AECOM Environment
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Draft for client review

June 17, 2009

Mr. Charles Burke
National Fuel Gas Distribution Corporation
Building 8
365 Mineral Springs Road
Buffalo, NY 14210

Subject: Groundwater and Surface Water Monitoring Results
April 2009
Mineral Springs Road MGP Site

Dear Mr. Burke,

This report provides the results of a groundwater and surface water sampling event completed by AECOM Environment (AECOM) on April 28-29, at the Mineral Springs Road former manufactured gas plant (MGP) site in West Seneca (Buffalo), New York.

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 Plan, dated May 2002.

Summary

A total of 13 groundwater samples were collected and analyzed. A total of 14 depth-to-water measurements were taken (including a surface water measurement). Sampling locations are shown on the attached figure. Analytical results are summarized in the attached table.

Groundwater elevations in the monitoring wells averaged 0.86 ft higher during the April 2009 sampling event then in the September 2008 sampling event. Groundwater elevations in the monitoring wells averaged a difference of 0.24 feet between the April 2008 and April 2009 sampling events.

Concentrations of benzene, ethylbenzene, toluene, and xylene (BTEX) and/or polycyclic aromatic hydrocarbon (PAH) compounds were above NYSDEC standard or guidance values in three of the six onsite groundwater samples.

Total cyanide concentrations exceeded the NYSDEC groundwater standard of 200 µg/L in eight of the nine groundwater samples analyzed. Free cyanide was detected in five of the nine groundwater samples.

BTEX and/or PAH compounds were not detected in the two surface water samples collected. Total cyanide concentrations in these surface water samples were also below the NYSDEC Class D Stream Standard. Free cyanide was not detected above method reporting limits in either surface water sample.

Groundwater elevations

Depth-to-water measurements were taken at 14 monitoring wells. The measurements were used to construct the groundwater contours shown in the attached figure. Groundwater elevations in the monitoring wells averaged 0.86 ft higher during the April 2009 sampling event then in the September 2008 sampling event. Groundwater elevations in the monitoring wells averaged a difference of 0.24 feet between the April 2008 and April 2009 sampling events. The groundwater flow direction remained similar between the September 2008 and April 2009 sampling events.

At the time of the sampling, groundwater flowed onto the site from the east-southeast, and then flowed to the west-northwest towards Calais Street and Mineral Springs Road. Onsite groundwater usually appears to also discharge to the Class D Stream, which in turn discharges to the Calais Street storm sewer and the municipal wastewater treatment system.

Sampling and analysis

A total of 13 monitoring wells were purged and sampled by an AECOM geologist. Sampling locations are shown on the attached figure.

Test America (formerly Severn Trent Laboratories [STL]) of Pittsburgh, PA, performed the analyses of the groundwater samples for hydrocarbon compounds of concern. Test America is currently certified to perform the requested analyses under the NYSDOH Environmental Laboratory Approval Program. The samples were analyzed for manufactured gas plant (MGP) indicators using the following methods:

BTEX	Method SW846 8260B
PAHs	Method SW846 8270C

Samples were also sent to Clarkson University of Potsdam, NY (Clarkson) for cyanide analysis using the following methods:

Cyanide (free)	Method ASTM D4282-89
Cyanide (total)	Method APHA 4500-CN-

All sampling and analyses were conducted according to AECOM's Standard Operating Procedures as provided in the project Quality Assurance Plan (QAP) of June 11, 1999. Additionally, the cyanide samples were protected from light during collection to prevent the dissociation of metal-cyanide compounds, which would artificially elevate free cyanide results. The cyanide samples were also treated with lead carbonate and filtered to remove potential sulfide interferences.

Analytical results and conclusions

The results of the laboratory analyses are summarized in the attached table. The laboratory reports and the chain-of-custody forms are attached as well. The 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.

Upgradient site perimeter

Well MW-17 is located in the southeast corner of the site and monitors upgradient groundwater quality. The results of the analyses indicate that no BTEX or PAH compounds were detected. Total cyanide was detected at a concentration of 279 µg/L, above the NYSDEC groundwater standard of 200 µg/L. Free cyanide was detected at 5.0 µg/L.

Downgradient site perimeter

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

Five of the six wells were found to contain total cyanide in concentrations above the NYSDEC groundwater standard of 200 µg/L. Concentrations ranged from 27 µg/L at MW-13 to 704 µg/L at MW-22. Free cyanide was detected in two of the six sentinel wells above method detection limits. Free cyanide was detected in five of the six sentinel wells during the September 2008 sampling round. These concentrations are generally consistent with previous results with the following exceptions:

- The total cyanide concentration in MW-13 decreased from 467 µg/L in September 2008 to 27 µg/L in April 2009. The concentration of total cyanide seems to vary with the seasonal fluctuation in groundwater elevations.

- Free cyanide was detected above method detection limits in five of the nine groundwater wells sampled, whereas in September of 2008, it was detected in seven wells and in April of 2008, free cyanide was detected in all nine groundwater wells sampled. Free cyanide was not detected in any groundwater samples above method detection limits in the April 2007 or August 2006 sampling events.

On-site purifier residuals impacted areas

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. Samples from these two wells were analyzed for total and free cyanide.

Total cyanide concentrations were 472 µg/L at MW-12 and 531 µg/L at MW-16. Free cyanide was detected in both of these monitoring wells.

On-site hydrocarbon NAPL impacted areas

Wells MW-7, MW-10, MW-11A, and MW-19 monitor on-site groundwater quality downgradient of subsurface soil impacted with hydrocarbon non-aqueous phase liquid (NAPL). Samples from these wells were analyzed for BTEX and PAHs.

BTEX and PAHs were not detected at MW-10. Consistent with previous results, BTEX and PAH compounds were detected above the NYSDEC groundwater standards in MW-7, MW-11A, and MW-19.

Surface water

Two surface water samples were collected from the Class D Stream running along the south side of the site. BTEX and PAHs were not detected in either surface water sample.

Total cyanide was detected in both samples but did not exceed the NYSDEC standard. Free cyanide was not detected at a concentration greater than the method detection limits in either surface water sample.

QA/QC samples

Quality control samples were collected during the sampling event to meet the requirements of the project QAP.

An equipment blank (EB) was prepared using organic free water supplied by the laboratory that was run through peristaltic pump tubing. No compounds were detected in the equipment blank.

A trip blank (TB) 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. No BTEX compounds were detected in trip blank.

Duplicate samples were collected from MW-7 and MW-17. The duplicate sample from MW-7 was submitted for analysis of BTEX and PAHs. The duplicate sample from MW-17 was submitted for analysis for total and free cyanide. The duplicate results were within the acceptable range for BTEX, PAHs, and cyanide samples.

DNAPL recovery test well (RTW-1)

During this groundwater sampling event, the Recovery System at RTW-1 was operated to assess whether dense non-aqueous phase liquid (DNAPL) had accumulated since the September 2008 sampling event. Approximately ½ gallon of water was pumped out. The water contained only trace amounts of NAPL blebs.

