

The RETEC Group, Inc.

1001 West Seneca Street, Suite 204, Ithaca, New York 14850-3342

T 607.277.5716 F 607.277.9057 www.ensr.aecom.com

May 22, 2007

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

RECEIVED

MAY 30 2007

NYSDEC REG 9
FOIL
✓ REL UNREL

**Subject: Groundwater and Surface Water Monitoring Results
April 2007
Mineral Springs Road MGP Site**

Dear Charlie

This report provides the results of a groundwater and surface water sampling event completed by The RETEC Group, Inc. (RETEC) on April 3 and 4, 2007, at the Mineral Springs Road former MGP site in West Seneca (and Buffalo), New York.

The work at the Mineral Springs site is being conducted under a 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 and 2 surface water samples were collected and analyzed. A total of 14 depth-to-water measurements were taken. Sampling locations are shown in the attached figure. Analytical results are summarized in the attached table.

Concentrations of BTEX and/or PAH compounds were above NYSDEC standard or guidance values in three of the five onsite groundwater samples, but not detected in the two surface water samples.

Total cyanide concentrations exceeded the NYSDEC groundwater standard in eight of the nine groundwater samples analyzed. Free cyanide was not detected in the groundwater, but was detected (at concentrations below the NYSDEC standards) in the two surface water samples.

Groundwater Elevations

Depth-to-water measurements were taken at the 13 monitoring wells and at surface water sampling point SW-01. The measurements were used to construct the groundwater contours shown in the attached figure.

At the time of the sampling, groundwater flowed onto the site from the southeast, and then flowed to the northwest towards Calais Street and Mineral Springs Road. Onsite groundwater also appears to discharge to the Class D Stream, which in turn discharges to the Calais Street storm sewer and the municipal wastewater treatment system. These results are consistent with previous sampling events conducted at the site.



Sampling and Analysis

A total of 13 monitoring wells were purged and sampled by a RETEC geologist. Two surface water samples were also collected. Sampling locations are shown on the attached figure.

Severn Trent Laboratories (STL) of Pittsburgh, PA, performed the analyses of the groundwater and surface water samples for hydrocarbon compounds of concern. STL 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 RETEC's Standard Operating Procedures as provided in the project Quality Assurance Plan 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 in concentrations greater than the method detection limits. Total cyanide was detected at a concentration of 369 µg/L. Free cyanide was not detected.

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 wells were found to contain total cyanide in concentrations above the NYSDEC groundwater standard of 200 µg/L. Concentrations ranged from 3 µg/L at MW-13 to 642 µg/L at MW-22. These concentrations are generally consistent with previous results. Free cyanide was not detected in any of the sentinel wells above method detection limits.

Onsite 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 459 µg/L at MW-12 and 317 µg/L at MW-16. Free cyanide was not detected in either well.

Onsite Hydrocarbon NAPL Impacted Areas

Wells MW-7, MW-10, MW-11A, and MW-19 monitor onsite groundwater quality downgradient of subsurface soil impacted with hydrocarbon 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 groundwater standards in MW-7, MW-11A, and MW-19.

Surface Water

Two surface water samples were collected during this sampling event. Sample SW-01 was collected at the Calais Street storm sewer inlet. Sample SW-02 was collected from the Eastern Drainage Ditch near the Class D Stream. These surface sampling locations monitor the effectiveness of the Eastern Drainage Ditch Cap and also monitor the concentrations of COI in surface water at its most downgradient location at the Mineral Springs site.

BTEX, PAHs, and total cyanide were not detected in either surface water sample. Free cyanide was detected in both samples at concentrations below the NYSDEC standard.

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 over and through a sample collection bailer and through peristaltic pump tubing. No cyanide, BTEX, or PAH 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 and no compounds were detected in concentrations greater than the method detection limits.

A duplicate sample was collected from MW-7 and submitted for analysis of BTEX and PAHs. The duplicate results were within the acceptable range.

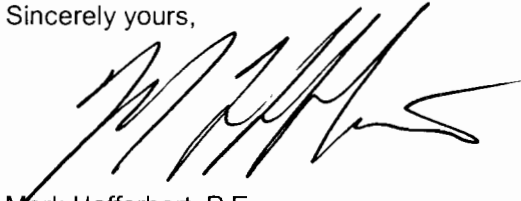
A duplicate sample was collected from MW-16 and submitted for analysis of total and free cyanide. The duplicate results were within the acceptable range.

