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May 31, 2017

Mr. David Szymanski
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue – 3rd Floor
Buffalo, New York 14203

Subject: Groundwater and Surface Water Monitoring Results
April 2017
Mineral Springs Road MGP Site (NYSDEC Site #V00195)

Dear Mr. Szymanski:

AECOM Technical Services, Inc. (AECOM) has prepared this report on behalf of National Fuel Gas Distribution Corporation (National Fuel) to provide the results of a groundwater and surface water sampling event completed on April 18, 2017 at the Mineral Springs Road Former Manufactured Gas Plant (MGP) Site.

The work at the Mineral Springs Site is being conducted under a New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Agreement (number B9-0538-98-08) as described in the Remedial Design, dated February 10, 1999, and the Final Engineering Report, Volume II – Operations and Maintenance (O&M) Plan, dated May 2002.

Summary

A total of 13 groundwater samples and two surface water samples were collected and analyzed this period in accordance with the O&M Plan. Sampling locations are shown on Figure 1. The collected benzene, toluene, ethylbenzene, and xylene (BTEX) and polycyclic aromatic hydrocarbon (PAH) samples were analyzed by TestAmerica Laboratories, Inc. (TestAmerica) of Amherst, New York (New York State Department of Health [NYSDOH] Environmental Laboratory Approval Program [ELAP] ID 10026). Total and free cyanide analyses were performed by Pace Analytical Services, LLC (Pace) of Grand Rapids, Michigan (ELAP ID 11776/53116). Table 1, which is taken from the O&M Plan, summarizes the sampling and analytical requirements for the site. Analytical results are summarized in Table 2.

One upgradient (MW-17), two onsite (MW-12 and MW-16), four downgradient onsite (MW-13, MW-14, MW-22, and MW-23), and two downgradient offsite (MW-20 and MW-21) monitoring wells were sampled for total and free cyanide analyses. Total cyanide concentrations exceeded the NYSDEC Groundwater Standard[1] of 200 micrograms per liter (µg/L) in seven of nine groundwater samples. Free

[1] Reference for NYSDEC groundwater and surface water standards: NYSDEC Technical Operational and Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.

cyanide was detected in three of nine groundwater samples at concentrations ranging from 6.8 to 17 µg/L. There is no NYSDEC Groundwater Standard for free cyanide.

One upgradient (MW-17) and four onsite (MW-07, MW-10, MW-11A, and MW-19) monitoring wells were sampled for BTEX and PAH analyses during this event. Concentrations of BTEX and/or PAH compounds exceeded the NYSDEC Standard or Guidance Values in three of the onsite groundwater samples (MW-07, MW-11A, and MW-19).

Two surface water samples (SW-01 and SW-02) were collected for BTEX, PAH, and total and free cyanide analyses. No BTEX or PAH compounds were detected in the surface water samples. Total cyanide was detected in the SW-01 surface water sample at a concentration of 25.5 µg/L and in the SW-02 surface water sample at a concentration of 253 µg/L, below the NYSDEC Class D Surface Water Standard of 9,000 µg/L. Free cyanide was detected in the SW-01 surface water sample at a concentration of 11 µg/L and in the SW-02 surface water sample at a concentration of 72 µg/L. The free cyanide concentration in the SW-02 sample was above the NYSDEC Class D Surface Water Standard of 22 µg/L.

Depth-to-water measurements were taken from 14 monitoring wells and one surface water location. Table 2 summarizes groundwater elevation data and Figure 1 shows groundwater elevation contours for this sampling event.

Recovery test well (RTW-1) was purged using a peristaltic pump to evaluate for the presence of DNAPL. The water contained only trace DNAPL in the form of “blebs”, visually estimated to be less than 1% of total volume.

Groundwater elevations

The depth-to-water measurements were converted to elevations using reference point elevation data. The elevation data have been used to construct the groundwater elevation contours shown in Figure 1. The elevation data were compared to previous sampling events and show similar groundwater flow direction. Groundwater flows across the site in a generally west-northwesterly direction.

Sampling and analysis

Thirteen monitoring wells were purged and sampled by an AECOM sampling team during the April 18, 2017 event; sampling locations are shown on Figure 1. The samples were analyzed using the following EPA Publication SW846 (SW846) methods:

BTEX	SW846 Method 8260C
PAHs	SW846 Method 8270D
Cyanide (total)	SW846 Method 9014[2]
Cyanide (free)	SW846 Method 9016

[2] In 2016, the analytical method for total cyanide analysis for samples collected at the Mineral Springs Road MGP Site was changed from SW846 Method 9012B to SW846 Method 9014. NYSDEC was notified of this change in a letter from AECOM dated May 31, 2016.

Groundwater and surface water sampling and analyses were conducted in accordance with AECOM's Standard Operating Procedures as provided in the project Quality Assurance Plan (QAP) of June 11, 1999. Cyanide samples were protected from light during collection to prevent the dissociation of metal-cyanide compounds, which could artificially elevate free cyanide results.

Analytical results and conclusions

Laboratory results are summarized in Table 2. Laboratory reports and chain-of-custody forms are provided as an attachment. Sample locations, sampling objectives, and a discussion of the analytical results for each of the specific areas of interest at the site are provided in the following sections.

The following discussion of results and data summarized in Table 2 reflect AECOM's review of the associated quality assurance/quality control (QA/QC) data (blanks, duplicates, etc.) including any changes to the laboratory-reported data qualifiers, as noted in the QA/QC section of this report.

Upgradient site perimeter

Monitoring well MW-17 is located in the southeast corner of the site to monitor upgradient groundwater quality. The groundwater sample collected from MW-17 was analyzed for BTEX, PAH, and total and free cyanide. No BTEX or PAH compounds were detected. Total cyanide was detected at a concentration of 124 µg/L, below the NYSDEC Groundwater Standard of 200 µg/L. Free cyanide was not detected. These cyanide results are consistent with historic data from this well.

Downgradient site perimeter

Monitoring wells MW-20 and MW-21 are located downgradient of the western boundary of the site on Calais Street, and wells MW-13, MW-14, MW-22, and MW-23 are located just inside the northern property boundary near Mineral Springs Road. These six wells monitor groundwater quality downgradient of the site to the north and west. Groundwater samples collected from these six wells were analyzed for total and free cyanide.

Five of the six wells had total cyanide concentrations above the NYSDEC Groundwater Standard of 200 µg/L. Detected concentrations ranged from 236 µg/L at MW-23 to 874 µg/L at MW-20. Free cyanide was detected in one of the six wells (MW-22) at a concentration of 12 µg/L; there is no NYSDEC Groundwater Standard for free cyanide. These analytical results are consistent with the range of concentrations measured in past years.

On-site purifier residuals impacted areas

Monitoring wells MW-12 and MW-16 monitor groundwater quality at locations of known subsurface deposits of purifier box residuals. These deposits were remediated by capping. Groundwater samples from these two wells were analyzed for total and free cyanide.

Total cyanide concentrations were reported as 536 µg/L at MW-12 and 1,570 µg/L at MW-16, greater than the NYSDEC Groundwater Standard of 200 µg/L. Free cyanide concentrations were reported as 6.8 µg/L at MW-12 and as 17 µg/L at MW-16; there is no NYSDEC Groundwater Standard for free cyanide.

Total and free cyanide results were compared with historical data from these two wells. The comparison indicates that the most recent total cyanide analytical results for MW-12 are consistent with past results. The total cyanide result for MW-16 is lower than the last two sampling events (April and August 2016); however, over time an upward trend is being observed so this trend will continue to be monitored.

Current free cyanide results for MW-12 and MW-16 show a stable low concentration consistent with historical results.

On-site hydrocarbon NAPL impacted areas

Monitoring wells MW-07, MW-10, MW-11A, and MW-19 monitor on-site groundwater quality downgradient of subsurface soils impacted with hydrocarbon NAPL. Samples from these wells were analyzed for BTEX and PAH compounds.

BTEX compounds were not detected at MW-10. BTEX compounds were detected above the NYSDEC Groundwater Standards in MW-07, MW-11A, and MW-19. Concentrations of BTEX compounds were consistent with historical analytical data.

PAH compound acenaphthene was detected in MW-07 above the NYSDEC Groundwater Standard of 20 µg/L, and naphthalene was detected in MW-07 and MW-19 above the NYSDEC Groundwater Standard of 10 µg/L. However, the naphthalene levels were such that samples from both those wells required dilution prior to analysis, resulting in reporting limits of the other PAH analytes being above the respective Groundwater Standards. Concentrations for detected compounds were consistent with analytical results obtained in past years.

Surface water

Two surface water samples (SW-01 and SW-02) were collected from the NYSDEC Class D Stream running along the south side of the site. These surface water sampling locations monitor the effectiveness of the EDD Cap and also monitor the concentrations of constituents of concern in surface water downstream of the Mineral Springs Site. The collected samples were analyzed for BTEX and PAH compounds, as well as for total and free cyanide.

No BTEX or PAH compounds were detected in either surface water sample.

Total cyanide was detected in the SW-01 surface water sample at a concentration of 25.5 µg/L and in the SW-02 surface water sample at a concentration of 253 µg/L, below the NYSDEC Class D Surface Water Standard of 9,000 µg/L. Free cyanide was detected in the SW-01 surface water sample at a concentration of 11 µg/L and in the SW-02 surface water sample at a concentration of 72 µg/L. The free cyanide concentration in the SW-02 sample was above the NYSDEC Class D Surface Water Standard of 22 µg/L.

Quality Assurance / Quality Control (QA/QC) samples

QA/QC samples were collected during the sampling event to meet the requirements of the O&M Plan. BTEX and PAH sample bottles were provided by TestAmerica Laboratories, Inc. of Buffalo, New York and total and free cyanide sample bottles were provided by Pace Analytical Services, LLC of Grand Rapids, Michigan. Some sample bottles contained chemical preservatives to stabilize the sample, depending on the analysis being performed. These chemical preservatives raise or lower the pH as required. All samples were received at the laboratory within the acceptable pH range and within the optimal temperature range of 4° C (degrees Celsius) ± 2° C.

An equipment (rinsate) blank was prepared using analyte free blank water supplied by the analytical laboratory. All downhole tubing used to collect groundwater samples is dedicated to, and stored within, each well. Therefore, the equipment blank was collected by running the blank water through the silicone and polyethylene pump tubing at the peristaltic pump head. Naphthalene was detected in the equipment blank at 0.59 µg/L. The naphthalene results for all project samples were non-detect or greater than five

times the blank level. No data qualifications were required. No other target compounds or analytes were detected in the equipment blank.

A trip blank sample was prepared by the laboratory and was stored in the sample cooler throughout the sampling event and during transportation back to the laboratory. The trip blank was analyzed for BTEX compounds. No BTEX compounds were detected in the trip blank.

No analytes or compounds were detected in the associated laboratory method blanks. All laboratory control sample (i.e., blank spike) recoveries were within the statistically calculated quality control limits.