If you have any questions or comments, please do not hesitate to call me at (607) 277-5716.

Sincerely yours,

Jesse Lloyd
Geologist
Project Manager

Thomas P. Clark, P.E
Project Engineer

Encl: Groundwater Contours (figure)
Laboratory Results Summary (table)
Laboratory Reports

cc: T. Alexander - NFG
R. Kennedy - Hodgson, Russ LLP
D. Szymanski - NYSDEC
C. O'Connor - NYSDOH (w. figure/table only)
G. Bailey - NYSDEC (w. figure/table only)
G. Litwin - NYSDOH (w. figure/table only)
File: 04870-026

Groundwater and Surface Water Monitoring Results
Mineral Springs Road MGP Site

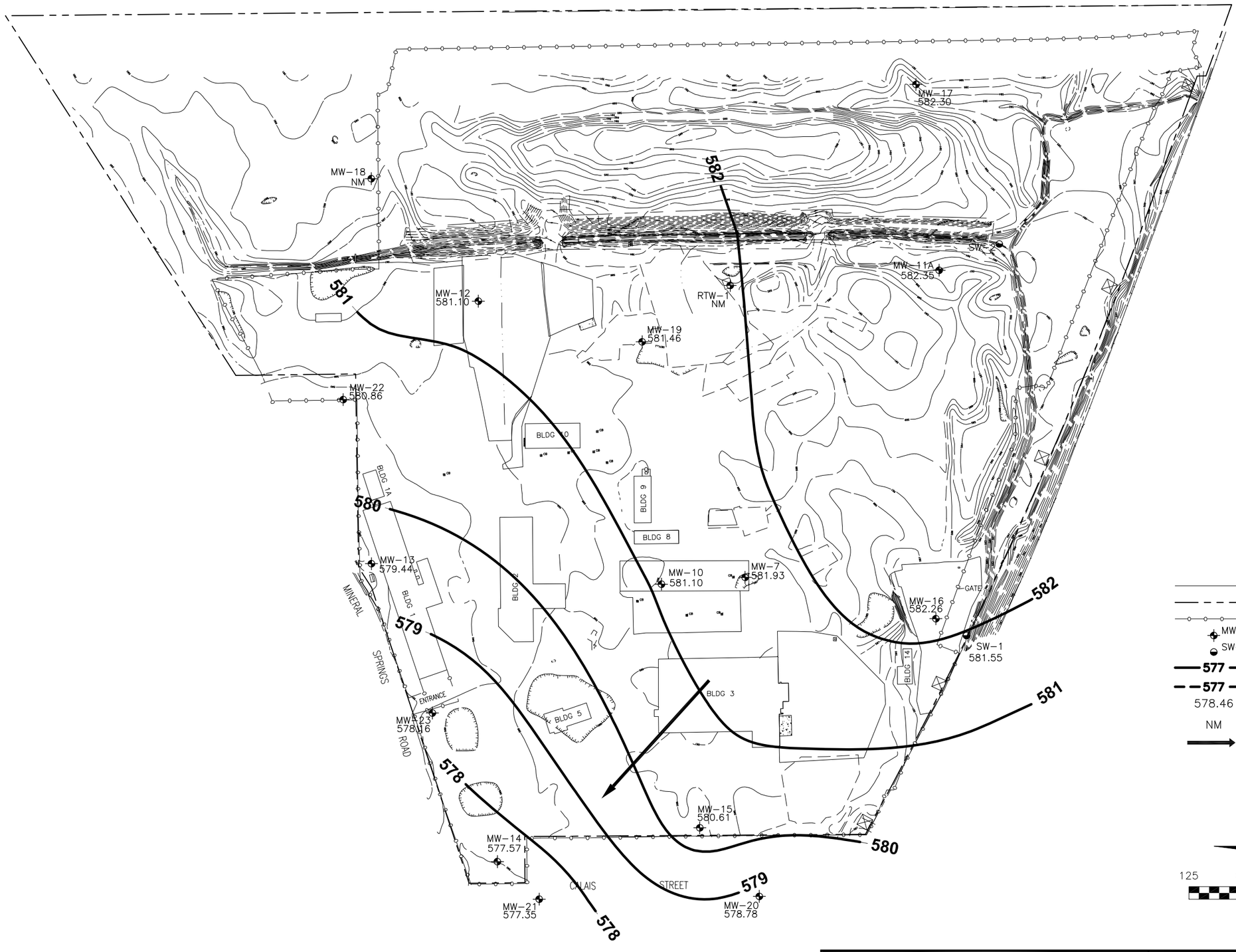
April, 2009

PARAMETER	GROUNDWATER															SURFACE WATER			QA / QC			
Sample ID :	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	*Groundwater*	SW-01	SW-02	*Class D Stream*	TB	EB	MW-07 Dup	MW-17 Dup
Sample Date :	04/28/09	04/29/09	04/28/09	04/29/09	04/29/09	04/28/09	04/29/09	04/29/09	04/29/09	04/28/09	04/28/09	04/28/09	04/28/09	04/28/09	*Standard* (1)	04/29/09	04/28/09	*Standard* (1)	04/29/09	04/29/09	04/28/09	04/29/09
BTEX (µg/L)																						
Benzene	780	nd	190	---	---	---	---	---	nd	3700	---	---	---	---	**1**	nd	nd	**10**	nd	nd	700	---
Toluene	420	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**5**	nd	nd	**6000**	nd	nd	370	---
Ethylbenzene	1100	nd	67	---	---	---	---	---	nd	180 J	---	---	---	---	**5**	nd	nd	**150** *	nd	nd	1000	---
Xylene (sum of isomers)	820	nd	24 J	---	---	---	---	---	nd	470 J	---	---	---	---	**5 (each)**	nd	nd	**590** *	nd	nd	700	---
BTEX total	3120	nd	281	---	---	---	---	---	nd	4350	---	---	---	---	---	nd	nd	---	nd	nd	2770	---
PAHs (µg/L)																						
Naphthalene	1600	nd	4.1 J	---	---	---	---	---	nd	3600	---	---	---	---	**10** *	nd	nd	**110** *	---	nd	1600	---
Acenaphthylene	0.63 J	nd	3.7 J	---	---	---	---	---	nd	nd	---	---	---	---	**NL** *	nd	nd	**NL**	---	nd	0.68 J	---
Acenaphthene	32	nd	4.1 J	---	---	---	---	---	nd	nd	---	---	---	---	**20** *	nd	nd	**48** *	---	nd	35	---
Fluorene	6.4 J	nd	0.89 J	---	---	---	---	---	nd	nd	---	---	---	---	**50** *	nd	nd	**4.8** *	---	nd	6.6 J	---
Phenanthrene	4.3 J	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**50** *	nd	nd	**45** *	---	nd	4.8 J	---
Anthracene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**50** *	nd	nd	**35** *	---	nd	nd	---
Fluoranthene	nd	nd	0.32 J	---	---	---	---	---	nd	nd	---	---	---	---	**50** *	nd	nd	**NL**	---	nd	nd	---
Pyrene	nd	nd	0.36 J	---	---	---	---	---	nd	nd	---	---	---	---	**50** *	nd	nd	**42** *	---	nd	nd	---
Benzo(a)anthracene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**0.002** *	nd	nd	**0.23** *	---	nd	nd	---
Chrysene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**0.002** *	nd	nd	**NL**	---	nd	nd	---
Benzo(b)fluoranthene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**0.002** *	nd	nd	**NL**	---	nd	nd	---
Benzo(k)fluoranthene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**0.002** *	nd	nd	**NL**	---	nd	nd	---
Benzo(a)pyrene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**NL**	nd	nd	**0.0012** *	---	nd	nd	---
Indeno(1,2,3-cd)pyrene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**0.002** *	nd	nd	**NL**	---	nd	nd	---
Dibenz(a,h)anthracene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**NL**	nd	nd	**NL**	---	nd	nd	---
Benzo(g,h,i)perylene	nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	**NL**	nd	nd	**NL**	---	nd	nd	---
2-Methylnaphthalene	73	nd	nd	---	---	---	---	---	nd	6.2 J	---	---	---	---	**NL**	nd	nd	**NL**	---	nd	78	---
PAHs total	1716.33	nd	13.47	---	---	---	---	---	nd	3606.2	---	---	---	---	---	nd	nd	---	---	nd	1725.08	---
CYANIDE (µg/L)																						
Cyanide, total	---	---		472	27	425	---	531	279	---	418	485	704	276	**200**	25	16	**9000**	---	nd	---	294
Cyanide, free	---	---		4.1	nd	4.1	---	5.5	5.0	---	nd	nd	3.1	nd	**NL**	nd	nd	**22**	---	nd	---	4.8
Water Elevation (feet)	581.93	581.10	582.35	581.10	579.44	577.57	580.61	582.26	582.30	581.46	578.78	577.35	580.86	578.16	**NL**	581.55	---	**NL**	---	---	---	---