DNAPL Recovery Test Well (RTW-1)

During this groundwater sampling event, the Recovery System was operated to purge RTW-1 of DNAPL that had accumulated since the July 2006 sampling event. Approximately ½ gallon of water was pumped out. The water contained only trace amounts (blebs) of NAPL.

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

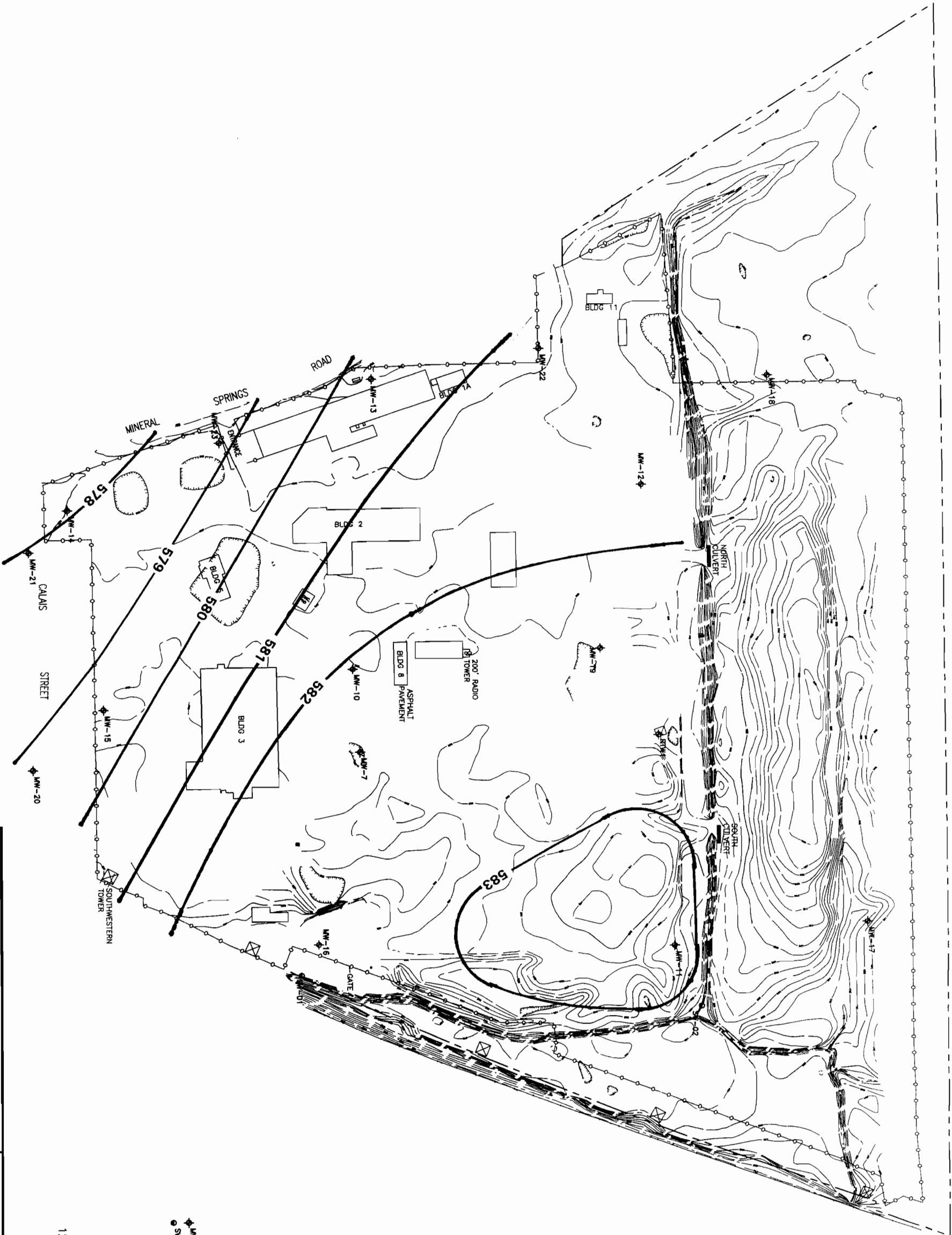
Sincerely yours,



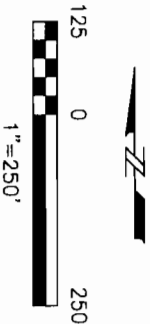
Mark Hofferbert, P.E.
Project Engineer

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

cc: T. Alexander - NFG
D. Flynn - Phillips, Lytle
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: NFGD3-14852-300