Blind field duplicate samples were collected from MW-07 (Dup) and MW-16 (MW-66). The duplicate sample from MW-07 was submitted for BTEX and PAH analyses. The duplicate sample from MW-16 was submitted for total and free cyanide analyses. All duplicate sample results were within the acceptance limits as defined by the QAP. Field sampling/laboratory precision and sample homogeneity were acceptable.

Sample SW-01 was processed as a matrix spike/matrix spike duplicate sample for free cyanide and total cyanide to assess the effects of matrix on the analyses. The free cyanide and total cyanide spike recoveries and the relative percent differences were within the laboratory-generated statistical limits.

DNAPL recovery test well (RTW-1)

On April 18, 2017, the Recovery System at RTW-1 was operated to assess whether DNAPL had accumulated since the August 2016 sampling event. Approximately two liters of water were pumped out. The water contained only trace DNAPL in the form of “blebs”, visually estimated to be less than 1% of total volume.

If you have any questions or comments, please do not hesitate to call me at (716) 923-1113.

Sincerely yours,

Tamara M. Raby

Tamara Raby
Project Manager

Randy West

Randolph West, P.E
Project Engineer

Encl: Water Sampling Summary (Table 1)
Laboratory Results Summary (Table 2)
Groundwater Elevation Contours (Figure 1)
Laboratory Reports

cc: B. Walker – National Fuel
T. Alexander – National Fuel
S. McLaughlin – NYSDOH

TABLES

Table 1
Water Sampling Summary Table
Mineral Springs Road MGP Site, April 2017

Location	Cyanide, Total	Cyanide, Free	BTEX	PAHs	Water Elevation	Benchmark Elevation
	USEPA SW846 9014	USEPA SW846 9016	USEPA SW846 8260C	USEPA SW846 8270D		(top of PVC casing)
Upgradient Site Perimeter						
MW-17	x	x	x	x	x	587.28
Downgradient Site Perimeter						
MW-13	x	x	annually	annually	x	591.85
MW-14	x	x			x	589.53
MW-15					x	590.93
MW-20	x	x			x	587.06
MW-21	x	x			x	587.84
MW-22	x	x			x	592.50
MW-23	x	x	annually	annually	x	589.28
Onsite Purifier Residuals Impacted Areas						
MW-12	x	x			x	591.40
MW-16	x	x			x	588.99
Onsite Hydrocarbon Impacted Areas						
MW-07			x	x	x	587.01
MW-10			x	x	x	587.61
MW-11A			x	x	x	589.78
MW-19			x	x	x	589.83
Onsite Surface Water						
SW-01	x	x	x	x	x	top of headwall = 587.0
SW-02	x	x	x	x		
QA/QC Samples (frequency)						
Trip Blank			x			(one per shipment)
Field Duplicate	x	x	x	x		(one per event)
Equipment Blank	x	x	x	x		(one per event)
DNAPL Recovery						
RTW-1						(purge well of accumulated DNAPL)
Total	13	13	10 or 12	9 or 11	15	
Container, Preservative	250 mL plastic, NaOH	250 mL plastic amber, NaOH	40 mL VOA vial, HCl (x3)	250 mL glass amber, NP (x2)		

Note: Sample methods and containers have been updated to the most current information. Benchmark elevations have been updated to reflect the 2007 survey, except for MW-20, which was resurveyed in August 2009 due to a repair.

Table 2
Groundwater and Surface Water Monitoring Results
Mineral Springs Road MGP Site

April 2017

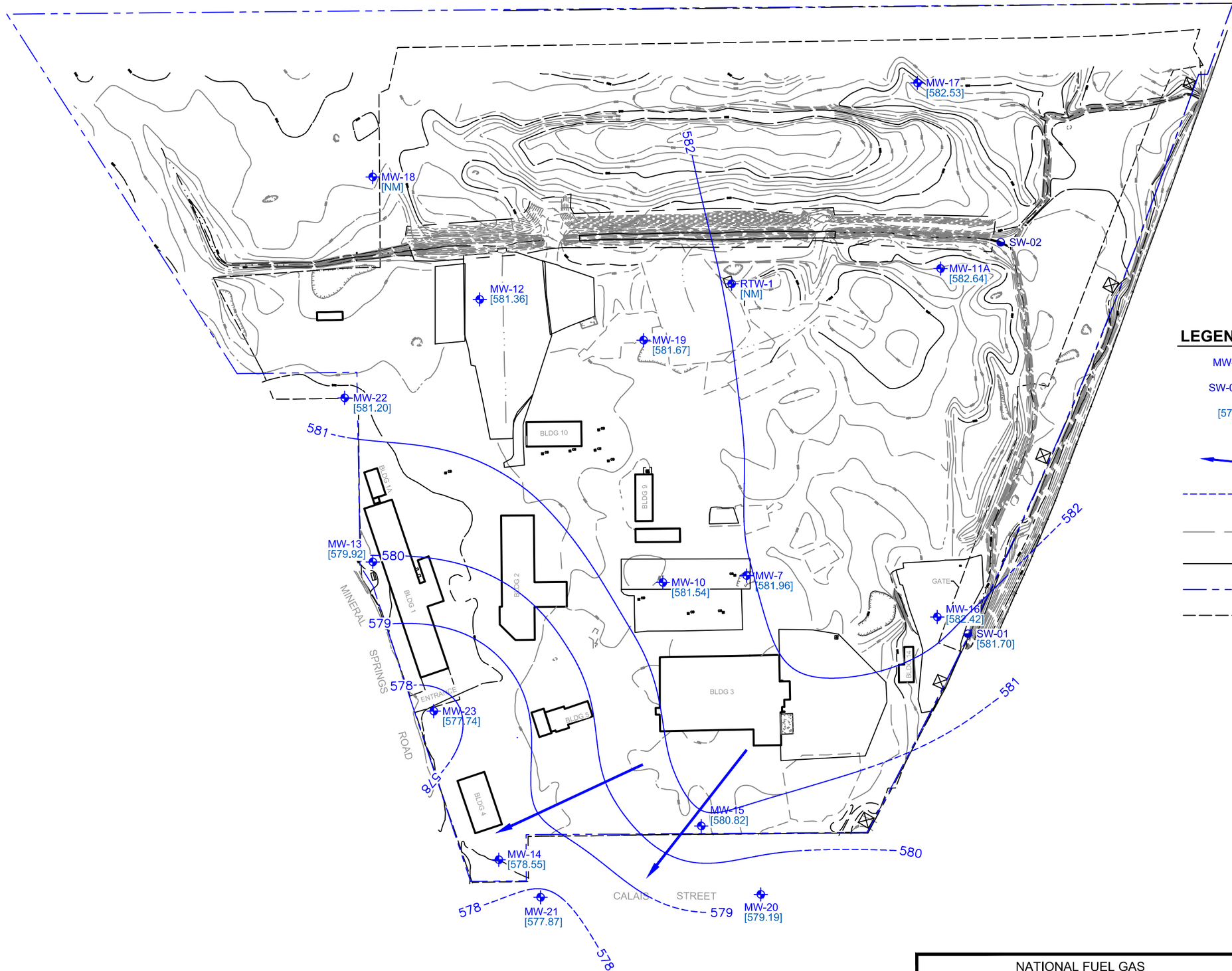
PARAMETER	GROUNDWATER															SURFACE WATER			Quality Assurance / Quality Control			
Sample ID :	*Groundwater*	MW-07	MW-10	MW-11A	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-19	MW-20	MW-21	MW-22	MW-23	*Class D Stream*	SW-01	SW-02	TB	EB	MW-07 Dup	MW-16 Dup
Sample Date :	*Standard* (1)	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	*Standard* (1)	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17	04/18/17
BTEX (µg/L)																						
Benzene	1	710	1.0 U	12	---	---	---	---	---	1.0 U	4,000	---	---	---	---	10	1.0 U	1.0 U	1.0 U	1.0 U	740	---
Toluene	5	36	1.0 U	1.0 U	---	---	---	---	---	1.0 U	20 U	---	---	---	---	6000	1.0 U	1.0 U	1.0 U	1.0 U	26	---
Ethylbenzene	5	1,000	1.0 U	0.34 J	---	---	---	---	---	1.0 U	410	---	---	---	---	150 *	1.0 U	1.0 U	1.0 U	1.0 U	1,100	---
Xylene (sum of isomers)	5 (each)	650	3.0 U	0.77 J	---	---	---	---	---	3.0 U	84	---	---	---	---	590 *	3.0 U	3.0 U	3.0 U	3.0 U	680	---
BTEX total	---	2,396	nd	13.11	---	---	---	---	---	nd	4,410	---	---	---	---	---	nd	nd	nd	nd	2,492	---
PAHs (µg/L)																						
Acenaphthene	20 *	100	0.52 U	2.6	---	---	---	---	---	0.63 U	300 U	---	---	---	---	48 *	5.0 U	2.5 U	---	0.54 U	130	---
Acenaphthylene	NL *	60 U	0.52 U	1.5	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Anthracene	50 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	35 *	5.0 U	2.5 U	---	0.54 U	50 U	---
Benzo(a)anthracene	0.002 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	0.23 *	5.0 U	2.5 U	---	0.54 U	50 U	---
Benzo(a)pyrene	NL	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	0.0012 *	5.0 U	2.5 U	---	0.54 U	50 U	---
Benzo(b)fluoranthene	0.002 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Benzo(g,h,i)perylene	NL	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Benzo(k)fluoranthene	0.002 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Chrysene	0.002 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Dibenz(a,h)anthracene	NL	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Fluoranthene	50 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Fluorene	50 *	60 U	0.52 U	0.46 J	---	---	---	---	---	0.63 U	300 U	---	---	---	---	4.8 *	5.0 U	2.5 U	---	0.54 U	50 U	---
Indeno(1,2,3-cd)pyrene	0.002 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	50 U	---
Naphthalene	10 *	2,300	0.68	0.63 U	---	---	---	---	---	0.63 U	6,200	---	---	---	---	110 *	5.0 U	2.5 U	---	0.59	2,900	---
Phenanthrene	50 *	60 U	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	45 *	5.0 U	2.5 U	---	0.54 U	50 U	---
Pyrene	50 *	60 U	0.52 U	0.63	---	---	---	---	---	0.63 U	300 U	---	---	---	---	42 *	5.0 U	2.5 U	---	0.54 U	50 U	---
2-Methylnaphthalene	NL	190	0.52 U	0.63 U	---	---	---	---	---	0.63 U	300 U	---	---	---	---	NL	5.0 U	2.5 U	---	0.54 U	240	---
PAHs total	---	2,590	0.68	5.19	---	---	---	---	---	nd	6,200	---	---	---	---	---	nd	nd	---	0.59	3,270	---
CYANIDE (µg/L)																						
Cyanide, total	200	---	---	---	536	5.0 U	508	---	1,570	124	---	874	371	676	236	9,000	25.5	253	---	5.0 U	---	1,710
Cyanide, free	NL	---	---	---	6.8	5.0 U	5.0 U	---	17	5.0 U	---	5.0 U	5.0 U	12	5.0 U	22	11	72	---	5.0 U	---	10
Water Elevation (feet)	---	581.96	581.54	582.64	581.36	579.92	578.55	580.82	582.42	582.53	581.67	579.19	577.87	581.20	577.74	NL	581.70	---	---	---	---	---

