-15	8/23/16	18:41	DW	RS	X	X											
05	PC-T-20	8/23/16	18:51	DW	RS	X	X											
06	UT-T-00	8/23/16	19:02	DW	RS	X	X											
07	UT-T-05	8/23/16	19:25	DW	RS	X	X											
08	UT-T-10	8/23/16	19:30	DW	RS	X	X											
09	UT-T-20	8/23/16	19:40	DW	RS	X	X											
10	UT-T-30	8/23/16	19:50	DW	RS	X	X											
						V	V											
						B	B											

Container Type V V

Preservative B B

Relinquished By:

Daniel Fischer AAL  
Tom Robinson

Date/Time

8/24/16 11:00 Daniel Fischer AAL

8/24/16 2020 Tom Robinson

8/25/16 00:05

Received By:

Tom Robinson

Date/Time

8/24/16 15:27

8/24/16 2020

8/25/16 00:03

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved.  
All samples submitted are subject to Alpha's Terms and Conditions.  
See reverse side.



## CHAIN OF CUSTODY

PAGE 2 OF 2

WESTBORO, MA  
TEL: 508-898-9220  
FAX: 508-898-9193

MANSFIELD, MA  
TEL: 508-822-9300  
FAX: 508-822-3288

## Client Information

Client: Advanced GeoServices

Address: 1055 Andrew Drive  
West Chester PA

Phone: 610 840 9100

Fax: 610 840 9199

Email: RShoyer@AdvancedGeoServices.com

 These samples have been previously analyzed by Alpha

## Other Project Specific Requirements/Comments/Detection Limits:

Drinking water - MD  
plus MTBE + TBA
 Standard       RUSH (only confirmed if pre-approved)

Date Due:

Time:

ALPHA Lab ID  
(Lab Use Only)

Sample ID

Collection

Sample

Matrix

Sampler's

Initials

Date

Time

26616-11

Trip Blank

8/22 6:30

W

MIT

XX

Container Type

✓

✓

Preservative

B

B

Relinquished By:

Daniel Fischer AAL  
Tom Robb

Date/Time

8/24/16 11:00 AM  
8/24/16 2020  
8/25/16 0005

Received By:

Daniel Fischer AAL  
Tom Robb

Date/Time

8/24/16 15:27  
8/24/16 2020  
8/24/16 00:05

## Regulatory Requirements/Report Limits

State /Fed Program

Maryland

Criteria

Drinking Water

ANALYSIS

S242  
MTBE  
XTBA

## SAMPLE HANDLING

Filtration

- Done
- Not needed
- Lab to do
- Preservation
- Lab to do

(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.