Notes:

NL Not listed
nd Not detected above method detection limit
--- Not analyzed
J, E Indicates laboratory estimated value

(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.



AECOM

NATIONAL FUEL GAS MINERAL SPRINGS ROAD MGP SITE 04870-026-300			GROUNDWATER CONTOURS APRIL 2009
DATE: 06/03/09	DRWN: DLS/PGH		FIGURE 1

File: F:\04870_MINERAL SPRINGS\FIGURE 1_GW CONTOURS_APRIL 2009.dwg Layout: ANSI_B1-LJ User: SilvermanD Plotted: Jun 03, 2009 - 12:06pm Xref's:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

PROJECT NO. 04870-026-300

AECOM, Mineral Springs

Lot #: C9E010123

Helen Jones

AECOM, Inc

TESTAMERICA LABORATORIES, INC.

Dave Dunlap
Project Manager

May 22, 2009

301 Alpha Drive Pittsburgh, PA 15238 **tel** 412.963.7058 **fax** 412.963.2468 **www.testamericainc.com**

NELAC REPORTING:

At the time of analysis the laboratory was in compliance with the current NELAC standards and held accreditation for all analyses performed unless noted by a qualifier. The labs accreditation numbers are listed below. The format and contents of the report meets all applicable NELAC standards except as noted in the narrative and shall not be reproduced except in full, without the written approval of the laboratory. The table below presents a summary of the certifications held by TestAmerica Pittsburgh. Our primary accreditation authority for the Non-potable water and Solid & Hazardous waste programs is Pennsylvania DEP. A more detailed parameter list is available upon request. Please ask your project manager for this information when required.

Certifying State/Program	Certificate #	Program Types	TestAmerica
NFESC	NA	NAVY	X
US Dept of Agriculture	(#P330-07-00101)	Foreign Soil Import Permit	X
Arkansas	(#88-0690)	WW	X
		HW	X
California – NELAC	04224CA	WW	X
		HW	X
Connecticut	(#PH-0688)	WW	X
		HW	X
Florida – NELAC	(#E871008-04)	WW	X
		HW	X
Illinois – NELAC	(#002064)	WW	X
		HW	X
Kansas – NELAC	(#E-10350)	WW	X
		HW	X
Louisiana – NELAC	(#04041)	WW	X
		HW	X
New Hampshire – NELAC	(#203008)	WW	X
		--	--
New Jersey – NELAC	(PA-005)	WW	X
		HW	X
New York – NELAC	(#11182)	WW	X
		HW	X
North Carolina	(#434)	WW	X
		HW	X
Pennsylvania - NELAC	(#02-00416)	WW	X
		HW	X
South Carolina	(#89014002)	WW	X
		HW	X
Utah – NELAC	(STLP)	WW	X
		HW	X
West Virginia	(#142)	WW	X
		HW	X
Wisconsin	998027800	WW	X
		HW	X

The codes utilized for program types are described below:

HW Hazardous Waste certification
WW Non-potable Water and/or Wastewater certification
X Laboratory has some form of certification under the specific program. Many states certify laboratories for specific parameters or tests within a category. The information in the table indicates the lab is certified in a general category of testing. Please contact the laboratory if parameter specific certification information is required.

Updated: 2/5/2009 C:\Documents and Settings\derubeisn\My Documents\NELAC NARRATIVE Pttsburgh.doc

CASE NARRATIVE

AECOM –Mineral Springs

Lot # C9E010123

Sample Receiving:
Samples were received at TestAmerica's Pittsburgh laboratory on May 1, 2009. The coolers were received within the proper temperature range.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

GC/MS Volatiles:
Due to the concentration of target compounds detected, several samples were analyzed at a dilution.

GC/MS Semivolatiles:
Due to the concentration of target compounds detected, several samples were analyzed at a dilution.

C9E010123

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0907)

Client: AECOM Environment	Project Manager: Jesse Lloyd	Date: 4-30-09	Chain of Custody Number: 388375
Address: 1001 W. Seneca St	Telephone Number (Area Code)/Fax Number: 607-277-5716	Lab Number:	Page ____ of ____
City: Ithaca / State: NY / Zip Code: 14850	Site Contact:	Lab Contact:	
Project Name and Location (State): Mineral Springs	Carrier/Waybill Number: FedEx		
Contract/Purchase Order/Quote No.: Helen Jones			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: BTEX 8260	PAHs 8270	Special Instructions/ Conditions of Receipt
MW-10	4-29-09	0940											X	X	
MW-7	4-28-09	1520											X	X	
MW-107	4-28-09	1540											X	X	
MW-19	4-28-09	1410											X	X	
MW-11A	4-28-09	1255											X	X	
MW-17	4-29-09	1250											X	X	
SW-01	4-29-09	1145											X	X	
SW-02	4-28-09	1300											X	X	
TB042909	4-29-09	1203											X		
EQB	4-29-09	1303											X	X	

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

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

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

		Date	Time
1. Relinquished By	Jesse Lloyd	4-30-09	1300
2. Relinquished By			
3. Relinquished By			
1. Received By			
2. Received By			
3. Received By		5/9	1000

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

METHODS SUMMARY

C9E010123

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3520C
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

C9E010123

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LA6CA	001	MW-10	04/29/09	09:40
LA6CG	002	MW-7	04/28/09	15:20
LA6CJ	003	MW-107	04/28/09	15:40
LA6CK	004	MW-19	04/28/09	14:10
LA6CM	005	MW-11A	04/28/09	12:55
LA6CN	006	MW-17	04/29/09	12:50
LA6CP	007	SW-01	04/29/09	11:45
LA6CT	008	SW-02	04/28/09	13:00
LA6CX	009	TB042909	04/29/09	12:03
LA6C2	010	EQB	04/29/09	13:03

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

AECOM, Inc.

