September 12, 2006

Mr. Charles Burke
National Fuel Gas Distribution Corporation
Building 11
365 Mineral Springs Road
Buffalo, NY 14210

The RETEC Group, Inc. 3:201
1001 W. Seneca Street, Sulte 204
Ithaca, NY 14850-3342
report, His Vooi 95, 2006 of -15 Gill and
RETEC

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NYSDEC REG 9

FOIL

REL __UNREL

RE: Groundwater and Surface Water Monitoring Results
August 2006
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 August 1st and 2nd, 2006, at the Mineral Springs Road former Manufactured Gas Plant (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 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 15 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 PAH compounds were below NYSDEC standard or guidance values in the two surface water samples, and in two of the seven groundwater samples analyzed.

Total cyanide concentrations exceeded the NYSDEC groundwater standard in seven of the nine groundwater samples analyzed. Free cyanide was not detected in groundwater. Total cyanide and free cyanide were detected in one of the surface water samples at concentrations below the NYSDEC standards.

Groundwater Elevations

Depth-to-water measurements were taken at 14 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, 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.

Mr. Charles Burke September 12, 2006 Page 2

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 contaminants of interest. STL is currently certified to perform the requested analyses under the NYSDOH Environmental Laboratory Approval Program. The samples were analyzed for 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 SW864 9012A

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 183 μ g/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 μ g/L. Concentrations ranged from 172 μ g/L at MW-20 to 540 μ g/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.

Mr. Charles Burke September 12, 2006 Page 3

MW-13 and MW-23 were also analyzed for BTEX and PAHs. No exceedances were detected except a slight exceedance (1.9 μ g/L) of benzene at MW-13.

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 415 μ g/L at MW-12 and 368 μ g/L at MW-16. Free cyanide was not detected.

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 and PAHs were not detected in either surface water sample, except a low concentration (J value) of ethylbenzene at SW-01. Total and free cyanide were not detected above the NYSDEC standards in either surface water sample.

QA/QC Samples

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

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.

Sample "MW-70" was collected as a duplicate from MW-7 and submitted for analysis of BTEX and PAHs. The duplicate results were within the acceptable range.

Mr. Charles Burke September 12, 2006 Page 4

Sample "MW-160" was collected as a duplicate from MW-16 and submitted to Clarkson for the 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 April 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,

The RETEC Group, Inc.

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

Groundwater and Surface Water Monitoring Results **Mineral Springs Road MGP Site**