Notes:

NL Not listed
nd Not detected above method detection limit
--- Not analyzed
BTEX benzene, toluene, ethylbenzene, and xylene
PAH polycyclic aromatic hydrocarbon
µg/L micrograms per liter
TB Trip Blank
EB Equipment Blank

(1) NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1)
* Groundwater or Surface Water Guidance Value (no Standard value listed)
Concentrations exceeding NYSDEC regulatory standard or guidance value.
J Indicates laboratory estimated value
U Analyte was not detected above the reporting limit.
UJ Reporting limit may be inaccurate or imprecise
J- Indicates estimated value, possibly biased low
J+ Indicates estimated value, possibly biased high

FIGURE



AECOM

NATIONAL FUEL GAS MINERAL SPRINGS ROAD MGP SITE 60538249-100			**GROUNDWATER ELEVATION CONTOURS APRIL 2017**
DATE: 04/2017	DRWN: HAP		**FIGURE 1**

File: C:\0-tarn\60250836_001 GW Contour Map_APR2017.dwg Layout: GW-2017-04 User: heather.pressing Plotted: May 30, 2017 - 2:12pm Xref's:

LABORATORY ANALYTICAL RESULTS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-116439-1
Client Project/Site: AECOM, Mineral Springs
Sampling Event: Semi Annual Sampling (April 2017)

For:
AECOM, Inc.
257 West Genesee Street
Suite 400
Buffalo, New York 14202-2657

Attn: Tami Raby

Authorized for release by:
5/1/2017 1:38:32 PM
Rebecca Jones, Project Management Assistant I
rebecca.jones@testamericainc.com

Designee for

John Schove, Project Manager II
(716)504-9838
john.schove@testamericainc.com

Table of Contents

Definitions/Glossary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Case Narrative

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Job ID: 480-116439-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-116439-1

Comments
No additional comments.

Receipt
The samples were received on 4/18/2017 6:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA
Method(s) 8260C: The following sample was diluted due to the nature of the sample matrix: MW-19 (480-116439-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D, 8270D_LL_PAH: The following samples was diluted to bring the concentration of target analytes within the calibration range: MW-07 (480-116439-1), MW-19 (480-116439-5) and Duplicate (480-116439-10). Elevated reporting limits (RLs) are provided.

Method(s) 8270D, 8270D_LL_PAH: The following samples was diluted due to the abundance of target analytes: MW-07 (480-116439-1), MW-19 (480-116439-5) and Duplicate (480-116439-10). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8270D, 8270D_LL_PAH: The following sample was diluted due to the nature of the sample matrix: SW-01 (480-116439-6) and SW-02 (480-116439-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-353023.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: MW-07 — Lab Sample ID: 480-116439-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	710		10	2.0	ug/L	10		8260C	Total/NA
Ethylbenzene	1000		10	1.9	ug/L	10		8260C	Total/NA
Toluene	36		10	1.7	ug/L	10		8260C	Total/NA
Xylenes, Total	650		30	5.8	ug/L	10		8260C	Total/NA
2-Methylnaphthalene	190		60	45	ug/L	100		8270D_LL_PAH	Total/NA
Acenaphthene	100		60	36	ug/L	100		8270D_LL_PAH	Total/NA
Naphthalene	2300		60	50	ug/L	100		8270D_LL_PAH	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 480-116439-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.68		0.52	0.44	ug/L	1		8270D_LL_PAH	Total/NA

Client Sample ID: MW-11A — Lab Sample ID: 480-116439-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	12		1.0	0.20	ug/L	1		8260C	Total/NA
Ethylbenzene	0.34	J	1.0	0.19	ug/L	1		8260C	Total/NA
Xylenes, Total	0.77	J	3.0	0.58	ug/L	1		8260C	Total/NA
Acenaphthene	2.6		0.63	0.38	ug/L	1		8270D_LL_PAH	Total/NA
Acenaphthylene	1.5		0.63	0.43	ug/L	1		8270D_LL_PAH	Total/NA
Fluorene	0.46	J	0.63	0.46	ug/L	1		8270D_LL_PAH	Total/NA
Pyrene	0.63		0.63	0.45	ug/L	1		8270D_LL_PAH	Total/NA

Client Sample ID: MW-17 — Lab Sample ID: 480-116439-4

No Detections.

Client Sample ID: MW-19 — Lab Sample ID: 480-116439-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	4000		20	4.0	ug/L	20		8260C	Total/NA
Ethylbenzene	410		20	3.8	ug/L	20		8260C	Total/NA
Xylenes, Total	84		60	12	ug/L	20		8260C	Total/NA
Naphthalene	6200		300	250	ug/L	500		8270D_LL_PAH	Total/NA

Client Sample ID: SW-01 — Lab Sample ID: 480-116439-6

No Detections.

Client Sample ID: SW-02 — Lab Sample ID: 480-116439-7

No Detections.

Client Sample ID: TB-041817 — Lab Sample ID: 480-116439-8

No Detections.

Client Sample ID: EB-041817 — Lab Sample ID: 480-116439-9

This Detection Summary does not include radiochemical test results.

Client Sample ID: EB-041817 (Continued) — Lab Sample ID: 480-116439-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	0.59		0.54	0.46	ug/L	1		8270D_LL_PAH	Total/NA

Client Sample ID: Duplicate — Lab Sample ID: 480-116439-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	740		10	2.0	ug/L	10		8260C	Total/NA
Ethylbenzene	1100		10	1.9	ug/L	10		8260C	Total/NA
Toluene	26		10	1.7	ug/L	10		8260C	Total/NA
Xylenes, Total	680		30	5.8	ug/L	10		8260C	Total/NA
2-Methylnaphthalene	240		50	38	ug/L	100		8270D_LL_PAH	Total/NA
Acenaphthene	130		50	30	ug/L	100		8270D_LL_PAH	Total/NA
Naphthalene	2900		50	42	ug/L	100		8270D_LL_PAH	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-07

Date Collected: 04/18/17 10:45
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-1

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**710**		10	2.0	ug/L			04/28/17 21:39	10
Ethylbenzene	**1000**		10	1.9	ug/L			04/28/17 21:39	10
Toluene	**36**		10	1.7	ug/L			04/28/17 21:39	10
Xylenes, Total	**650**		30	5.8	ug/L			04/28/17 21:39	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*04/28/17 21:39*	*10*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/28/17 21:39*	*10*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*04/28/17 21:39*	*10*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/28/17 21:39*	*10*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**190**		60	45	ug/L		04/20/17 08:28	04/25/17 03:45	100
Acenaphthene	**100**		60	36	ug/L		04/20/17 08:28	04/25/17 03:45	100
Acenaphthylene	60	U	60	40	ug/L		04/20/17 08:28	04/25/17 03:45	100
Anthracene	60	U	60	46	ug/L		04/20/17 08:28	04/25/17 03:45	100
Benzo(a)anthracene	60	U	60	48	ug/L		04/20/17 08:28	04/25/17 03:45	100
Benzo(a)pyrene	60	U	60	39	ug/L		04/20/17 08:28	04/25/17 03:45	100
Benzo(b)fluoranthene	60	U	60	36	ug/L		04/20/17 08:28	04/25/17 03:45	100
Benzo(g,h,i)perylene	60	U	60	44	ug/L		04/20/17 08:28	04/25/17 03:45	100
Benzo(k)fluoranthene	60	U	60	10	ug/L		04/20/17 08:28	04/25/17 03:45	100
Chrysene	60	U	60	38	ug/L		04/20/17 08:28	04/25/17 03:45	100
Dibenz(a,h)anthracene	60	U	60	39	ug/L		04/20/17 08:28	04/25/17 03:45	100
Fluoranthene	60	U	60	43	ug/L		04/20/17 08:28	04/25/17 03:45	100
Fluorene	60	U	60	44	ug/L		04/20/17 08:28	04/25/17 03:45	100
Indeno(1,2,3-cd)pyrene	60	U	60	52	ug/L		04/20/17 08:28	04/25/17 03:45	100
Naphthalene	**2300**		60	50	ug/L		04/20/17 08:28	04/25/17 03:45	100
Phenanthrene	60	U	60	45	ug/L		04/20/17 08:28	04/25/17 03:45	100
Pyrene	60	U	60	43	ug/L		04/20/17 08:28	04/25/17 03:45	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*48 - 120*	*04/20/17 08:28*	*04/25/17 03:45*	*100*
Nitrobenzene-d5	*67*		*46 - 120*	*04/20/17 08:28*	*04/25/17 03:45*	*100*
p-Terphenyl-d14	*63*		*24 - 136*	*04/20/17 08:28*	*04/25/17 03:45*	*100*

Client Sample ID: MW-10

Date Collected: 04/18/17 10:25
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-2

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/28/17 17:19	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/28/17 17:19	1
Toluene	1.0	U	1.0	0.17	ug/L			04/28/17 17:19	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/28/17 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*04/28/17 17:19*	*1*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*		*04/28/17 17:19*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*04/28/17 17:19*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/28/17 17:19*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.52	U	0.52	0.40	ug/L		04/20/17 08:28	04/25/17 04:14	1
Acenaphthene	0.52	U	0.52	0.31	ug/L		04/20/17 08:28	04/25/17 04:14	1
Acenaphthylene	0.52	U	0.52	0.35	ug/L		04/20/17 08:28	04/25/17 04:14	1
Anthracene	0.52	U	0.52	0.41	ug/L		04/20/17 08:28	04/25/17 04:14	1
Benzo(a)anthracene	0.52	U	0.52	0.42	ug/L		04/20/17 08:28	04/25/17 04:14	1
Benzo(a)pyrene	0.52	U	0.52	0.34	ug/L		04/20/17 08:28	04/25/17 04:14	1
Benzo(b)fluoranthene	0.52	U	0.52	0.31	ug/L		04/20/17 08:28	04/25/17 04:14	1
Benzo(g,h,i)perylene	0.52	U	0.52	0.39	ug/L		04/20/17 08:28	04/25/17 04:14	1
Benzo(k)fluoranthene	0.52	U	0.52	0.089	ug/L		04/20/17 08:28	04/25/17 04:14	1
Chrysene	0.52	U	0.52	0.33	ug/L		04/20/17 08:28	04/25/17 04:14	1
Dibenz(a,h)anthracene	0.52	U	0.52	0.34	ug/L		04/20/17 08:28	04/25/17 04:14	1
Fluoranthene	0.52	U	0.52	0.38	ug/L		04/20/17 08:28	04/25/17 04:14	1
Fluorene	0.52	U	0.52	0.39	ug/L		04/20/17 08:28	04/25/17 04:14	1
Indeno(1,2,3-cd)pyrene	0.52	U	0.52	0.46	ug/L		04/20/17 08:28	04/25/17 04:14	1
Naphthalene	**0.68**		0.52	0.44	ug/L		04/20/17 08:28	04/25/17 04:14	1
Phenanthrene	0.52	U	0.52	0.40	ug/L		04/20/17 08:28	04/25/17 04:14	1
Pyrene	0.52	U	0.52	0.38	ug/L		04/20/17 08:28	04/25/17 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*48 - 120*	*04/20/17 08:28*	*04/25/17 04:14*	*1*
Nitrobenzene-d5	*91*		*46 - 120*	*04/20/17 08:28*	*04/25/17 04:14*	*1*
p-Terphenyl-d14	*78*		*24 - 136*	*04/20/17 08:28*	*04/25/17 04:14*	*1*