LEGEND
◆ MW-16 MONITORING WELLS
● SW-01 SURFACE WATER SAMPLE LOCATION



NATIONAL FUEL GAS MINERAL SPRINGS ROAD MGP SITE NFGD3-14852		GROUNDWATER CONTOURS APRIL 2007
DATE: 9/06/06	DRWN: MAW/BIL	FIGURE 1

Groundwater and Surface Water Monitoring Results
Mineral Springs Road MGP Site

April 2007

PARAMETER	GROUNDWATER														SURFACE WATER			QA / QC						
	Sample ID : Sample Date :	MW-07 04/03/07	MW-10 04/03/07	MW-11A 04/03/07	MW-12 04/03/07	MW-13 04/04/07	MW-14 04/03/07	MW-15 04/03/07	MW-16 04/03/07	MW-17 04/03/07	MW-19 04/03/07	MW-20 04/04/07	MW-21 04/04/07	MW-22 04/04/07	MW-23 04/03/07	Groundwater Standard ⁽¹⁾	SW-01 04/03/07	SW-02 04/03/07	Class D Stream Standard ⁽¹⁾	TB 04/04/07	EB 04/04/07	MW-07 Dup 04/03/07	MW-12 Dup 04/04/07	
BTEX (µg/L)																								
Benzene		2000	nd	100	---	---	---	---	---	nd	6700	---	---	---	---	1	nd	nd	10	nd	nd	2000	---	
Toluene		620	nd	0.99 J	---	---	---	---	---	nd	nd	---	---	---	---	5	nd	nd	6000	nd	nd	730	---	
Ethylbenzene		2500	nd	2.8 J	---	---	---	---	---	nd	220 J	---	---	---	---	5	nd	nd	150 *	nd	nd	2700	---	
Xylene (sum of isomers)		1400	nd	5.5 J	---	---	---	---	---	nd	710 J	---	---	---	---	5 (each)	nd	nd	590 *	nd	nd	1600	---	
PAHs (µg/L)																								
Naphthalene		3700	nd	nd	---	---	---	---	---	nd	3100	---	---	---	---	10 *	nd	nd	110 *	---	nd	3100	---	
Acenaphthylene		nd	nd	5.8 J	---	---	---	---	---	nd	nd	---	---	---	---	NL *	nd	nd	NL	---	nd	nd	---	
Acenaphthene		nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	20 *	nd	nd	48 *	---	nd	nd	---	
Fluorene		nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	50 *	nd	nd	4.8 *	---	nd	nd	---	
Phenanthrene		nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	50 *	nd	nd	45 *	---	nd	nd	---	
Anthracene		nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	50 *	nd	nd	35 *	---	nd	nd	---	
Fluoranthene		nd	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	50 *	nd	nd	NL	---	nd	nd	---	
Pyrene		nd	nd	nd	---	---	---	---	---	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	---	---	---	---	ND	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		270 J	nd	nd	---	---	---	---	---	nd	nd	---	---	---	---	NL	nd	nd	NL	---	nd	210 J	---	
CYANIDE (µg/L)																								
Cyanide, total		---	---	---	459	3	404	---	---	317	---	469	574	642	326	200	nd	nd	9000	---	nd	---	---	453
Cyanide, free		---	---	---	nd	nd	nd	---	---	nd	---	nd	nd	nd	nd	NL	5.0	8.6	22	---	nd	---	nd	
Water Elevation (feet)		582.58	582.06	583.07	581.88	580.29	577.89	---	---	582.87	582.87	582.26	579.03	578.38	581.75	578.95	582.8	Approx. 582.9	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

Chain of Custody Record

No. 0814

The RETEC Group, Inc.
1001 W. Seneca Street, Suite 204 • Ithaca, NY 14850-3342
(607) 277-5716 Phone • (607) 277-9057 Fax
www.retec.org