Client Sample ID: MW-10

GC/MS Volatiles

Lot-Sample #...: C9E010123-001 **Work Order #...:** LA6CA1AA **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	105	(71 - 118)
1,2-Dichloroethane-d4	81	(64 - 135)
4-Bromofluorobenzene	99	(70 - 118)
Dibromofluoromethane	92	(70 - 128)

AECOM, Inc.

Client Sample ID: MW-7

GC/MS Volatiles

Lot-Sample #...: C9E010123-002 **Work Order #...:** LA6CG1AA **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**780**	**100**	**ug/L**
Ethylbenzene	**1100**	**100**	**ug/L**
Toluene	**420**	**100**	**ug/L**
Xylenes (total)	**820**	**300**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	100	(71 - 118)
1,2-Dichloroethane-d4	82	(64 - 135)
4-Bromofluorobenzene	92	(70 - 118)
Dibromofluoromethane	97	(70 - 128)

AECOM, Inc.

Client Sample ID: MW-107

GC/MS Volatiles

Lot-Sample #...: C9E010123-003 **Work Order #...:** LA6CJ1AA **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9128131
Prep Date.....: 05/08/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9128250
Dilution Factor: 50 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**700**	**50**	**ug/L**
Ethylbenzene	**1000**	**50**	**ug/L**
Toluene	**370**	**50**	**ug/L**
Xylenes (total)	**700**	**150**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	106	(64 - 135)
4-Bromofluorobenzene	95	(70 - 118)
Dibromofluoromethane	105	(70 - 128)

AECOM, Inc.

Client Sample ID: MW-19

GC/MS Volatiles

Lot-Sample #...: C9E010123-004 **Work Order #...:** LA6CK1AA **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9128131
Prep Date.....: 05/08/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9128250
Dilution Factor: 200 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**3700**	**200**	**ug/L**
Ethylbenzene	**180 J**	**200**	**ug/L**
Toluene	ND	200	ug/L
Xylenes (total)	**470 J**	**600**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	106	(64 - 135)
4-Bromofluorobenzene	96	(70 - 118)
Dibromofluoromethane	104	(70 - 128)

NOTE(S):

J Estimated result. Result is less than RL.

AECOM, Inc.

Client Sample ID: MW-11A

GC/MS Volatiles

Lot-Sample #...: C9E010123-005 **Work Order #...:** LA6CM1AA **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9128131
Prep Date.....: 05/08/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9128250
Dilution Factor: 10 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	**190**	**10**	**ug/L**
Ethylbenzene	**67**	**10**	**ug/L**
Toluene	ND	10	ug/L
Xylenes (total)	**24 J**	**30**	**ug/L**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	106	(64 - 135)
4-Bromofluorobenzene	95	(70 - 118)
Dibromofluoromethane	104	(70 - 128)

NOTE(S):

J Estimated result. Result is less than RL.

AECOM, Inc.

Client Sample ID: MW-17

GC/MS Volatiles

Lot-Sample #...: C9E010123-006 **Work Order #...:** LA6CN1AA **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	106	(71 - 118)
1,2-Dichloroethane-d4	85	(64 - 135)
4-Bromofluorobenzene	102	(70 - 118)
Dibromofluoromethane	92	(70 - 128)

AECOM, Inc.

Client Sample ID: SW-01

GC/MS Volatiles

Lot-Sample #...: C9E010123-007 **Work Order #...:** LA6CP1AA **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	102	(71 - 118)
1,2-Dichloroethane-d4	87	(64 - 135)
4-Bromofluorobenzene	96	(70 - 118)
Dibromofluoromethane	98	(70 - 128)

AECOM, Inc.

Client Sample ID: SW-02

GC/MS Volatiles

Lot-Sample #...: C9E010123-008 **Work Order #...:** LA6CT1AA **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	84	(64 - 135)
4-Bromofluorobenzene	95	(70 - 118)
Dibromofluoromethane	97	(70 - 128)

AECOM, Inc.

Client Sample ID: TB042909

GC/MS Volatiles

Lot-Sample #...: C9E010123-009 **Work Order #...:** LA6CX1AA **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	85	(64 - 135)
4-Bromofluorobenzene	100	(70 - 118)
Dibromofluoromethane	91	(70 - 128)

AECOM, Inc.

Client Sample ID: EQB

GC/MS Volatiles

Lot-Sample #...: C9E010123-010 **Work Order #...:** LA6C21AA **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	108	(71 - 118)
1,2-Dichloroethane-d4	85	(64 - 135)
4-Bromofluorobenzene	99	(70 - 118)
Dibromofluoromethane	95	(70 - 128)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: C9E010123 **Work Order #...:** LCH4J1AA **Matrix.....:** WATER
MB Lot-Sample #: C9E070000-326
Prep Date.....: 05/07/09
Analysis Date..: 05/07/09 **Prep Batch #...:** 9127326
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	86	(64 - 135)
4-Bromofluorobenzene	90	(70 - 118)
Dibromofluoromethane	97	(70 - 128)

NOTE(S):

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

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: C9E010123 **Work Order #...:** LCLTF1AA **Matrix.....:** WATER
MB Lot-Sample #: C9E080000-250
Prep Date.....: 05/08/09
Analysis Date..: 05/08/09 **Prep Batch #...:** 9128250
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	101	(71 - 118)
1,2-Dichloroethane-d4	107	(64 - 135)
4-Bromofluorobenzene	96	(70 - 118)
Dibromofluoromethane	109	(70 - 128)

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: C9E010123 **Work Order #...:** LCH4J1AC **Matrix.....:** WATER
LCS Lot-Sample#: C9E070000-326
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**98**	**(80 - 120)**	**SW846 8260B**
Toluene	**103**	**(80 - 123)**	**SW846 8260B**
1,1-Dichloroethene	**96**	**(65 - 136)**	**SW846 8260B**
Chlorobenzene	**96**	**(80 - 120)**	**SW846 8260B**
Trichloroethene	**95**	**(73 - 120)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	89	(71 - 118)
1,2-Dichloroethane-d4	82	(64 - 135)
4-Bromofluorobenzene	84	(70 - 118)
Dibromofluoromethane	86	(70 - 128)