Client Sample ID: MW-11A

Date Collected: 04/18/17 12:25
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-3

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**12**		1.0	0.20	ug/L			04/28/17 19:02	1
Ethylbenzene	**0.34**	**J**	1.0	0.19	ug/L			04/28/17 19:02	1
Toluene	1.0	U	1.0	0.17	ug/L			04/28/17 19:02	1
Xylenes, Total	**0.77**	**J**	3.0	0.58	ug/L			04/28/17 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*04/28/17 19:02*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*04/28/17 19:02*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*04/28/17 19:02*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/28/17 19:02*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.63	U	0.63	0.48	ug/L		04/20/17 08:28	04/25/17 04:44	1
Acenaphthene	**2.6**		0.63	0.38	ug/L		04/20/17 08:28	04/25/17 04:44	1
Acenaphthylene	**1.5**		0.63	0.43	ug/L		04/20/17 08:28	04/25/17 04:44	1
Anthracene	0.63	U	0.63	0.49	ug/L		04/20/17 08:28	04/25/17 04:44	1
Benzo(a)anthracene	0.63	U	0.63	0.50	ug/L		04/20/17 08:28	04/25/17 04:44	1
Benzo(a)pyrene	0.63	U	0.63	0.41	ug/L		04/20/17 08:28	04/25/17 04:44	1
Benzo(b)fluoranthene	0.63	U	0.63	0.38	ug/L		04/20/17 08:28	04/25/17 04:44	1
Benzo(g,h,i)perylene	0.63	U	0.63	0.46	ug/L		04/20/17 08:28	04/25/17 04:44	1
Benzo(k)fluoranthene	0.63	U	0.63	0.11	ug/L		04/20/17 08:28	04/25/17 04:44	1
Chrysene	0.63	U	0.63	0.40	ug/L		04/20/17 08:28	04/25/17 04:44	1
Dibenz(a,h)anthracene	0.63	U	0.63	0.41	ug/L		04/20/17 08:28	04/25/17 04:44	1
Fluoranthene	0.63	U	0.63	0.45	ug/L		04/20/17 08:28	04/25/17 04:44	1
Fluorene	**0.46**	**J**	0.63	0.46	ug/L		04/20/17 08:28	04/25/17 04:44	1
Indeno(1,2,3-cd)pyrene	0.63	U	0.63	0.55	ug/L		04/20/17 08:28	04/25/17 04:44	1
Naphthalene	0.63	U	0.63	0.53	ug/L		04/20/17 08:28	04/25/17 04:44	1
Phenanthrene	0.63	U	0.63	0.48	ug/L		04/20/17 08:28	04/25/17 04:44	1
Pyrene	**0.63**		0.63	0.45	ug/L		04/20/17 08:28	04/25/17 04:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*48 - 120*	*04/20/17 08:28*	*04/25/17 04:44*	*1*
Nitrobenzene-d5	*80*		*46 - 120*	*04/20/17 08:28*	*04/25/17 04:44*	*1*
p-Terphenyl-d14	*74*		*24 - 136*	*04/20/17 08:28*	*04/25/17 04:44*	*1*

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: MW-17
Date Collected: 04/18/17 08:50
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-4
Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/28/17 18:36	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/28/17 18:36	1
Toluene	1.0	U	1.0	0.17	ug/L			04/28/17 18:36	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/28/17 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*04/28/17 18:36*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/28/17 18:36*	*1*
Dibromofluoromethane (Surr)	*103*		*70 - 130*		*04/28/17 18:36*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/28/17 18:36*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.63	U	0.63	0.48	ug/L		04/20/17 08:28	04/25/17 05:13	1
Acenaphthene	0.63	U	0.63	0.38	ug/L		04/20/17 08:28	04/25/17 05:13	1
Acenaphthylene	0.63	U	0.63	0.43	ug/L		04/20/17 08:28	04/25/17 05:13	1
Anthracene	0.63	U	0.63	0.49	ug/L		04/20/17 08:28	04/25/17 05:13	1
Benzo(a)anthracene	0.63	U	0.63	0.50	ug/L		04/20/17 08:28	04/25/17 05:13	1
Benzo(a)pyrene	0.63	U	0.63	0.41	ug/L		04/20/17 08:28	04/25/17 05:13	1
Benzo(b)fluoranthene	0.63	U	0.63	0.38	ug/L		04/20/17 08:28	04/25/17 05:13	1
Benzo(g,h,i)perylene	0.63	U	0.63	0.46	ug/L		04/20/17 08:28	04/25/17 05:13	1
Benzo(k)fluoranthene	0.63	U	0.63	0.11	ug/L		04/20/17 08:28	04/25/17 05:13	1
Chrysene	0.63	U	0.63	0.40	ug/L		04/20/17 08:28	04/25/17 05:13	1
Dibenz(a,h)anthracene	0.63	U	0.63	0.41	ug/L		04/20/17 08:28	04/25/17 05:13	1
Fluoranthene	0.63	U	0.63	0.45	ug/L		04/20/17 08:28	04/25/17 05:13	1
Fluorene	0.63	U	0.63	0.46	ug/L		04/20/17 08:28	04/25/17 05:13	1
Indeno(1,2,3-cd)pyrene	0.63	U	0.63	0.55	ug/L		04/20/17 08:28	04/25/17 05:13	1
Naphthalene	0.63	U	0.63	0.53	ug/L		04/20/17 08:28	04/25/17 05:13	1
Phenanthrene	0.63	U	0.63	0.48	ug/L		04/20/17 08:28	04/25/17 05:13	1
Pyrene	0.63	U	0.63	0.45	ug/L		04/20/17 08:28	04/25/17 05:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*48 - 120*	*04/20/17 08:28*	*04/25/17 05:13*	*1*
Nitrobenzene-d5	*82*		*46 - 120*	*04/20/17 08:28*	*04/25/17 05:13*	*1*
p-Terphenyl-d14	*78*		*24 - 136*	*04/20/17 08:28*	*04/25/17 05:13*	*1*

Client Sample ID: MW-19

Date Collected: 04/18/17 15:30
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-5

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**4000**		20	4.0	ug/L			04/29/17 09:21	20
Ethylbenzene	**410**		20	3.8	ug/L			04/29/17 09:21	20
Toluene	20	U	20	3.4	ug/L			04/29/17 09:21	20
Xylenes, Total	**84**		60	12	ug/L			04/29/17 09:21	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*04/29/17 09:21*	*20*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/29/17 09:21*	*20*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*04/29/17 09:21*	*20*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/29/17 09:21*	*20*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	300	U	300	230	ug/L		04/20/17 08:28	04/25/17 05:42	500
Acenaphthene	300	U	300	180	ug/L		04/20/17 08:28	04/25/17 05:42	500
Acenaphthylene	300	U	300	200	ug/L		04/20/17 08:28	04/25/17 05:42	500
Anthracene	300	U	300	230	ug/L		04/20/17 08:28	04/25/17 05:42	500
Benzo(a)anthracene	300	U	300	240	ug/L		04/20/17 08:28	04/25/17 05:42	500
Benzo(a)pyrene	300	U	300	200	ug/L		04/20/17 08:28	04/25/17 05:42	500
Benzo(b)fluoranthene	300	U	300	180	ug/L		04/20/17 08:28	04/25/17 05:42	500
Benzo(g,h,i)perylene	300	U	300	220	ug/L		04/20/17 08:28	04/25/17 05:42	500
Benzo(k)fluoranthene	300	U	300	51	ug/L		04/20/17 08:28	04/25/17 05:42	500
Chrysene	300	U	300	190	ug/L		04/20/17 08:28	04/25/17 05:42	500
Dibenz(a,h)anthracene	300	U	300	200	ug/L		04/20/17 08:28	04/25/17 05:42	500
Fluoranthene	300	U	300	210	ug/L		04/20/17 08:28	04/25/17 05:42	500
Fluorene	300	U	300	220	ug/L		04/20/17 08:28	04/25/17 05:42	500
Indeno(1,2,3-cd)pyrene	300	U	300	260	ug/L		04/20/17 08:28	04/25/17 05:42	500
Naphthalene	**6200**		300	250	ug/L		04/20/17 08:28	04/25/17 05:42	500
Phenanthrene	300	U	300	230	ug/L		04/20/17 08:28	04/25/17 05:42	500
Pyrene	300	U	300	210	ug/L		04/20/17 08:28	04/25/17 05:42	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*97*		*48 - 120*	*04/20/17 08:28*	*04/25/17 05:42*	*500*
Nitrobenzene-d5	*90*		*46 - 120*	*04/20/17 08:28*	*04/25/17 05:42*	*500*
p-Terphenyl-d14	*84*		*24 - 136*	*04/20/17 08:28*	*04/25/17 05:42*	*500*

Client Sample ID: SW-01

Date Collected: 04/18/17 13:30
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-6

Matrix: Surface Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/28/17 17:44	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/28/17 17:44	1
Toluene	1.0	U	1.0	0.17	ug/L			04/28/17 17:44	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/28/17 17:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*		*04/28/17 17:44*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/28/17 17:44*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*04/28/17 17:44*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/28/17 17:44*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	5.0	U	5.0	3.8	ug/L		04/20/17 08:28	04/25/17 06:12	10
Acenaphthene	5.0	U	5.0	3.0	ug/L		04/20/17 08:28	04/25/17 06:12	10
Acenaphthylene	5.0	U	5.0	3.4	ug/L		04/20/17 08:28	04/25/17 06:12	10
Anthracene	5.0	U	5.0	3.9	ug/L		04/20/17 08:28	04/25/17 06:12	10
Benzo(a)anthracene	5.0	U	5.0	4.0	ug/L		04/20/17 08:28	04/25/17 06:12	10
Benzo(a)pyrene	5.0	U	5.0	3.3	ug/L		04/20/17 08:28	04/25/17 06:12	10
Benzo(b)fluoranthene	5.0	U	5.0	3.0	ug/L		04/20/17 08:28	04/25/17 06:12	10
Benzo(g,h,i)perylene	5.0	U	5.0	3.7	ug/L		04/20/17 08:28	04/25/17 06:12	10
Benzo(k)fluoranthene	5.0	U	5.0	0.85	ug/L		04/20/17 08:28	04/25/17 06:12	10
Chrysene	5.0	U	5.0	3.2	ug/L		04/20/17 08:28	04/25/17 06:12	10
Dibenz(a,h)anthracene	5.0	U	5.0	3.3	ug/L		04/20/17 08:28	04/25/17 06:12	10
Fluoranthene	5.0	U	5.0	3.6	ug/L		04/20/17 08:28	04/25/17 06:12	10
Fluorene	5.0	U	5.0	3.7	ug/L		04/20/17 08:28	04/25/17 06:12	10
Indeno(1,2,3-cd)pyrene	5.0	U	5.0	4.4	ug/L		04/20/17 08:28	04/25/17 06:12	10
Naphthalene	5.0	U	5.0	4.2	ug/L		04/20/17 08:28	04/25/17 06:12	10
Phenanthrene	5.0	U	5.0	3.8	ug/L		04/20/17 08:28	04/25/17 06:12	10
Pyrene	5.0	U	5.0	3.6	ug/L		04/20/17 08:28	04/25/17 06:12	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*48 - 120*	*04/20/17 08:28*	*04/25/17 06:12*	*10*
Nitrobenzene-d5	*87*		*46 - 120*	*04/20/17 08:28*	*04/25/17 06:12*	*10*
p-Terphenyl-d14	*74*		*24 - 136*	*04/20/17 08:28*	*04/25/17 06:12*	*10*