Project Name: <u>Mineral Springs</u>		Project Number: <u>NYC03-14852</u>		Analysis Requested: <u>Tak / CN EPA 90124</u>		Page <u>1</u> of <u>1</u>	
Send Report To: <u>Mark H. Schubert</u>		Sampler (Print Name): <u>Scott Houghton</u>		Purchase Order #:			
Address: <u>1001 W. Seneca St.</u>		Sampler (Print Name): <u>Scott Houghton</u>					
<u>Suite 204</u>		Shipment Method: <u>FedEx</u>					
<u>Ithaca, NY 14850</u>		Airbill Number:					
Phone: <u>607-277-5716</u>		Laboratory Receiving: <u>Clarkson Univ.</u>					
Fax: <u>607-277-9057</u>							
Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)	
MW17	4/30/07	1308	Ag	2			
SW02		1330					
SW01		1400					
MW16		1427					
MW23		1530					
MW14	4/30/07	1548					
MW20	4/4/07	0900					
MW19							
MW12	4/30/07	1712					
MW21	4/4/07	0925					
MW120	4/30/07	1730					
MW22	4/4/07	1028					
MW13	4/4/07	1020					
EB(040407)	4/4/07	1440					
Relinquished by: (Signature) <u>[Signature]</u>		Received by: (Signature) <u>FedEx</u>		Date: <u>4/4/07</u>		Time: <u>1700</u>	
Relinquished by: (Signature)		Received by: (Signature)		Date:		Time:	
Relinquished by: (Signature)		Received by: (Signature)		Date:		Time:	
Sample Custodian Remarks (Completed By Laboratory):				Sample Receipt			
QA/QC Level				Turnaround			
Level I <input type="checkbox"/>				Routine <input checked="" type="checkbox"/>			
Level II <input type="checkbox"/>				24 Hour <input type="checkbox"/>			
Level III <input type="checkbox"/>				1 Week <input type="checkbox"/>			
Other <input type="checkbox"/>				Other <input type="checkbox"/>			
Total # Containers Received?				COC Seals Present?			
COC Seals Intact?				Received Containers Intact?			
Temperature?							

White: Lab Copy

Yellow: PM Copy

Pink: Field Copy

Gold: PMI/QA/QC Copy

Chain of Custody Record

No 0815

The RETEC Group, Inc.
1001 W. Seneca Street, Suite 204 • Ithaca, NY 14850-3342
(607) 277-5716 Phone • (607) 277-9057 Fax
www.retec.com



Project Name:	Mineral Springs
Send Report To:	Mark H. Stoltz
Address:	1001 W. Seneca St
	Suite 204
	Ithaca, NY 14850
Phone:	607-277-5716
Fax:	607-277-9057
Project Number:	MF03-14852
Sampler (Print Name):	Scott Hausman
Sampler (Print Name):	Jesse Lloyd
Shipment Method:	FedEx
Airbill Number:	
Laboratory Receiving:	SLP H Stoltz

Field Sample ID	Sample Date	Sample Time	Sample Matrix	Number of Containers	Analysis Requested	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)
TB(040407)	04/03/07	0800	Aq	2	X		
MW07		1149		5	X		
MW10		1155			X		
MW30		1230			X		
MW17		1308			X		
MW11A		1315			X		
SW02		1330			X		
SW01		1400			X		
MW19		1703			X		
EB(040407)	4/4/07	1440			X		

Relinquished by: (Signature) 		Received by: (Signature) FedEx		Date: 4/4/07 Time: 1700	
Relinquished by: (Signature) 		Received by: (Signature)		Date: Time:	
Relinquished by: (Signature) 		Received by: (Signature)		Date: Time:	

Sample Custodian Remarks (Completed By Laboratory): QA/QC Level Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Other <input type="checkbox"/>		Turnaround Routine <input checked="" type="checkbox"/> 24 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> Other <input type="checkbox"/>		Sample Receipt Total # Containers Received? COC Seals Present? <input type="checkbox"/> COC Seals Intact? <input type="checkbox"/> Received Containers Intact? <input type="checkbox"/> Temperature? 	
--	--	---	--	---	--



April 13, 2007

DEPARTMENT OF
CIVIL AND ENVIRONMENTAL ENGINEERING

Scott Hauswirth
The RETEC Group, Inc.
1001 W. Seneca St., Suite 204
Ithaca, NY 14850-3342

Re: Project Number NFGD3-14852 groundwater samples analyzed by Eleanor Hopke, Clarkson University

Dear Mr. Hauswirth:

Thirteen groundwater samples were received from The RETEC Group, Inc. on April 5, 2007. The samples arrived cold (4°C) 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. Laboratory matrix spikes and matrix spike duplicates, check 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. Additional buffer was added to lower the pH of the soil extraction liquids adequately for the analysis.