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: C9E010123 **Work Order #...:** LCLTF1AC **Matrix.....:** WATER
LCS Lot-Sample#: C9E080000-250
Prep Date.....: 05/08/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9128250
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**104**	**(80 - 120)**	**SW846 8260B**
Toluene	**102**	**(80 - 123)**	**SW846 8260B**
1,1-Dichloroethene	**111**	**(65 - 136)**	**SW846 8260B**
Chlorobenzene	**101**	**(80 - 120)**	**SW846 8260B**
Trichloroethene	**109**	**(73 - 120)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	99	(71 - 118)
1,2-Dichloroethane-d4	109	(64 - 135)
4-Bromofluorobenzene	96	(70 - 118)
Dibromofluoromethane	108	(70 - 128)

NOTE(S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: C9E010123 **Work Order #...:** LA6CA1AE-MS **Matrix.....:** WATER
MS Lot-Sample #: C9E010123-001 LA6CA1AF-MSD
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9127175
Prep Date.....: 05/07/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9127326
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**92**	**(80 - 120)**			**SW846 8260B**
	96	**(80 - 120)**	**4.2**	**(0-32)**	**SW846 8260B**
Toluene	**105**	**(80 - 123)**			**SW846 8260B**
	107	**(80 - 123)**	**1.7**	**(0-35)**	**SW846 8260B**
1,1-Dichloroethene	**92**	**(65 - 136)**			**SW846 8260B**
	94	**(65 - 136)**	**2.2**	**(0-35)**	**SW846 8260B**
Chlorobenzene	**101**	**(80 - 120)**			**SW846 8260B**
	104	**(80 - 120)**	**2.4**	**(0-29)**	**SW846 8260B**
Trichloroethene	**93**	**(73 - 120)**			**SW846 8260B**
	95	**(73 - 120)**	**2.2**	**(0-35)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	98	(71 - 118)
	101	(71 - 118)
1,2-Dichloroethane-d4	78	(64 - 135)
	83	(64 - 135)
4-Bromofluorobenzene	85	(70 - 118)
	97	(70 - 118)
Dibromofluoromethane	83	(70 - 128)
	85	(70 - 128)

NOTE(S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: C9E010123 **Work Order #...:** LA6QE1CC-MS **Matrix.....:** WATER
MS Lot-Sample #: C9E010161-006 LA6QE1CD-MSD
Date Sampled...: 04/30/09 **Date Received..:** 05/01/09 **MS Run #.....:** 9128131
Prep Date.....: 05/08/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9128250
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**95**	**(80 - 120)**			**SW846 8260B**
	96	**(80 - 120)**	**1.7**	**(0-32)**	**SW846 8260B**
Toluene	**107**	**(80 - 123)**			**SW846 8260B**
	99	**(80 - 123)**	**7.7**	**(0-35)**	**SW846 8260B**
1,1-Dichloroethene	**99**	**(65 - 136)**			**SW846 8260B**
	97	**(65 - 136)**	**2.6**	**(0-35)**	**SW846 8260B**
Chlorobenzene	**100**	**(80 - 120)**			**SW846 8260B**
	99	**(80 - 120)**	**1.5**	**(0-29)**	**SW846 8260B**
Trichloroethene	**98**	**(73 - 120)**			**SW846 8260B**
	98	**(73 - 120)**	**0.56**	**(0-35)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	106	(71 - 118)
	100	(71 - 118)
1,2-Dichloroethane-d4	99	(64 - 135)
	101	(64 - 135)
4-Bromofluorobenzene	91	(70 - 118)
	90	(70 - 118)
Dibromofluoromethane	96	(70 - 128)
	99	(70 - 128)

NOTE(S):

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

Bold print denotes control parameters

AECOM, Inc.

Client Sample ID: MW-10

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-001 **Work Order #...:** LA6CA1AC **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9124213
Dilution Factor: 0.99 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	9.9	ug/L
Acenaphthylene	ND	9.9	ug/L
Anthracene	ND	9.9	ug/L
Benzo(a)anthracene	ND	9.9	ug/L
Benzo(b)fluoranthene	ND	9.9	ug/L
Benzo(k)fluoranthene	ND	9.9	ug/L
Benzo(ghi)perylene	ND	9.9	ug/L
Benzo(a)pyrene	ND	9.9	ug/L
Chrysene	ND	9.9	ug/L
Fluoranthene	ND	9.9	ug/L
Fluorene	ND	9.9	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.9	ug/L
2-Methylnaphthalene	ND	9.9	ug/L
Naphthalene	ND	9.9	ug/L
Phenanthrene	ND	9.9	ug/L
Pyrene	ND	9.9	ug/L
Dibenzo(a,h)anthracene	ND	9.9	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	64	(33 - 122)
2-Fluorobiphenyl	66	(35 - 108)
2-Fluorophenol	70	(26 - 100)
Nitrobenzene-d5	77	(37 - 104)
Phenol-d5	67	(30 - 102)
Terphenyl-d14	74	(25 - 130)

AECOM, Inc.

Client Sample ID: MW-7

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-002 **Work Order #...:** LA6CG1AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9124213
Dilution Factor: 0.96 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	**32**	**9.6**	**ug/L**
Acenaphthylene	**0.63 J**	**9.6**	**ug/L**
Anthracene	ND	9.6	ug/L
Benzo(a)anthracene	ND	9.6	ug/L
Benzo(b)fluoranthene	ND	9.6	ug/L
Benzo(k)fluoranthene	ND	9.6	ug/L
Benzo(ghi)perylene	ND	9.6	ug/L
Benzo(a)pyrene	ND	9.6	ug/L
Chrysene	ND	9.6	ug/L
Fluoranthene	ND	9.6	ug/L
Fluorene	**6.4 J**	**9.6**	**ug/L**
Indeno(1,2,3-cd)pyrene	ND	9.6	ug/L
2-Methylnaphthalene	**73**	**9.6**	**ug/L**
Naphthalene	**880 E**	**9.6**	**ug/L**
Phenanthrene	**4.3 J**	**9.6**	**ug/L**
Pyrene	ND	9.6	ug/L
Dibenzo(a,h)anthracene	ND	9.6	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	64	(33 - 122)
2-Fluorobiphenyl	70	(35 - 108)
2-Fluorophenol	68	(26 - 100)
Nitrobenzene-d5	68	(37 - 104)
Phenol-d5	69	(30 - 102)
Terphenyl-d14	67	(25 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

E Estimated result. Result concentration exceeds the calibration range.

AECOM, Inc.