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: SW-02
Date Collected: 04/18/17 11:10
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-7
Matrix: Surface Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/28/17 18:10	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/28/17 18:10	1
Toluene	1.0	U	1.0	0.17	ug/L			04/28/17 18:10	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/28/17 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*		*04/28/17 18:10*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*04/28/17 18:10*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*04/28/17 18:10*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/28/17 18:10*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	2.5	U	2.5	1.9	ug/L		04/20/17 08:28	04/25/17 06:41	5
Acenaphthene	2.5	U	2.5	1.5	ug/L		04/20/17 08:28	04/25/17 06:41	5
Acenaphthylene	2.5	U	2.5	1.7	ug/L		04/20/17 08:28	04/25/17 06:41	5
Anthracene	2.5	U	2.5	2.0	ug/L		04/20/17 08:28	04/25/17 06:41	5
Benzo(a)anthracene	2.5	U	2.5	2.0	ug/L		04/20/17 08:28	04/25/17 06:41	5
Benzo(a)pyrene	2.5	U	2.5	1.7	ug/L		04/20/17 08:28	04/25/17 06:41	5
Benzo(b)fluoranthene	2.5	U	2.5	1.5	ug/L		04/20/17 08:28	04/25/17 06:41	5
Benzo(g,h,i)perylene	2.5	U	2.5	1.9	ug/L		04/20/17 08:28	04/25/17 06:41	5
Benzo(k)fluoranthene	2.5	U	2.5	0.43	ug/L		04/20/17 08:28	04/25/17 06:41	5
Chrysene	2.5	U	2.5	1.6	ug/L		04/20/17 08:28	04/25/17 06:41	5
Dibenz(a,h)anthracene	2.5	U	2.5	1.7	ug/L		04/20/17 08:28	04/25/17 06:41	5
Fluoranthene	2.5	U	2.5	1.8	ug/L		04/20/17 08:28	04/25/17 06:41	5
Fluorene	2.5	U	2.5	1.9	ug/L		04/20/17 08:28	04/25/17 06:41	5
Indeno(1,2,3-cd)pyrene	2.5	U	2.5	2.2	ug/L		04/20/17 08:28	04/25/17 06:41	5
Naphthalene	2.5	U	2.5	2.1	ug/L		04/20/17 08:28	04/25/17 06:41	5
Phenanthrene	2.5	U	2.5	1.9	ug/L		04/20/17 08:28	04/25/17 06:41	5
Pyrene	2.5	U	2.5	1.8	ug/L		04/20/17 08:28	04/25/17 06:41	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*48 - 120*	*04/20/17 08:28*	*04/25/17 06:41*	*5*
Nitrobenzene-d5	*86*		*46 - 120*	*04/20/17 08:28*	*04/25/17 06:41*	*5*
p-Terphenyl-d14	*76*		*24 - 136*	*04/20/17 08:28*	*04/25/17 06:41*	*5*

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: TB-041817
Date Collected: 04/18/17 00:00
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-8
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/29/17 02:25	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/29/17 02:25	1
Toluene	1.0	U	1.0	0.17	ug/L			04/29/17 02:25	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/29/17 02:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*04/29/17 02:25*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/29/17 02:25*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*04/29/17 02:25*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/29/17 02:25*	*1*

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: EB-041817
Date Collected: 04/18/17 16:45
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-9
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/29/17 03:17	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/29/17 03:17	1
Toluene	1.0	U	1.0	0.17	ug/L			04/29/17 03:17	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/29/17 03:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*04/29/17 03:17*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*04/29/17 03:17*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*04/29/17 03:17*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/29/17 03:17*	*1*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.54	U	0.54	0.41	ug/L		04/20/17 08:28	04/25/17 07:10	1
Acenaphthene	0.54	U	0.54	0.33	ug/L		04/20/17 08:28	04/25/17 07:10	1
Acenaphthylene	0.54	U	0.54	0.37	ug/L		04/20/17 08:28	04/25/17 07:10	1
Anthracene	0.54	U	0.54	0.42	ug/L		04/20/17 08:28	04/25/17 07:10	1
Benzo(a)anthracene	0.54	U	0.54	0.43	ug/L		04/20/17 08:28	04/25/17 07:10	1
Benzo(a)pyrene	0.54	U	0.54	0.36	ug/L		04/20/17 08:28	04/25/17 07:10	1
Benzo(b)fluoranthene	0.54	U	0.54	0.33	ug/L		04/20/17 08:28	04/25/17 07:10	1
Benzo(g,h,i)perylene	0.54	U	0.54	0.40	ug/L		04/20/17 08:28	04/25/17 07:10	1
Benzo(k)fluoranthene	0.54	U	0.54	0.092	ug/L		04/20/17 08:28	04/25/17 07:10	1
Chrysene	0.54	U	0.54	0.35	ug/L		04/20/17 08:28	04/25/17 07:10	1
Dibenz(a,h)anthracene	0.54	U	0.54	0.36	ug/L		04/20/17 08:28	04/25/17 07:10	1
Fluoranthene	0.54	U	0.54	0.39	ug/L		04/20/17 08:28	04/25/17 07:10	1
Fluorene	0.54	U	0.54	0.40	ug/L		04/20/17 08:28	04/25/17 07:10	1
Indeno(1,2,3-cd)pyrene	0.54	U	0.54	0.48	ug/L		04/20/17 08:28	04/25/17 07:10	1
Naphthalene	**0.59**		0.54	0.46	ug/L		04/20/17 08:28	04/25/17 07:10	1
Phenanthrene	0.54	U	0.54	0.41	ug/L		04/20/17 08:28	04/25/17 07:10	1
Pyrene	0.54	U	0.54	0.39	ug/L		04/20/17 08:28	04/25/17 07:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*48 - 120*	*04/20/17 08:28*	*04/25/17 07:10*	*1*
Nitrobenzene-d5	*84*		*46 - 120*	*04/20/17 08:28*	*04/25/17 07:10*	*1*
p-Terphenyl-d14	*95*		*24 - 136*	*04/20/17 08:28*	*04/25/17 07:10*	*1*

Client Sample ID: Duplicate

Date Collected: 04/18/17 08:00
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-10

Matrix: Ground Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**740**		10	2.0	ug/L			04/29/17 08:55	10
Ethylbenzene	**1100**		10	1.9	ug/L			04/29/17 08:55	10
Toluene	**26**		10	1.7	ug/L			04/29/17 08:55	10
Xylenes, Total	**680**		30	5.8	ug/L			04/29/17 08:55	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*04/29/17 08:55*	*10*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/29/17 08:55*	*10*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*04/29/17 08:55*	*10*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/29/17 08:55*	*10*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**240**		50	38	ug/L		04/20/17 08:28	04/25/17 07:39	100
Acenaphthene	**130**		50	30	ug/L		04/20/17 08:28	04/25/17 07:39	100
Acenaphthylene	50	U	50	34	ug/L		04/20/17 08:28	04/25/17 07:39	100
Anthracene	50	U	50	39	ug/L		04/20/17 08:28	04/25/17 07:39	100
Benzo(a)anthracene	50	U	50	40	ug/L		04/20/17 08:28	04/25/17 07:39	100
Benzo(a)pyrene	50	U	50	33	ug/L		04/20/17 08:28	04/25/17 07:39	100
Benzo(b)fluoranthene	50	U	50	30	ug/L		04/20/17 08:28	04/25/17 07:39	100
Benzo(g,h,i)perylene	50	U	50	37	ug/L		04/20/17 08:28	04/25/17 07:39	100
Benzo(k)fluoranthene	50	U	50	8.5	ug/L		04/20/17 08:28	04/25/17 07:39	100
Chrysene	50	U	50	32	ug/L		04/20/17 08:28	04/25/17 07:39	100
Dibenz(a,h)anthracene	50	U	50	33	ug/L		04/20/17 08:28	04/25/17 07:39	100
Fluoranthene	50	U	50	36	ug/L		04/20/17 08:28	04/25/17 07:39	100
Fluorene	50	U	50	37	ug/L		04/20/17 08:28	04/25/17 07:39	100
Indeno(1,2,3-cd)pyrene	50	U	50	44	ug/L		04/20/17 08:28	04/25/17 07:39	100
Naphthalene	**2900**		50	42	ug/L		04/20/17 08:28	04/25/17 07:39	100
Phenanthrene	50	U	50	38	ug/L		04/20/17 08:28	04/25/17 07:39	100
Pyrene	50	U	50	36	ug/L		04/20/17 08:28	04/25/17 07:39	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*48 - 120*	*04/20/17 08:28*	*04/25/17 07:39*	*100*
Nitrobenzene-d5	*78*		*46 - 120*	*04/20/17 08:28*	*04/25/17 07:39*	*100*
p-Terphenyl-d14	*66*		*24 - 136*	*04/20/17 08:28*	*04/25/17 07:39*	*100*

Surrogate Summary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

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

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
480-116439-1	MW-07	100	97	102	99
480-116439-2	MW-10	96	98	103	100
480-116439-3	MW-11A	99	96	102	99
480-116439-4	MW-17	102	97	103	100
480-116439-5	MW-19	97	97	102	100
480-116439-10	Duplicate	97	97	101	99

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

Matrix: Surface Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
480-116439-6	SW-01	96	99	101	99
480-116439-7	SW-02	94	100	101	100

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
480-116439-8	TB-041817	103	97	104	98
480-116439-9	EB-041817	102	96	105	98
LCS 490-425923/3	Lab Control Sample	108	96	102	100
LCS 490-425993/3	Lab Control Sample	106	97	102	99
LCSD 490-425923/4	Lab Control Sample Dup	106	98	102	99
LCSD 490-425993/4	Lab Control Sample Dup	108	96	102	98
MB 490-425923/9	Method Blank	98	97	101	99
MB 490-425993/6	Method Blank	100	97	102	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Matrix: Ground Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-116439-1	MW-07	76	67	63
480-116439-2	MW-10	85	91	78
480-116439-3	MW-11A	77	80	74
480-116439-4	MW-17	79	82	78
480-116439-5	MW-19	97	90	84
480-116439-10	Duplicate	87	78	66

Surrogate Legend
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPH = p-Terphenyl-d14

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Matrix: Surface Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-116439-6	SW-01	88	87	74
480-116439-7	SW-02	88	86	76