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

The analytical results follow:

Groundwater Samples
TOTAL CYANIDE and FREE CYANIDE
Results in $\mu\text{g CN}^-/\text{L}$

ID	TOTAL CN	FREE CYANIDE
MW-12	459	<2.3
MW-13	3	<2.3
MW-14	404	<2.3
MW-16	317	<2.3
MW-17	369	<2.3
MW-20	469	<2.3
MW-21	574	<2.3
MW-22	642	<2.3
MW-23	326	<2.3
MW-120	453	<2.3
SW-01	<3	5.0
SW-02	<3	8.6
EB 040407	<3	<2.3
LAB MATRIX SPIKE	104.7%	95.9%
MATRIX SPIKE DUP	101.8%	89.5%
REAGENT BLANK	<3	<2.3
CHECK STANDARD	100.0%	108.0%

I will be very glad to answer any questions or give further information about the analyses. Thank you for the opportunity to analyze them for you.

Sincerely,



Eleanor Hopke
Research Technician
Tel: 315-268-3772
e-mail: hopkeef@clarkson.edu

STL Pittsburgh
301 Alpha Drive
Pittsburgh, PA 15238

Tel: 412 963 7058 Fax: 412 963 2468
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. NFGD3-14852-300

Retec-Mineral Springs

Lot #: C7D050356

Jim Edwards

The RETEC Group Inc

SEVERN TRENT LABORATORIES, INC.



Dave Dunlap
Project Manager

April 23, 2007

The RETEC Group, Inc.

Client Sample ID: MW07

GC/MS Volatiles

Lot-Sample #....: C7D050356-001 Work Order #....: JTFK01AA Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 Dilution Factor: 100 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	2000	100	ug/L
Ethylbenzene	2500	100	ug/L
Toluene	620	100	ug/L
Xylenes (total)	1400	300	ug/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Toluene-d8	93	(71 - 118)
1,2-Dichloroethane-d4	107	(64 - 135)
4-Bromofluorobenzene	92	(70 - 118)
Dibromofluoromethane	103	(64 - 128)

The RETEC Group, Inc.

Client Sample ID: MW07

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-001 Work Order #....: JTFK01AC Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7100072
 Prep Date.....: 04/10/07 Analysis Date...: 04/14/07
 Prep Batch #....: 7100126
 Dilution Factor: 96 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	960	ug/L
Acenaphthylene	ND	960	ug/L
Anthracene	ND	960	ug/L
Benzo(a)anthracene	ND	960	ug/L
Benzo(b)fluoranthene	ND	960	ug/L
Benzo(k)fluoranthene	ND	960	ug/L
Benzo(ghi)perylene	ND	960	ug/L
Benzo(a)pyrene	ND	960	ug/L
Chrysene	ND	960	ug/L
Fluoranthene	ND	960	ug/L
Fluorene	ND	960	ug/L
Indeno(1,2,3-cd)pyrene	ND	960	ug/L
2-Methylnaphthalene	270 J	960	ug/L
Naphthalene	3700	960	ug/L
Phenanthrene	ND	960	ug/L
Pyrene	ND	960	ug/L
Dibenzo(a,h)anthracene	ND	960	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	NC,DIL	(19 - 138)
2-Fluorobiphenyl	NC,DIL	(35 - 115)
2-Fluorophenol	NC,DIL	(10 - 118)
Nitrobenzene-d5	NC,DIL	(39 - 115)
Phenol-d5	NC,DIL	(18 - 115)
Terphenyl-d14	NC,DIL	(17 - 129)

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.

The RETEC Group, Inc.

Client Sample ID: MW10

GC/MS Volatiles

Lot-Sample #....: C7D050356-002 Work Order #....: JTFK41AA Matrix.....: WATER
Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
Prep Batch #....: 7102207
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	97	(71 - 118)
1,2-Dichloroethane-d4	101	(64 - 135)
4-Bromofluorobenzene	86	(70 - 118)
Dibromofluoromethane	115	(64 - 128)

The RETEC Group, Inc.

Client Sample ID: MW10

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-002 Work Order #....: JTFK41AC Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7100072
 Prep Date.....: 04/10/07 Analysis Date...: 04/16/07
 Prep Batch #....: 7100126
 Dilution Factor: 1.02 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	68	(19 - 138)
2-Fluorobiphenyl	59	(35 - 115)
2-Fluorophenol	58	(10 - 118)
Nitrobenzene-d5	59	(39 - 115)
Phenol-d5	59	(18 - 115)
Terphenyl-d14	70	(17 - 129)

The RETEC Group, Inc.