Client Sample ID: MW-7

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-002 **Work Order #...:** LA6CG2AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 9.6 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	**39 J**	**96**	**ug/L**
Acenaphthylene	ND	96	ug/L
Anthracene	ND	96	ug/L
Benzo(a)anthracene	ND	96	ug/L
Benzo(b)fluoranthene	ND	96	ug/L
Benzo(k)fluoranthene	ND	96	ug/L
Benzo(ghi)perylene	ND	96	ug/L
Benzo(a)pyrene	ND	96	ug/L
Chrysene	ND	96	ug/L
Fluoranthene	ND	96	ug/L
Fluorene	**7.3 J**	**96**	**ug/L**
Indeno(1,2,3-cd)pyrene	ND	96	ug/L
2-Methylnaphthalene	**81 J**	**96**	**ug/L**
Naphthalene	**1600**	**96**	**ug/L**
Phenanthrene	**6.1 J**	**96**	**ug/L**
Pyrene	ND	96	ug/L
Dibenzo(a,h)anthracene	ND	96	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	92	(33 - 122)
2-Fluorobiphenyl	87	(35 - 108)
2-Fluorophenol	71	(26 - 100)
Nitrobenzene-d5	84	(37 - 104)
Phenol-d5	71	(30 - 102)
Terphenyl-d14	75	(25 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

AECOM, Inc.

Client Sample ID: MW-107

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-003 **Work Order #...:** LA6CJ1AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9124213
Dilution Factor: 0.94 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	**35**	**9.4**	**ug/L**
Acenaphthylene	**0.68 J**	**9.4**	**ug/L**
Anthracene	ND	9.4	ug/L
Benzo(a)anthracene	ND	9.4	ug/L
Benzo(b)fluoranthene	ND	9.4	ug/L
Benzo(k)fluoranthene	ND	9.4	ug/L
Benzo(ghi)perylene	ND	9.4	ug/L
Benzo(a)pyrene	ND	9.4	ug/L
Chrysene	ND	9.4	ug/L
Fluoranthene	ND	9.4	ug/L
Fluorene	**6.6 J**	**9.4**	**ug/L**
Indeno(1,2,3-cd)pyrene	ND	9.4	ug/L
2-Methylnaphthalene	**78**	**9.4**	**ug/L**
Naphthalene	**900 E**	**9.4**	**ug/L**
Phenanthrene	**4.8 J**	**9.4**	**ug/L**
Pyrene	ND	9.4	ug/L
Dibenzo(a,h)anthracene	ND	9.4	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	72	(33 - 122)
2-Fluorobiphenyl	78	(35 - 108)
2-Fluorophenol	67	(26 - 100)
Nitrobenzene-d5	77	(37 - 104)
Phenol-d5	68	(30 - 102)
Terphenyl-d14	70	(25 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

E Estimated result. Result concentration exceeds the calibration range.

AECOM, Inc.

Client Sample ID: MW-107

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-003 **Work Order #...:** LA6CJ2AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 18.8 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	**45 J**	**190**	**ug/L**
Acenaphthylene	ND	190	ug/L
Anthracene	ND	190	ug/L
Benzo(a)anthracene	ND	190	ug/L
Benzo(b)fluoranthene	ND	190	ug/L
Benzo(k)fluoranthene	ND	190	ug/L
Benzo(ghi)perylene	ND	190	ug/L
Benzo(a)pyrene	ND	190	ug/L
Chrysene	ND	190	ug/L
Fluoranthene	ND	190	ug/L
Fluorene	ND	190	ug/L
Indeno(1,2,3-cd)pyrene	ND	190	ug/L
2-Methylnaphthalene	**83 J**	**190**	**ug/L**
Naphthalene	**1600**	**190**	**ug/L**
Phenanthrene	ND	190	ug/L
Pyrene	ND	190	ug/L
Dibenzo(a,h)anthracene	ND	190	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	NC,DIL	(33 - 122)
2-Fluorobiphenyl	NC,DIL	(35 - 108)
2-Fluorophenol	NC,DIL	(26 - 100)
Nitrobenzene-d5	NC,DIL	(37 - 104)
Phenol-d5	NC,DIL	(30 - 102)
Terphenyl-d14	NC,DIL	(25 - 130)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

J Estimated result. Result is less than RL.

AECOM, Inc.

Client Sample ID: MW-19

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-004 **Work Order #...:** LA6CK1AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9124213
Dilution Factor: 0.95 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	9.5	ug/L
Acenaphthylene	ND	9.5	ug/L
Anthracene	ND	9.5	ug/L
Benzo(a)anthracene	ND	9.5	ug/L
Benzo(b)fluoranthene	ND	9.5	ug/L
Benzo(k)fluoranthene	ND	9.5	ug/L
Benzo(ghi)perylene	ND	9.5	ug/L
Benzo(a)pyrene	ND	9.5	ug/L
Chrysene	ND	9.5	ug/L
Fluoranthene	ND	9.5	ug/L
Fluorene	ND	9.5	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.5	ug/L
2-Methylnaphthalene	**6.2 J**	**9.5**	**ug/L**
Naphthalene	**1200 E**	**9.5**	**ug/L**
Phenanthrene	ND	9.5	ug/L
Pyrene	ND	9.5	ug/L
Dibenzo(a,h)anthracene	ND	9.5	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	70	(33 - 122)
2-Fluorobiphenyl	74	(35 - 108)
2-Fluorophenol	71	(26 - 100)
Nitrobenzene-d5	73	(37 - 104)
Phenol-d5	69	(30 - 102)
Terphenyl-d14	63	(25 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

E Estimated result. Result concentration exceeds the calibration range.

AECOM, Inc.

Client Sample ID: MW-19

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-004 **Work Order #...:** LA6CK2AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 28.5 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	280	ug/L
Acenaphthylene	ND	280	ug/L
Anthracene	ND	280	ug/L
Benzo(a)anthracene	ND	280	ug/L
Benzo(b)fluoranthene	ND	280	ug/L
Benzo(k)fluoranthene	ND	280	ug/L
Benzo(ghi)perylene	ND	280	ug/L
Benzo(a)pyrene	ND	280	ug/L
Chrysene	ND	280	ug/L
Fluoranthene	ND	280	ug/L
Fluorene	ND	280	ug/L
Indeno(1,2,3-cd)pyrene	ND	280	ug/L
2-Methylnaphthalene	**7.5 J**	**280**	**ug/L**
Naphthalene	**3600**	**280**	**ug/L**
Phenanthrene	ND	280	ug/L
Pyrene	ND	280	ug/L
Dibenzo(a,h)anthracene	ND	280	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	NC,DIL	(33 - 122)
2-Fluorobiphenyl	NC,DIL	(35 - 108)
2-Fluorophenol	NC,DIL	(26 - 100)
Nitrobenzene-d5	NC,DIL	(37 - 104)
Phenol-d5	NC,DIL	(30 - 102)
Terphenyl-d14	NC,DIL	(25 - 130)

NOTE(S):

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

J Estimated result. Result is less than RL.

AECOM, Inc.