Surrogate Legend
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPH = p-Terphenyl-d14

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(48-120)	(46-120)	(24-136)
480-116439-9	EB-041817	78	84	95
LCS 480-353023/2-A	Lab Control Sample	79	80	92
LCSD 480-353023/3-A	Lab Control Sample Dup	78	79	86
MB 480-353023/1-A	Method Blank	86	91	96

Surrogate Legend
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5
TPH = p-Terphenyl-d14

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

Lab Sample ID: MB 490-425923/9
Matrix: Water
Analysis Batch: 425923

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/28/17 14:42	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/28/17 14:42	1
Toluene	1.0	U	1.0	0.17	ug/L			04/28/17 14:42	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/28/17 14:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*		*04/28/17 14:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/28/17 14:42*	*1*
Dibromofluoromethane (Surr)	*101*		*70 - 130*		*04/28/17 14:42*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/28/17 14:42*	*1*

Lab Sample ID: LCS 490-425923/3
Matrix: Water
Analysis Batch: 425923

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	55.8		ug/L		112	80 - 121		
Ethylbenzene			50.0	54.8		ug/L		110	80 - 130		
m-Xylene & p-Xylene			100	106		ug/L		106	80 - 141		
o-Xylene			50.0	53.9		ug/L		108	80 - 127		
Toluene			50.0	54.9		ug/L		110	80 - 126		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 490-425923/4
Matrix: Water
Analysis Batch: 425923

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	53.5		ug/L		107	80 - 121	4	12
Ethylbenzene			50.0	52.6		ug/L		105	80 - 130	4	12
m-Xylene & p-Xylene			100	102		ug/L		102	80 - 141	4	12
o-Xylene			50.0	52.3		ug/L		105	80 - 127	3	11
Toluene			50.0	52.6		ug/L		105	80 - 126	4	13

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

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

Lab Sample ID: MB 490-425993/6
Matrix: Water
Analysis Batch: 425993

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.20	ug/L			04/29/17 01:59	1
Ethylbenzene	1.0	U	1.0	0.19	ug/L			04/29/17 01:59	1
Toluene	1.0	U	1.0	0.17	ug/L			04/29/17 01:59	1
Xylenes, Total	3.0	U	3.0	0.58	ug/L			04/29/17 01:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*04/29/17 01:59*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/29/17 01:59*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*04/29/17 01:59*	*1*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/29/17 01:59*	*1*

Lab Sample ID: LCS 490-425993/3
Matrix: Water
Analysis Batch: 425993

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	53.3		ug/L		107	80 - 121		
Ethylbenzene			50.0	51.7		ug/L		103	80 - 130		
m-Xylene & p-Xylene			100	100		ug/L		100	80 - 141		
o-Xylene			50.0	51.3		ug/L		103	80 - 127		
Toluene			50.0	52.4		ug/L		105	80 - 126		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 490-425993/4
Matrix: Water
Analysis Batch: 425993

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			50.0	50.2		ug/L		100	80 - 121	6	12
Ethylbenzene			50.0	49.5		ug/L		99	80 - 130	4	12
m-Xylene & p-Xylene			100	96.0		ug/L		96	80 - 141	4	12
o-Xylene			50.0	49.5		ug/L		99	80 - 127	4	11
Toluene			50.0	49.5		ug/L		99	80 - 126	6	13

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH

Lab Sample ID: MB 480-353023/1-A
Matrix: Water
Analysis Batch: 353696

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 353023

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.50	U	0.50	0.38	ug/L		04/20/17 08:28	04/25/17 02:17	1
Acenaphthene	0.50	U	0.50	0.30	ug/L		04/20/17 08:28	04/25/17 02:17	1
Acenaphthylene	0.50	U	0.50	0.34	ug/L		04/20/17 08:28	04/25/17 02:17	1
Anthracene	0.50	U	0.50	0.39	ug/L		04/20/17 08:28	04/25/17 02:17	1
Benzo(a)anthracene	0.50	U	0.50	0.40	ug/L		04/20/17 08:28	04/25/17 02:17	1
Benzo(a)pyrene	0.50	U	0.50	0.33	ug/L		04/20/17 08:28	04/25/17 02:17	1
Benzo(b)fluoranthene	0.50	U	0.50	0.30	ug/L		04/20/17 08:28	04/25/17 02:17	1
Benzo(g,h,i)perylene	0.50	U	0.50	0.37	ug/L		04/20/17 08:28	04/25/17 02:17	1
Benzo(k)fluoranthene	0.50	U	0.50	0.085	ug/L		04/20/17 08:28	04/25/17 02:17	1
Chrysene	0.50	U	0.50	0.32	ug/L		04/20/17 08:28	04/25/17 02:17	1
Dibenz(a,h)anthracene	0.50	U	0.50	0.33	ug/L		04/20/17 08:28	04/25/17 02:17	1
Fluoranthene	0.50	U	0.50	0.36	ug/L		04/20/17 08:28	04/25/17 02:17	1
Fluorene	0.50	U	0.50	0.37	ug/L		04/20/17 08:28	04/25/17 02:17	1
Indeno(1,2,3-cd)pyrene	0.50	U	0.50	0.44	ug/L		04/20/17 08:28	04/25/17 02:17	1
Naphthalene	0.50	U	0.50	0.42	ug/L		04/20/17 08:28	04/25/17 02:17	1
Phenanthrene	0.50	U	0.50	0.38	ug/L		04/20/17 08:28	04/25/17 02:17	1
Pyrene	0.50	U	0.50	0.36	ug/L		04/20/17 08:28	04/25/17 02:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*86*		*48 - 120*	*04/20/17 08:28*	*04/25/17 02:17*	*1*
Nitrobenzene-d5	*91*		*46 - 120*	*04/20/17 08:28*	*04/25/17 02:17*	*1*
p-Terphenyl-d14	*96*		*24 - 136*	*04/20/17 08:28*	*04/25/17 02:17*	*1*

Lab Sample ID: LCS 480-353023/2-A
Matrix: Water
Analysis Batch: 353696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 353023

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylnaphthalene	32.0	26.4		ug/L		83	48 - 120
Acenaphthene	32.0	26.5		ug/L		83	60 - 120
Acenaphthylene	32.0	27.7		ug/L		87	63 - 120
Anthracene	32.0	28.3		ug/L		88	69 - 131
Benzo(a)anthracene	32.0	30.8		ug/L		96	62 - 142
Benzo(a)pyrene	32.0	28.5		ug/L		89	46 - 156
Benzo(b)fluoranthene	32.0	30.2		ug/L		95	50 - 149
Benzo(g,h,i)perylene	32.0	30.0		ug/L		94	34 - 189
Benzo(k)fluoranthene	32.0	29.6		ug/L		93	47 - 147
Chrysene	32.0	29.4		ug/L		92	69 - 140
Dibenz(a,h)anthracene	32.0	29.9		ug/L		93	35 - 176
Fluoranthene	32.0	31.8		ug/L		99	67 - 133
Fluorene	32.0	28.7		ug/L		90	66 - 129
Indeno(1,2,3-cd)pyrene	32.0	29.1		ug/L		91	57 - 161
Naphthalene	32.0	24.9		ug/L		78	48 - 120
Phenanthrene	32.0	28.7		ug/L		90	67 - 130
Pyrene	32.0	29.2		ug/L		91	58 - 136

Method: 8270D_LL_PAH - Semivolatile Organic Compounds (GC/MS) Low level PAH (Continued)

Lab Sample ID: LCS 480-353023/2-A
Matrix: Water
Analysis Batch: 353696

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 353023

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*79*		*48 - 120*
Nitrobenzene-d5	*80*		*46 - 120*
p-Terphenyl-d14	*92*		*24 - 136*

Lab Sample ID: LCSD 480-353023/3-A
Matrix: Water
Analysis Batch: 353696

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 353023

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylnaphthalene			32.0	26.3		ug/L		82	48 - 120	1	21
Acenaphthene			32.0	26.4		ug/L		82	60 - 120	1	24
Acenaphthylene			32.0	27.1		ug/L		85	63 - 120	2	18
Anthracene			32.0	27.7		ug/L		86	69 - 131	2	15
Benzo(a)anthracene			32.0	30.1		ug/L		94	62 - 142	2	15
Benzo(a)pyrene			32.0	27.4		ug/L		86	46 - 156	4	15
Benzo(b)fluoranthene			32.0	28.1		ug/L		88	50 - 149	7	15
Benzo(g,h,i)perylene			32.0	28.6		ug/L		89	34 - 189	5	15
Benzo(k)fluoranthene			32.0	25.8		ug/L		81	47 - 147	14	22
Chrysene			32.0	28.4		ug/L		89	69 - 140	3	15
Dibenz(a,h)anthracene			32.0	28.3		ug/L		88	35 - 176	5	15
Fluoranthene			32.0	31.1		ug/L		97	67 - 133	2	15
Fluorene			32.0	28.0		ug/L		87	66 - 129	2	15
Indeno(1,2,3-cd)pyrene			32.0	27.9		ug/L		87	57 - 161	4	15
Naphthalene			32.0	24.8		ug/L		78	48 - 120	0	29
Phenanthrene			32.0	28.6		ug/L		89	67 - 130	0	15
Pyrene			32.0	28.4		ug/L		89	58 - 136	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*48 - 120*
Nitrobenzene-d5	*79*		*46 - 120*
p-Terphenyl-d14	*86*		*24 - 136*

GC/MS VOA

Analysis Batch: 425923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-116439-1	MW-07	Total/NA	Ground Water	8260C	
480-116439-2	MW-10	Total/NA	Ground Water	8260C	
480-116439-3	MW-11A	Total/NA	Ground Water	8260C	
480-116439-4	MW-17	Total/NA	Ground Water	8260C	
480-116439-6	SW-01	Total/NA	Surface Water	8260C	
480-116439-7	SW-02	Total/NA	Surface Water	8260C	
MB 490-425923/9	Method Blank	Total/NA	Water	8260C	
LCS 490-425923/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 490-425923/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 425993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-116439-5	MW-19	Total/NA	Ground Water	8260C	
480-116439-8	TB-041817	Total/NA	Water	8260C	
480-116439-9	EB-041817	Total/NA	Water	8260C	
480-116439-10	Duplicate	Total/NA	Ground Water	8260C	
MB 490-425993/6	Method Blank	Total/NA	Water	8260C	
LCS 490-425993/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 490-425993/4	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 353023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-116439-1	MW-07	Total/NA	Ground Water	3510C	
480-116439-2	MW-10	Total/NA	Ground Water	3510C	
480-116439-3	MW-11A	Total/NA	Ground Water	3510C	
480-116439-4	MW-17	Total/NA	Ground Water	3510C	
480-116439-5	MW-19	Total/NA	Ground Water	3510C	
480-116439-6	SW-01	Total/NA	Surface Water	3510C	
480-116439-7	SW-02	Total/NA	Surface Water	3510C	
480-116439-9	EB-041817	Total/NA	Water	3510C	
480-116439-10	Duplicate	Total/NA	Ground Water	3510C	
MB 480-353023/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-353023/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 480-353023/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 353696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-116439-1	MW-07	Total/NA	Ground Water	8270D_LL_PAH	353023
480-116439-2	MW-10	Total/NA	Ground Water	8270D_LL_PAH	353023
480-116439-3	MW-11A	Total/NA	Ground Water	8270D_LL_PAH	353023
480-116439-4	MW-17	Total/NA	Ground Water	8270D_LL_PAH	353023
480-116439-5	MW-19	Total/NA	Ground Water	8270D_LL_PAH	353023
480-116439-6	SW-01	Total/NA	Surface Water	8270D_LL_PAH	353023
480-116439-7	SW-02	Total/NA	Surface Water	8270D_LL_PAH	353023
480-116439-9	EB-041817	Total/NA	Water	8270D_LL_PAH	353023
480-116439-10	Duplicate	Total/NA	Ground Water	8270D_LL_PAH	353023
MB 480-353023/1-A	Method Blank	Total/NA	Water	8270D_LL_PAH	353023
LCS 480-353023/2-A	Lab Control Sample	Total/NA	Water	8270D_LL_PAH	353023