Client Sample ID: MW11A

GC/MS Volatiles

Lot-Sample #....: C7D050356-005 Work Order #....: JTFK81AA Matrix.....: WATER
Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
Prep Batch #....: 7102207
Dilution Factor: 5 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	100	5.0	ug/L
Ethylbenzene	2.8 J	5.0	ug/L
Toluene	0.99 J	5.0	ug/L
Xylenes (total)	5.5 J	15	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	94	(71 - 118)
1,2-Dichloroethane-d4	103	(64 - 135)
4-Bromofluorobenzene	86	(70 - 118)
Dibromofluoromethane	105	(64 - 128)

NOTE(S) :

J Estimated result. Result is less than RL.

The RETEC Group, Inc.

Client Sample ID: MW11A

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-005	Work Order #....: JTFK81AC	Matrix.....: WATER
Date Sampled....: 04/03/07	Date Received...: 04/05/07	MS Run #.....: 7100072
Prep Date.....: 04/10/07	Analysis Date...: 04/18/07	
Prep Batch #....: 7100126		
Dilution Factor: 0.94	Method.....: SW846 8270C	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	9.4	ug/L
Acenaphthylene	5.8 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	ND	9.4	ug/L
Indeno (1,2,3-cd) pyrene	ND	9.4	ug/L
2-Methylnaphthalene	ND	9.4	ug/L
Naphthalene	ND	9.4	ug/L
Phenanthrene	ND	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	75	(19 - 138)
2-Fluorobiphenyl	64	(35 - 115)
2-Fluorophenol	62	(10 - 118)
Nitrobenzene-d5	64	(39 - 115)
Phenol-d5	62	(18 - 115)
Terphenyl-d14	78	(17 - 129)

NOTE (S) :

J Estimated result. Result is less than RL.

The RETEC Group, Inc.

Client Sample ID: MW17

GC/MS Volatiles

Lot-Sample #....: C7D050356-004 Work Order #....: JTFK61AA Matrix.....: WATER
Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
Prep Batch #....: 7102207
Dilution Factor: 1 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
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

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	93	(71 - 118)
1,2-Dichloroethane-d4	114	(64 - 135)
4-Bromofluorobenzene	91	(70 - 118)
Dibromofluoromethane	112	(64 - 128)

The RETEC Group, Inc.

Client Sample ID: MW17

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-004	Work Order #....: JTFK61AC	Matrix.....: WATER
Date Sampled....: 04/03/07	Date Received...: 04/05/07	MS Run #.....: 7100072
Prep Date.....: 04/10/07	Analysis Date...: 04/16/07	
Prep Batch #....: 7100126		
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	ND	9.5	ug/L
Naphthalene	ND	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	79	(19 - 138)
2-Fluorobiphenyl	71	(35 - 115)
2-Fluorophenol	71	(10 - 118)
Nitrobenzene-d5	75	(39 - 115)
Phenol-d5	70	(18 - 115)
Terphenyl-d14	46	(17 - 129)

The RETEC Group, Inc.

Client Sample ID: MW19

GC/MS Volatiles

Lot-Sample #....: C7D050356-008 Work Order #....: JTFLD1AA Matrix.....: WATER
 Date Sampled...: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 Dilution Factor: 250 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	6700	250	ug/L
Ethylbenzene	220 J	250	ug/L
Toluene	ND	250	ug/L
Xylenes (total)	710 J	750	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	97	(71 - 118)
1,2-Dichloroethane-d4	101	(64 - 135)
4-Bromofluorobenzene	96	(70 - 118)
Dibromofluoromethane	108	(64 - 128)

NOTE(S):

J Estimated result. Result is less than RL.

The RETEC Group, Inc.

Client Sample ID: MW19

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-008 Work Order #....: JTFLD1AC Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7100072
 Prep Date.....: 04/10/07 Analysis Date...: 04/16/07
 Prep Batch #....: 7100126
 Dilution Factor: 48.5 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	480	ug/L
Acenaphthylene	ND	480	ug/L
Anthracene	ND	480	ug/L
Benzo(a)anthracene	ND	480	ug/L
Benzo(b)fluoranthene	ND	480	ug/L
Benzo(k)fluoranthene	ND	480	ug/L
Benzo(ghi)perylene	ND	480	ug/L
Benzo(a)pyrene	ND	480	ug/L
Chrysene	ND	480	ug/L
Fluoranthene	ND	480	ug/L
Fluorene	ND	480	ug/L
Indeno(1,2,3-cd)pyrene	ND	480	ug/L
2-Methylnaphthalene	ND	480	ug/L
Naphthalene	3100	480	ug/L
Phenanthrene	ND	480	ug/L
Pyrene	ND	480	ug/L
Dibenzo(a,h)anthracene	ND	480	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	NC, DIL	(19 - 138)
2-Fluorobiphenyl	NC, DIL	(35 - 115)
2-Fluorophenol	NC, DIL	(10 - 118)
Nitrobenzene-d5	NC, DIL	(39 - 115)
Phenol-d5	NC, DIL	(18 - 115)
Terphenyl-d14	NC, DIL	(17 - 129)