Client Sample ID: MW-11A

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-005 **Work Order #...:** LA6CM1AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 0.98 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	**4.1 J**	**9.8**	**ug/L**
Acenaphthylene	**3.7 J**	**9.8**	**ug/L**
Anthracene	ND	9.8	ug/L
Benzo(a)anthracene	ND	9.8	ug/L
Benzo(b)fluoranthene	ND	9.8	ug/L
Benzo(k)fluoranthene	ND	9.8	ug/L
Benzo(ghi)perylene	ND	9.8	ug/L
Benzo(a)pyrene	ND	9.8	ug/L
Chrysene	ND	9.8	ug/L
Fluoranthene	**0.32 J**	**9.8**	**ug/L**
Fluorene	**0.89 J**	**9.8**	**ug/L**
Indeno(1,2,3-cd)pyrene	ND	9.8	ug/L
2-Methylnaphthalene	ND	9.8	ug/L
Naphthalene	**4.1 J**	**9.8**	**ug/L**
Phenanthrene	ND	9.8	ug/L
Pyrene	**0.36 J**	**9.8**	**ug/L**
Dibenzo(a,h)anthracene	ND	9.8	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	67	(33 - 122)
2-Fluorobiphenyl	76	(35 - 108)
2-Fluorophenol	70	(26 - 100)
Nitrobenzene-d5	77	(37 - 104)
Phenol-d5	65	(30 - 102)
Terphenyl-d14	59	(25 - 130)

NOTE(S):

J Estimated result. Result is less than RL.

AECOM, Inc.

Client Sample ID: MW-17

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-006 **Work Order #...:** LA6CN1AC **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 1.01 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	10	ug/L
Acenaphthylene	ND	10	ug/L
Anthracene	ND	10	ug/L
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(k)fluoranthene	ND	10	ug/L
Benzo(ghi)perylene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Chrysene	ND	10	ug/L
Fluoranthene	ND	10	ug/L
Fluorene	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
2-Methylnaphthalene	ND	10	ug/L
Naphthalene	ND	10	ug/L
Phenanthrene	ND	10	ug/L
Pyrene	ND	10	ug/L
Dibenzo(a,h)anthracene	ND	10	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	85	(33 - 122)
2-Fluorobiphenyl	94	(35 - 108)
2-Fluorophenol	91	(26 - 100)
Nitrobenzene-d5	97	(37 - 104)
Phenol-d5	92	(30 - 102)
Terphenyl-d14	95	(25 - 130)

AECOM, Inc.

Client Sample ID: SW-01

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-007 **Work Order #...:** LA6CP1AC **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 1.26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	13	ug/L
Acenaphthylene	ND	13	ug/L
Anthracene	ND	13	ug/L
Benzo(a)anthracene	ND	13	ug/L
Benzo(b)fluoranthene	ND	13	ug/L
Benzo(k)fluoranthene	ND	13	ug/L
Benzo(ghi)perylene	ND	13	ug/L
Benzo(a)pyrene	ND	13	ug/L
Chrysene	ND	13	ug/L
Fluoranthene	ND	13	ug/L
Fluorene	ND	13	ug/L
Indeno(1,2,3-cd)pyrene	ND	13	ug/L
2-Methylnaphthalene	ND	13	ug/L
Naphthalene	ND	13	ug/L
Phenanthrene	ND	13	ug/L
Pyrene	ND	13	ug/L
Dibenzo(a,h)anthracene	ND	13	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	77	(33 - 122)
2-Fluorobiphenyl	86	(35 - 108)
2-Fluorophenol	79	(26 - 100)
Nitrobenzene-d5	87	(37 - 104)
Phenol-d5	82	(30 - 102)
Terphenyl-d14	81	(25 - 130)

AECOM, Inc.

Client Sample ID: SW-02

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-008 **Work Order #...:** LA6CT1AC **Matrix.....:** WATER
Date Sampled...: 04/28/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 0.98 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	9.8	ug/L
Acenaphthylene	ND	9.8	ug/L
Anthracene	ND	9.8	ug/L
Benzo(a)anthracene	ND	9.8	ug/L
Benzo(b)fluoranthene	ND	9.8	ug/L
Benzo(k)fluoranthene	ND	9.8	ug/L
Benzo(ghi)perylene	ND	9.8	ug/L
Benzo(a)pyrene	ND	9.8	ug/L
Chrysene	ND	9.8	ug/L
Fluoranthene	ND	9.8	ug/L
Fluorene	ND	9.8	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.8	ug/L
2-Methylnaphthalene	ND	9.8	ug/L
Naphthalene	ND	9.8	ug/L
Phenanthrene	ND	9.8	ug/L
Pyrene	ND	9.8	ug/L
Dibenzo(a,h)anthracene	ND	9.8	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	79	(33 - 122)
2-Fluorobiphenyl	80	(35 - 108)
2-Fluorophenol	77	(26 - 100)
Nitrobenzene-d5	85	(37 - 104)
Phenol-d5	81	(30 - 102)
Terphenyl-d14	82	(25 - 130)

AECOM, Inc.

Client Sample ID: EQB

GC/MS Semivolatiles

Lot-Sample #...: C9E010123-010 **Work Order #...:** LA6C21AC **Matrix.....:** WATER
Date Sampled...: 04/29/09 **Date Received..:** 05/01/09 **MS Run #.....:**
Prep Date.....: 05/04/09 **Analysis Date..:** 05/08/09
Prep Batch #...: 9124213
Dilution Factor: 0.99 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	9.9	ug/L
Acenaphthylene	ND	9.9	ug/L
Anthracene	ND	9.9	ug/L
Benzo(a)anthracene	ND	9.9	ug/L
Benzo(b)fluoranthene	ND	9.9	ug/L
Benzo(k)fluoranthene	ND	9.9	ug/L
Benzo(ghi)perylene	ND	9.9	ug/L
Benzo(a)pyrene	ND	9.9	ug/L
Chrysene	ND	9.9	ug/L
Fluoranthene	ND	9.9	ug/L
Fluorene	ND	9.9	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.9	ug/L
2-Methylnaphthalene	ND	9.9	ug/L
Naphthalene	ND	9.9	ug/L
Phenanthrene	ND	9.9	ug/L
Pyrene	ND	9.9	ug/L
Dibenzo(a,h)anthracene	ND	9.9	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	82	(33 - 122)
2-Fluorobiphenyl	90	(35 - 108)
2-Fluorophenol	89	(26 - 100)
Nitrobenzene-d5	90	(37 - 104)
Phenol-d5	89	(30 - 102)
Terphenyl-d14	99	(25 - 130)

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: C9E010123 **Work Order #...:** LA9PT1AA **Matrix.....:** WATER
MB Lot-Sample #: C9E040000-213
Prep Date.....: 05/04/09
Analysis Date..: 05/07/09 **Prep Batch #...:** 9124213
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	10	ug/L	SW846 8270C
Acenaphthylene	ND	10	ug/L	SW846 8270C
Anthracene	ND	10	ug/L	SW846 8270C
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Chrysene	ND	10	ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C
Dibenzo(a,h)anthracene	ND	10	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	64	(33 - 122)
2-Fluorobiphenyl	75	(35 - 108)
2-Fluorophenol	74	(26 - 100)
Nitrobenzene-d5	74	(37 - 104)
Phenol-d5	76	(30 - 102)
Terphenyl-d14	86	(25 - 130)

NOTE(S):