GC/MS Semi VOA (Continued)

Analysis Batch: 353696 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 480-353023/3-A	Lab Control Sample Dup	Total/NA	Water	8270D_LL_PAH	353023

Lab Chronicle

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: MW-07
Date Collected: 04/18/17 10:45
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-1
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	425923	04/28/17 21:39	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		100	353696	04/25/17 03:45	LMW	TAL BUF

Client Sample ID: MW-10
Date Collected: 04/18/17 10:25
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-2
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425923	04/28/17 17:19	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	353696	04/25/17 04:14	LMW	TAL BUF

Client Sample ID: MW-11A
Date Collected: 04/18/17 12:25
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-3
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425923	04/28/17 19:02	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	353696	04/25/17 04:44	LMW	TAL BUF

Client Sample ID: MW-17
Date Collected: 04/18/17 08:50
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-4
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425923	04/28/17 18:36	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	353696	04/25/17 05:13	LMW	TAL BUF

Client Sample ID: MW-19
Date Collected: 04/18/17 15:30
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-5
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	425993	04/29/17 09:21	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		500	353696	04/25/17 05:42	LMW	TAL BUF

Lab Chronicle

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Client Sample ID: SW-01
Date Collected: 04/18/17 13:30
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-6
Matrix: Surface Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425923	04/28/17 17:44	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		10	353696	04/25/17 06:12	LMW	TAL BUF

Client Sample ID: SW-02
Date Collected: 04/18/17 11:10
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-7
Matrix: Surface Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425923	04/28/17 18:10	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		5	353696	04/25/17 06:41	LMW	TAL BUF

Client Sample ID: TB-041817
Date Collected: 04/18/17 00:00
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425993	04/29/17 02:25	JRV	TAL NSH

Client Sample ID: EB-041817
Date Collected: 04/18/17 16:45
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	425993	04/29/17 03:17	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		1	353696	04/25/17 07:10	LMW	TAL BUF

Client Sample ID: Duplicate
Date Collected: 04/18/17 08:00
Date Received: 04/18/17 18:00

Lab Sample ID: 480-116439-10
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	425993	04/29/17 08:55	JRV	TAL NSH
Total/NA	Prep	3510C			353023	04/20/17 08:28	CPH	TAL BUF
Total/NA	Analysis	8270D_LL_PAH		100	353696	04/25/17 07:39	LMW	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-17
A2LA	ISO/IEC 17025		0453.07	12-31-17
Alaska (UST)	State Program	10	UST-087	09-01-17
Arizona	State Program	9	AZ0473	05-05-17
Arkansas DEQ	State Program	6	88-0737	04-25-18
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-17
Florida	NELAP	4	E87358	06-30-17
Georgia	State Program	4	N/A	12-31-17
Illinois	NELAP	5	200010	12-09-17
Iowa	State Program	7	131	04-01-18
Kansas	NELAP	7	E-10229	10-31-17
Kentucky (UST)	State Program	4	19	06-30-17
Kentucky (WW)	State Program	4	90038	12-31-17
Louisiana	NELAP	6	30613	06-30-17
Maine	State Program	1	TN00032	11-03-17
Maryland	State Program	3	316	03-31-18
Massachusetts	State Program	1	M-TN032	06-30-17
Minnesota	NELAP	5	047-999-345	12-31-17
Mississippi	State Program	4	N/A	06-30-17
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-17
New Hampshire	NELAP	1	2963	10-09-17
New Jersey	NELAP	2	TN965	06-30-17
New York	NELAP	2	11342	03-31-18
North Carolina (WW/SW)	State Program	4	387	12-31-17
North Dakota	State Program	8	R-146	06-30-17
Ohio VAP	State Program	5	CL0033	07-10-17
Oklahoma	State Program	6	9412	08-31-17
Oregon	NELAP	10	TN200001	04-27-17 *
Pennsylvania	NELAP	3	68-00585	06-30-17
Rhode Island	State Program	1	LAO00268	12-30-17
South Carolina	State Program	4	84009 (001)	02-18-17 *
South Carolina (Do Not Use - DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-17
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-17
Virginia	NELAP	3	460152	06-14-17
Washington	State Program	10	C789	07-19-17
West Virginia DEP	State Program	3	219	02-28-18
Wisconsin	State Program	5	998020430	08-31-17
Wyoming (UST)	A2LA	8	453.07	12-31-17

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL NSH
8270D_LL_PAH	Semivolatile Organic Compounds (GC/MS) Low level PAH	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Sample Summary

Client: AECOM, Inc.
Project/Site: AECOM, Mineral Springs

TestAmerica Job ID: 480-116439-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-116439-1	MW-07	Ground Water	04/18/17 10:45	04/18/17 18:00
480-116439-2	MW-10	Ground Water	04/18/17 10:25	04/18/17 18:00
480-116439-3	MW-11A	Ground Water	04/18/17 12:25	04/18/17 18:00
480-116439-4	MW-17	Ground Water	04/18/17 08:50	04/18/17 18:00
480-116439-5	MW-19	Ground Water	04/18/17 15:30	04/18/17 18:00
480-116439-6	SW-01	Surface Water	04/18/17 13:30	04/18/17 18:00
480-116439-7	SW-02	Surface Water	04/18/17 11:10	04/18/17 18:00
480-116439-8	TB-041817	Water	04/18/17 00:00	04/18/17 18:00
480-116439-9	EB-041817	Water	04/18/17 16:45	04/18/17 18:00
480-116439-10	Duplicate	Ground Water	04/18/17 08:00	04/18/17 18:00

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: E. LAITY	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-95321-22730.2
Client Contact: Tami Raby	Phone: 716-531-3312	E-Mail: john.schove@testamericainc.com		Page: Page 2 of 2
Company: AECOM, Inc.		**Analysis Requested**		Job #:
Address: 257 West Genesee Street Suite 400	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2
City: Buffalo	TAT Requested (days): STANDARD			
State, Zip: NY, 14202-2657	PO #: Purchase Order not required			
Phone:	WO #:			480-116439 COC
Email: tamara.raby@aecom.com				Other:
Project Name: AECOM, Mineral Springs/ Event Desc: Semi Annual Sampling (Ap	Project #: 48008324			
Site: New York	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D_LL_PAH - PAH - 8270	8260C - BTEX - 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	A		
MW-07	4-18-17	10:45	G	Water	N	N	2	3		
MW-10	4-18-17	10:25	G	Water	N	N	2	3		
MW-11A	4-18-17	12:25	G	Water	N	N	2	3		
MW-17	4-18-17	08:50	G	Water	N	N	2	3		
MW-19	4-18-17	15:30	G	Water	N	N	2	3		
SW-01	4-18-17	13:30	G	Water	N	N	2	3		
SW-02	4-18-17	11:10	G	Water	N	N	2	3		
TB-041817	4-18-17	—	TRIP	Water	N	N		3		
EB-041817	4-18-17	16:45	G	Water	N	N	2	3		
Dup	4-18-17	08:00	G	Water	N	N	2	3		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) per contract.

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/18/17 1800	AECOM	[signature]	4-18-17 1800	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.4 #1

5/1/2017

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 480-116439-1

Login Number: 116439
List Number: 1
Creator: Conway, Curtis R

List Source: TestAmerica Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	AECOM
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: AECOM, Inc.

Job Number: 480-116439-1

Login Number: 116439
List Number: 2
Creator: Shaw, Rashard M

List Source: TestAmerica Nashville
List Creation: 04/27/17 05:52 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL SERVICES REPORT

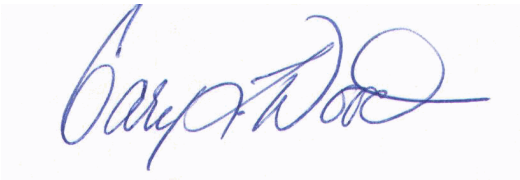
Prepared for:
Ms. Tamara Raby
AECOM - Buffalo, NY
257 Genesee Street Suite 400
Buffalo, NY 14202

Project:
Mineral Springs

Work Order:
1704337

Prepared by:
Pace Analytical Services, Inc
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

Report Date:
April 30, 2017



Gary L. Wood, Client Services Manager
gary.wood@pacelabs.com

4/30/2017
Approval Date

CASE NARRATIVE

AECOM - Buffalo, NY
Mineral Springs

SDG Executive Summary

This case narrative applies to samples received on April 19, 2017. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the Pace Analytical bid form, and/or oral and written correspondence between AECOM - Buffalo, NY and Pace Analytical Services, Inc.

Project Technical Issues/Problems

Project-related data qualification designations, narrations, and reporting conventions are included in Attachment 1 - *Project Technical Narrative(s)*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

This report relates only to the samples(s) as received. Estimates of analytical uncertainties for the test results contained within this report are available upon request. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC) and one or more of the following certification programs:

ANAB DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Georgia EPD (#026-999-161/1023062); Illinois DEP (#200026/003329); Kentucky DEP (AL123065/#0021); Michigan DPH (#0034); Minnesota DPH (#026-999-161/1023062); New York ELAP (#11776/53116); North Carolina DNRE (#659); Virginia DCLS (#460153/7952); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-14-00305).

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. If requested, the EDD will be issued separately from this hardcopy report.

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Sample Receipt and Login -- Work Order: 1704337

Pace Analytical received the cooler(s) for this work order on April 19, 2017, at 08:10. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and FedEx shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the Pace Analytical Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the Pace Analytical bidform and/or oral and written correspondance between the client and Pace Analytical Services, Inc. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date & Time Sampled
SW-01	1704337-01	Water	04/18/17, 13:30
SW-02	1704337-02	Water	04/18/17, 11:10
MW-16	1704337-03	Water	04/18/17, 14:25
MW-17	1704337-04	Water	04/18/17, 08:50
MW-20	1704337-05	Water	04/18/17, 11:35
MW-21	1704337-06	Water	04/18/17, 12:35
MW-22	1704337-07	Water	04/18/17, 16:00
MW-23	1704337-08	Water	04/18/17, 14:50
MW-12	1704337-09	Water	04/18/17, 16:25
MW-13	1704337-10	Water	04/18/17, 14:00
MW-14	1704337-11	Water	04/18/17, 13:10
MW-66	1704337-12	Water	04/18/17, 08:15
EB-041817	1704337-13	Water	04/17/17, 16:45

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Attachment 1
Project Technical Narrative(s)

Sample Result Reporting Convention

Sample results are reported as "<RL" if the target analyte was not detected at or above the RL.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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Attachment 1
Project Technical Narrative(s)

No Project Narrative is associated with this report.