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.

The RETEC Group, Inc.

Client Sample ID: SW01

GC/MS Volatiles

Lot-Sample #....: C7D050356-007 Work Order #....: JTFLC1AA Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 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	96	(71 - 118)	
1,2-Dichloroethane-d4	114	(64 - 135)	
4-Bromofluorobenzene	87	(70 - 118)	
Dibromofluoromethane	118	(64 - 128)	

The RETEC Group, Inc.

Client Sample ID: SW01

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-007
 Date Sampled...: 04/03/07
 Prep Date.....: 04/10/07
 Prep Batch #....: 7100126
 Dilution Factor: 1.1

Work Order #....: JTFLC1AC
 Date Received...: 04/05/07
 Analysis Date...: 04/16/07
 Method.....: SW846 8270C

Matrix.....: WATER
 MS Run #.....: 7100072

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	11	ug/L
Acenaphthylene	ND	11	ug/L
Anthracene	ND	11	ug/L
Benzo(a)anthracene	ND	11	ug/L
Benzo(b)fluoranthene	ND	11	ug/L
Benzo(k)fluoranthene	ND	11	ug/L
Benzo(ghi)perylene	ND	11	ug/L
Benzo(a)pyrene	ND	11	ug/L
Chrysene	ND	11	ug/L
Fluoranthene	ND	11	ug/L
Fluorene	ND	11	ug/L
Indeno(1,2,3-cd)pyrene	ND	11	ug/L
2-Methylnaphthalene	ND	11	ug/L
Naphthalene	ND	11	ug/L
Phenanthrene	ND	11	ug/L
Pyrene	ND	11	ug/L
Dibenzo(a,h)anthracene	ND	11	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	68	(19 - 138)
2-Fluorobiphenyl	64	(35 - 115)
2-Fluorophenol	64	(10 - 118)
Nitrobenzene-d5	67	(39 - 115)
Phenol-d5	62	(18 - 115)
Terphenyl-d14	67	(17 - 129)

The RETEC Group, Inc.

Client Sample ID: SW02

GC/MS Volatiles

Lot-Sample #....: C7D050356-006 Work Order #....: JTFLA1AA Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 Dilution Factor: 1 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
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

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Toluene-d8	96	(71 - 118)
1,2-Dichloroethane-d4	110	(64 - 135)
4-Bromofluorobenzene	93	(70 - 118)
Dibromofluoromethane	111	(64 - 128)

The RETEC Group, Inc.

Client Sample ID: SW02

GC/MS Semivolatiles

Lot-Sample #...: C7D050356-006 Work Order #...: JTFLA1AC Matrix.....: WATER
 Date Sampled...: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7100072
 Prep Date.....: 04/10/07 Analysis Date...: 04/16/07
 Prep Batch #...: 7100126
 Dilution Factor: 1.12 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	11	ug/L
Acenaphthylene	ND	11	ug/L
Anthracene	ND	11	ug/L
Benzo(a)anthracene	ND	11	ug/L
Benzo(b)fluoranthene	ND	11	ug/L
Benzo(k)fluoranthene	ND	11	ug/L
Benzo(ghi)perylene	ND	11	ug/L
Benzo(a)pyrene	ND	11	ug/L
Chrysene	ND	11	ug/L
Fluoranthene	ND	11	ug/L
Fluorene	ND	11	ug/L
Indeno(1,2,3-cd)pyrene	ND	11	ug/L
2-Methylnaphthalene	ND	11	ug/L
Naphthalene	ND	11	ug/L
Phenanthrene	ND	11	ug/L
Pyrene	ND	11	ug/L
Dibenzo(a,h)anthracene	ND	11	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	66	(19 - 138)
2-Fluorobiphenyl	60	(35 - 115)
2-Fluorophenol	61	(10 - 118)
Nitrobenzene-d5	63	(39 - 115)
Phenol-d5	59	(18 - 115)
Terphenyl-d14	40	(17 - 129)

The RETEC Group, Inc.