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

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C9E010123 **Work Order #...:** LA9PT1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: C9E040000-213 LA9PT1AD-LCSD
Prep Date.....: 05/04/09 **Analysis Date..:** 05/07/09
Prep Batch #...: 9124213
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,2,4-Trichloro-benzene	74	(36 - 97)			SW846 8270C
	71	(36 - 97)	3.6	(0-32)	SW846 8270C
1,4-Dichlorobenzene	70	(32 - 94)			SW846 8270C
	67	(32 - 94)	3.9	(0-33)	SW846 8270C
2,4-Dinitrotoluene	84	(41 - 117)			SW846 8270C
	78	(41 - 117)	8.3	(0-32)	SW846 8270C
Acenaphthene	71	(39 - 106)			SW846 8270C
	65	(39 - 106)	8.3	(0-32)	SW846 8270C
2-Chlorophenol	76	(34 - 100)			SW846 8270C
	71	(34 - 100)	6.2	(0-31)	SW846 8270C
4-Chloro-3-methylphenol	76	(40 - 107)			SW846 8270C
	71	(40 - 107)	7.4	(0-32)	SW846 8270C
4-Nitrophenol	91	(29 - 120)			SW846 8270C
	87	(29 - 120)	5.0	(0-39)	SW846 8270C
N-Nitrosodi-n-propyl-amine	75	(37 - 106)			SW846 8270C
	71	(37 - 106)	5.9	(0-36)	SW846 8270C
Pentachlorophenol	83	(10 - 118)			SW846 8270C
	80	(10 - 118)	3.7	(0-49)	SW846 8270C
Phenol	75	(35 - 98)			SW846 8270C
	71	(35 - 98)	6.0	(0-35)	SW846 8270C
Butyl benzyl phthalate	77	(34 - 110)			SW846 8270C
	72	(34 - 110)	6.9	(0-35)	SW846 8270C
4-Bromophenyl phenyl ether	77	(38 - 108)			SW846 8270C
	71	(38 - 108)	7.6	(0-40)	SW846 8270C
4-Methylphenol	76	(34 - 104)			SW846 8270C
	71	(34 - 104)	7.0	(0-34)	SW846 8270C
Hexachloroethane	71	(27 - 94)			SW846 8270C
	65	(27 - 94)	8.7	(0-43)	SW846 8270C
Naphthalene	75	(35 - 98)			SW846 8270C
	69	(35 - 98)	8.5	(0-39)	SW846 8270C
Pyrene	75	(36 - 115)			SW846 8270C
	69	(36 - 115)	7.7	(0-38)	SW846 8270C

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: C9E010123 **Work Order #...:** LA9PT1AC-LCS **Matrix.....:** WATER
LCS Lot-Sample#: C9E040000-213 LA9PT1AD-LCSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	73	(33 - 122)
	70	(33 - 122)
2-Fluorobiphenyl	77	(35 - 108)
	70	(35 - 108)
2-Fluorophenol	81	(26 - 100)
	76	(26 - 100)
Nitrobenzene-d5	80	(37 - 104)
	74	(37 - 104)
Phenol-d5	81	(30 - 102)
	77	(30 - 102)
Terphenyl-d14	83	(25 - 130)
	77	(25 - 130)

NOTE(S):

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

Bold print denotes control parameters

May 7, 2009

Helen Jones
AECOM, Inc.
1001 W Seneca St. Suite 204
Ithaca, NY 14850

Re: Groundwater samples analyzed for cyanide by Eleanor Hopke, Clarkson University

Dear Ms. Jones:

Thirteen groundwater samples from the Mineral Springs site were received from ENSR Corporation on May 2, 2009. They were shipped via FedEx for Priority Overnight Delivery on April 30, 2009, but were delayed in transit. All ice was melted, but the water was still quite cool. The Temp Blank bottle in the cooler was 11^{o} C on arrival. The samples were in brown plastic bottles, two 250-ml bottles for each sample. Requested analyses were Total Cyanide and Free Cyanide by Microdiffusion.

The duplicate sample containers were composited before analysis. pH's of the samples were all greater than pH 13. Laboratory matrix spikes and matrix spike duplicates, check standards, continuing calibration verification standards, and reagent blanks were analyzed along with the samples.

The following methods were used to analyze the samples:

Total Cyanide – APHA *Standard Methods* 4500-CN^- C. "Total Cyanide after Distillation" and APHA *Standard Methods* 4500-CN^- E., "Colorimetric Method."

Free Cyanide - *ASTM* D4282-95. "Standard Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion." using lower concentration standards to better bracket the sample concentrations, and substituting APHA 4500-CN^- D. to standardize the stock cyanide standard. Sample pH's were reduced by adding sulfuric acid so that the buffer would adequately reduce the pH during the analysis. I have had success with doing this. Samples with positive cyanide concentrations were treated with lead carbonate, filtered and reanalyzed to check for sulfide contamination. For these samples, the Pb-treated results are reported.

For Diffusible and Total Cyanide, the stock cyanide standard was calibrated using APHA *Standard Methods*, 4500-CN^- D., "Titrimetric Method."

The analytical results follow:

Groundwater Samples
TOTAL CYANIDE and FREE CYANIDE
Results in µg CN^- /L (ppb)

ID	Free Cyanide	Total Cyanide
MW-12	4.1	472
MW-13	<2.3	27
MW-14	4.1	425
MW-16	5.5	531
MW-17	5.0	279
MW-20	<2.3	418
MW-21	<2.3	485
MW-22	3.1	704
MW-23	<2.3	276
MW-117	4.8	294
SW-01	<2.3	25
SW-02	<2.3	16
EQB	<2.3	<3
Matrix Spike and Matrix Spike Duplicate	97.8%, 93.7% (MW-23)	103.3%, 96.6% (MW-20)
Reagent Blank	<2.3	<3
Check Std	96.2%	93.7%

Analytical Dates

ID	Sampling Date	Arrival Date	Free CN Analysis Date	Total CN Analysis Date
MW-12	4/29/09	5/2/09	5/5/09	5/3/09
MW-13	4/29/09	5/2/09	5/2/09	5/4/09
MW-14	4/28/09	5/2/09	5/5/09	5/3/09
MW-16	4/29/09	5/2/09	5/5/09	5/3/09
MW-17	4/29/09	5/2/09	5/5/09	5/3/09
MW-20	4/28/09	5/2/09	5/2/09	5/3/09
MW-21	4/28/09	5/2/09	5/2/09	5/4/09
MW-22	4/28/09	5/2/09	5/5/09	5/4/09
MW-23	4/28/09	5/2/09	5/2/09	5/4/09
MW-117	4/29/09	5/2/09	5/5/09	5/5/09
SW-01	4/29/09	5/2/09	5/2/09	5/4/09
SW-02	4/28/09	5/2/09	5/5/09	5/4/09
EQB	4/29/09	5/2/09	5/2/09	5/3/09

I will be very glad to answer any questions you might have about these results. Thank you very much for sending them to Clarkson for analysis.

Sincerely,

Eleanor Hopke
Research Technician
Clarkson University
Box 5710
Potsdam, NY 13699

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