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Attachment 2
Statement of Data Qualifications

All analyses have been validated and comply with our Quality Control Program.

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**SW-01**	Sampled:	04/18/17 13:30
Lab Sample ID:	**1704337-01**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**25.5**	5.00	ug/L	1	USEPA-9014	04/26/17 10:32	LMA	1703681
Cyanide, Free	**11**	5.0	ug/L	1	USEPA-9016	04/25/17 14:29	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**SW-02**	Sampled:	04/18/17 11:10
Lab Sample ID:	**1704337-02**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**253**	10.0	ug/L	2	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	**72**	5.0	ug/L	1	USEPA-9016	04/25/17 14:31	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-16**	Sampled:	04/18/17 14:25
Lab Sample ID:	**1704337-03**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**1570**	50.0	ug/L	10	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	**17**	5.0	ug/L	1	USEPA-9016	04/25/17 14:31	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-17**	Sampled:	04/18/17 08:50
Lab Sample ID:	**1704337-04**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**124**	5.00	ug/L	1	USEPA-9014	04/26/17 10:32	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:40	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-20**	Sampled:	04/18/17 11:35
Lab Sample ID:	**1704337-05**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**874**	50.0	ug/L	10	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:40	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-21**	Sampled:	04/18/17 12:35
Lab Sample ID:	**1704337-06**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**371**	25.0	ug/L	5	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:41	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-22**	Sampled:	04/18/17 16:00
Lab Sample ID:	**1704337-07**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**676**	25.0	ug/L	5	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	**12**	5.0	ug/L	1	USEPA-9016	04/25/17 14:41	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-23**	Sampled:	04/18/17 14:50
Lab Sample ID:	**1704337-08**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**236**	10.0	ug/L	2	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:42	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-12**	Sampled:	04/18/17 16:25
Lab Sample ID:	**1704337-09**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**536**	25.0	ug/L	5	USEPA-9014	04/26/17 10:40	LMA	1703681
Cyanide, Free	**6.8**	5.0	ug/L	1	USEPA-9016	04/25/17 14:43	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-13**	Sampled:	04/18/17 14:00
Lab Sample ID:	**1704337-10**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:43	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-14**	Sampled:	04/18/17 13:10
Lab Sample ID:	**1704337-11**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**508**	25.0	ug/L	5	USEPA-9014	04/26/17 10:43	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:44	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**MW-66**	Sampled:	04/18/17 08:15
Lab Sample ID:	**1704337-12**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	**1710**	50.0	ug/L	10	USEPA-9014	04/26/17 10:43	LMA	1703681
Cyanide, Free	**10**	5.0	ug/L	1	USEPA-9016	04/25/17 14:44	LMA	1703699

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ANALYTICAL REPORT

Client:	**AECOM - Buffalo, NY**	Work Order:	**1704337**
Project:	Mineral Springs	Description:	Laboratory Services
Client Sample ID:	**EB-041817**	Sampled:	04/17/17 16:45
Lab Sample ID:	**1704337-13**	Sampled By:	AECOM
Matrix:	Water	Received:	04/19/17 08:10

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Cyanide, Total	<5.00	5.00	ug/L	1	USEPA-9014	04/26/17 10:39	LMA	1703681
Cyanide, Free	<5.0	5.0	ug/L	1	USEPA-9016	04/25/17 14:44	LMA	1703699

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Cyanide, Free/USEPA-9016									
QC Batch: 1703699 (Method Specific Preparation)						Analyzed: 04/25/2017			By: LMA
Method Blank			<5.0	ug/L					5.0
Laboratory Control Sample		150	**135**	ug/L	90	80-120			5.0
1704337-01 [SW-01]									
Matrix Spike	10.7	150	**162**	ug/L	101	80-120			5.0
Matrix Spike Duplicate	10.7	150	**168**	ug/L	105	80-120	4	20	5.0
Analyte: Cyanide, Total/USEPA-9014									
QC Batch: 1703681 (9010C Cyanide Distillation)						Analyzed: 04/26/2017			By: LMA
Method Blank			<5.00	ug/L					5.00
Laboratory Control Sample		100	**109**	ug/L	109	84-110			5.00
Laboratory Control Sample		40.0	**42.1**	ug/L	105	84-110			5.00
1704337-01 [SW-01]									
Matrix Spike	25.5	100	**123**	ug/L	98	54-128			5.00
Matrix Spike Duplicate	25.5	100	**124**	ug/L	98	54-128	0.3	20	5.00

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PRETREATMENT SUMMARY PAGE

Client: **AECOM - Buffalo, NY**
Project: **Mineral Springs**

Pretreatment	Lab Sample ID	Batch	By	Date & Time Prepared
USEPA-9010C Cyanide Distillation	1704337-01	1703681	JTS	04/25/17 09:59
	1704337-02	1703681	JTS	04/25/17 09:59
	1704337-03	1703681	JTS	04/25/17 09:59
	1704337-04	1703681	JTS	04/25/17 09:59
	1704337-05	1703681	JTS	04/25/17 09:59
	1704337-06	1703681	JTS	04/25/17 09:59
	1704337-07	1703681	JTS	04/25/17 09:59
	1704337-08	1703681	JTS	04/25/17 09:59
	1704337-09	1703681	JTS	04/25/17 09:59
	1704337-10	1703681	JTS	04/25/17 09:59
	1704337-11	1703681	JTS	04/25/17 09:59
	1704337-12	1703681	JTS	04/25/17 09:59
	1704337-13	1703681	JTS	04/25/17 09:59

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E: 1704337

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

2160140

Section A Required Client Information:

Company: AECOM
Address: 257 W. Genesee St. #400, Buffalo NY 14202
Email To: Tamara.raby@aecom.com
Phone: (716) 923-1113 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To: Tamara Raby.
Copy To:
Purchase Order No.:
Project Name: Mineral Springs
Project Number: 60538249

Section C Invoice Information: Cert 4

Attention: TAMARA RABY
Company Name: AECOM
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 39-10

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NY

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other ZN Ac + NaOH	Analysis Test Y/N	Total CN	Free CN	Sulfide (Aspirated Free CN Kit)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SW-01					4-18-17	1330		4					3			1		X	X	X		
2	SW-02						1110		4					3			1		X	X	X		
3	MW-16						1425		4					3			1		X	X	X		
4	MW-17						0850		4					3			1		X	X	X		
5	MW-20						1135		4					3			1		X	X	X		
6	MW-21						1235		4					3			1		X	X	X		
7	MW-22						1600		4					3			1		X	X	X		
8	MW-23						1450		4					3			1		X	X	X		
9	MW-12						1625		4					3			1		X	X	X		
10	MW-13						1400		4					3			1		X	X	X		
11	MW-14						1310		4					3			1		X	X	X		
12	MW-66						815		4					3			1		X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Emily Land / AECOM	4/18/17	1715	[signature] Pace	4/19/17	0810	

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

F-ALL-Q-020rev.07, 15-May-2007

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E:1704337

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 3

39-10

2160141

Section A Required Client Information:

Company: AECOM
Address: 257 W. Genesee St. #400, Bussalo, NY 14202
Email To: tamara.raby
Phone: 716 923-1113 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To: Tamara Raby
Copy To:
Purchase Order No.:
Project Name: Mineral Springs
Project Number: 60533249

Section C Invoice Information:

Attention: TAMARA RABY
Company Name: AECOM
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other NaOH + Zn Ac	Y/N	Analysis Test: Total CN	Free CN	Sulfide Gas Purged	Free CN 4500	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	EB-041817			4/17/17		4/17/18	1645		4					3			1		X	X	X			
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Tamara Raby AECOM	4/18/17	1715	Stephanie Rice	4/19/17	0810	

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact

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

F-ALL-Q-020rev.07, 15-May-2007

SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical®

Client: Aecom | Work Order #: 1704337
Receipt Record Page/Line #: 39-10 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): LR 4/19/17 | ☑ Cooler ☐ Box ☐ Other | Qty Received: 2 | Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) | ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:
TM2631	1016	☐ None ☑ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☑ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / (Top) / Middle / (Bottom)	☑ Yes ☐ No	☑ Representative ☐ Not Representative
TM3622	1025	☐ None ☑ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☑ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / (Top) / Middle / (Bottom)	☑ Yes ☐ No	☑ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Cooler 1 Observed °C	Cooler 1 Correction Factor °C	Cooler 1 Actual °C	Cooler 2 Observed °C	Cooler 2 Correction Factor °C	Cooler 2 Actual °C	Cooler 3 Observed °C	Cooler 3 Correction Factor °C	Cooler 3 Actual °C	Cooler 4 Observed °C	Cooler 4 Correction Factor °C	Cooler 4 Actual °C
Temp Blank:	4.1	-	4.1	0.2	-	0.2						
Sample 1:	1.9	-	1.9	0.2	-	0.2						
Sample 2:	2.3	-	2.3	2.7	-	2.7						
Sample 3:	2.7	-	2.7	2.6	-	2.6						
3 Sample Average °C:	2.3			1.8								

	Cooler 1	Cooler 2	Cooler 3	Cooler 4
☐ Cooler ID on COC?				
☐ VOC Trip Blank received?				

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☑	☐	Shipping document?
☐	☑	Other _____

COC Information

☑ Pace COC ☐ Other 2160140, 2160141

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank **OR** average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐		If "Yes", Project Chemist Approval Initials: _____
☐	☑		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☐	☑	Samples chemically preserved correctly?
☐	☑		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-Pace containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
4/19/17 0810	4/19/17 1108	Yes / (No)

SAMPLE PRESERVATION VERIFICATION FORM

Pace Analytical®

page ____ of ____

Client: Arcom	Work Order #: 1704337
Receipt Log #: 39-10	Completed By (initials/date): LR 4/19/17
	Project Chemist:

COC ID #: 2160140

Adjusted by: LR
Date: 4/19/17

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓						
COC Line #2	✓	✓						
COC Line #3	8, 7 ✓							
COC Line #4	✓	✓						
COC Line #5	✓	✓						
COC Line #6	✓	✓						
COC Line #7	✓	✓						
COC Line #8	✓	✓						
COC Line #9	8, 9 ✓							
COC Line #10	✓	✓						

Comments: 11 ✓, ✓ 12 8, 9 ✓

COC ID #: 2160141

Adjusted by: ____
Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		6	15		
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe		
Preservative	NaOH	H_2SO_4	H_2SO_4		HNO_3	HNO_3		
Expected pH	>12	<2	<2		<2	<2		
COC Line #1	✓	✓						
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

pH Strip Reagent # / Lot #

☑ 7021862 / HC693124

☐ Other ____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5