Client Sample ID: MW70

GC/MS Volatiles

Lot-Sample #....: C7D050356-003 Work Order #....: JTFK51AA Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 Dilution Factor: 125 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	2000	120	ug/L
Ethylbenzene	2700	120	ug/L
Toluene	730	120	ug/L
Xylenes (total)	1600	380	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
Toluene-d8	98	(71 - 118)	
1,2-Dichloroethane-d4	106	(64 - 135)	
4-Bromofluorobenzene	92	(70 - 118)	
Dibromofluoromethane	105	(64 - 128)	

The RETEC Group, Inc.

Client Sample ID: MW70

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-003 Work Order #....: JTFK51AC Matrix.....: WATER
 Date Sampled....: 04/03/07 Date Received...: 04/05/07 MS Run #.....: 7100072
 Prep Date.....: 04/10/07 Analysis Date...: 04/16/07
 Prep Batch #....: 7100126
 Dilution Factor: 48 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	480	ug/L
Acenaphthylene	ND	480	ug/L
Anthracene	ND	480	ug/L
Benzo(a)anthracene	ND	480	ug/L
Benzo(b)fluoranthene	ND	480	ug/L
Benzo(k)fluoranthene	ND	480	ug/L
Benzo(ghi)perylene	ND	480	ug/L
Benzo(a)pyrene	ND	480	ug/L
Chrysene	ND	480	ug/L
Fluoranthene	ND	480	ug/L
Fluorene	ND	480	ug/L
Indeno(1,2,3-cd)pyrene	ND	480	ug/L
2-Methylnaphthalene	210 J	480	ug/L
Naphthalene	3100	480	ug/L
Phenanthrene	ND	480	ug/L
Pyrene	ND	480	ug/L
Dibenzo(a,h)anthracene	ND	480	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	NC,DIL	(19 - 138)
2-Fluorobiphenyl	NC,DIL	(35 - 115)
2-Fluorophenol	NC,DIL	(10 - 118)
Nitrobenzene-d5	NC,DIL	(39 - 115)
Phenol-d5	NC,DIL	(18 - 115)
Terphenyl-d14	NC,DIL	(17 - 129)

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.

The RTEC Group, Inc.

Client Sample ID: EB(040407)

GC/MS Volatiles

Lot-Sample #....: C7D050356-009 Work Order #....: JTFLF1AA Matrix.....: WATER
 Date Sampled....: 04/04/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 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	93	(71 - 118)
1,2-Dichloroethane-d4	116	(64 - 135)
4-Bromofluorobenzene	93	(70 - 118)
Dibromofluoromethane	116	(64 - 128)

The RETEC Group, Inc.

Client Sample ID: EB(040407)

GC/MS Semivolatiles

Lot-Sample #....: C7D050356-009 Work Order #....: JTFLF1AC Matrix.....: WATER
 Date Sampled....: 04/04/07 Date Received...: 04/05/07 MS Run #.....: 7100072
 Prep Date.....: 04/10/07 Analysis Date...: 04/16/07
 Prep Batch #....: 7100126
 Dilution Factor: 0.96 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthene	ND	9.6	ug/L
Acenaphthylene	ND	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	ND	9.6	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.6	ug/L
2-Methylnaphthalene	ND	9.6	ug/L
Naphthalene	ND	9.6	ug/L
Phenanthrene	ND	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	73	(19 - 138)
2-Fluorobiphenyl	70	(35 - 115)
2-Fluorophenol	71	(10 - 118)
Nitrobenzene-d5	73	(39 - 115)
Phenol-d5	70	(18 - 115)
Terphenyl-d14	89	(17 - 129)

The RETEC Group, Inc.

Client Sample ID: TB(040407)

GC/MS Volatiles

Lot-Sample #....: C7D050356-010 Work Order #....: JTFLH1AA Matrix.....: WATER
 Date Sampled....: 04/04/07 Date Received...: 04/05/07 MS Run #.....: 7102138
 Prep Date.....: 04/12/07 Analysis Date...: 04/12/07
 Prep Batch #....: 7102207
 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	92	(71 - 118)
1,2-Dichloroethane-d4	116	(64 - 135)
4-Bromofluorobenzene	93	(70 - 118)
Dibromofluoromethane	116	(64 - 128)