August 2006

Notes:	Water Elevation (feet)	Cyanide, free	Cyanide, total	CYANIDE (µg/L)	2-Methylnaphthalene	Benzo(g,h,i)Perylene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Benzo(a)Pyrene	Benzo(k)Fluoranthene	Benzo(b)Fluoranthene	Chrysene	Benzo(a)Anthracene	Pyrene	Fluoranthene	Anthracene	Phenanthrene	Fluorene	Acenaphthene	Acenaphthylene	Naphthalene	PAHs (ug/L)	Xylene (sum of isomers)	Ethylbenzene	Toluene	Benzene	BΤΕΧ (μg/L)	Sample Date :	Sample ID:	PARAMETER
J, E	579.24	!	1		250 J	nd.	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.9 J	28	24	130 E		3600		7500	2500	570	2600		08/02/06	MW-07	
Not listed Not detected above method detection Not analyzed for Indicates laboratory estimated value	580.04	1	i		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd	nd	nd	nd		08/02/06	MW-10	
Not listed Not detected above method detection limit Not analyzed for Indicates laboratory estimated value	580.78	ı	ı		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2	nd	М	nd		14 J	8.7	1.2 J	140		08/01/06	MW-11A	
nit .	579.78	nd	415		1	l	ı	i	}	ł	i	i	ŀ	ı	ı	1	ı	ŀ	ı	1	1		l	-	ŀ	ı		08/02/06	MW-12	
	578.30	nd	300		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	2.8 J		nd	nd	nd	9.3		08/02/06	MW-13	
	577.29	nd	281		I	ı	1	1	i	ŀ	i	ļ	ŀ	1	ı	ı	i	ı	1	ı	1		1	ı	ı	ı		08/02/06	MW-14	
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0 0 7	580.56	nd	368		ŀ	ı	ı	-	i	ŀ	ı	-	-	!	ı	ı	ļ	!	ŀ	ı	1		I	!	;	1		08/02/06	MW-16	GROUNDWATER SAMPLES
n of Water Technical Quality Standards and urface Water Guidan Deeding NYSDEC rej	580.62	nd	183		nd	ъd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd	nd	nd	nd		08/02/06	MW-17	AMPLES
NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values - 6 NYCRR 700 - revi Groundwater or Surface Water Guidance Value (no Standard value listed). Concentrations exceeding NYSDEC regulatory standard or guidance value.	580.15	I	!		4.8 J	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd.	nd	nd	nd	3600		810	ر 200	Z	5600		08/01/06	MW-19	
AVSDEC Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values - 6 NYCRR 700 - revised June 1998. Siroundwater or Surface Water Guidance Value (no Standard value listed). Concentrations exceeding NYSDEC regulatory standard or guidance value.	577.07	nd	172		ı	!	ŀ	ı	1	1	ŀ	ŀ	;	1	1	I	1	1	l	:	ı		i	1	;	I		08/02/06	MW-20	
ed June 1998.	576.75	nd	448		ı	ı	!	1	ı	1	1	1	1	1	ŀ	I	I	1	1	1	I		1	ı	ı	ı		08/02/06	MW-21	
	579.60	nd	540	_	1	1	1	ı	1	ı		1	!	ı	i	ŀ	ı	1	ŀ	1	I		ł	ı	ı	ı		08/02/06	MW-22	
	577.63	nd	321		nd	nd —	3	nd	nd.	nd	nd	nd	nd	ъ	26	nd _	a.	nd	a	nd	3.6 J		26	nd	nd	ъ		08/02/06	MW-23	
	롣	ž	200		Z	Ę	¥	0.002 *	8	0.002 *	0.002 *	0.002 *	0.002 *	50 *	50 *	50 *	50 *	50 *	20 *	ĸ.	10 *		5 (each)	υ τ	5	_		Standard (1)	Groundwater	
	580.2	2.4	24		ъ	nd	ъ	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	a	nd	nd	nd		a	0.23 J	nd	пd		08/02/06	SW-01	
	Approx. 580.3	nd	nd		nd	a	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	a	nd	nd	nd		nd	nd	25	a.		08/01/06	SW-02	SURFACE WATER
	ı	22	9000		¥	¥	¥	Ę	0.0012 *	Z	¥	2	0.23 *	42 *	ĸ	35 *	45 *	4.8 *	48 *	2	110 *		590 *	150 *	6000	10		Standard (1)	Class D Stream	ER
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		nd	nd		nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd			nd				08/02/06	EB	QA
	-	I	l		300 ၂	æ	nd	nd	2	nd	nd	nd	nd	a.	nd	4.3 J	30	27	140 E	nd	4400		1500	2600	580	2600		08/02/06	MW-07 Dup	QA/QC
	1	nd	370		1	1	1		1	1			-	1	1	1		1	***		1		!	ı	1	ı		08/02/06	MW-16 Dup	



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

ANALYTICAL REPORT

PROJECT NO. NFGD3-14852-300

Retec-Mineral Springs

Lot #: C6H040256

Jim Edwards

The RETEC Group Inc

SEVERN TRENT LABORATORIES, INC.

Dave Dunlap

Project Manager

August 22, 2006

Client Sample ID: MW-11A

GC/MS Volatiles

Lot-Sample #: C6H040256-001 Date Sampled: 08/01/06	Work Order #: Date Received:		Matrix: WG MS Run #: 6224059
Prep Date: 08/12/06	Analysis Date:		P.S. Rull # 0224055
Prep Batch #: 6224096	•		
Dilution Factor: 5	Method:	SW846 8260	В
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Benzene	140	5.0	ug/L
Ethylbenzene	8.7	5.0	ug/L
Toluene	1.2 J	5.0	ug/L
Xylenes (total)	14 J	15	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Toluene-d8	95	(71 - 118)	
1,2-Dichloroethane-d4	100	(64 - 135)	
4-Bromofluorobenzene	96	(70 - 118)	
Dibromofluoromethane	96	(64 - 128)	

J Estimated result. Result is less than RL.

NOTE (S):

Client Sample ID: MW-11A

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-001 Work Order #...: JANN81AC Matrix....: WG Date Received..: 08/04/06 MS Run #....: Date Sampled...: 08/01/06

Prep Date....: 08/07/06 Analysis Date..: 08/09/06

Prep Batch #...: 6219146

Dilution Factor: 1	Method	: SW846 82	SW846 8270C				
		REPORTIN	IG				
PARAMETER	RESULT	LIMIT	UNITS				
2-Methylnaphthalene	ND	10	ug/L				
Naphthalene	ND	10	ug/L				
Acenaphthylene	ND	10	ug/L				
Acenaphthene	ND	10	ug/L				
Fluorene	ND	10	ug/L				
Phenanthrene	ND	10	ug/L				
Anthracene	ND	10	ug/L				
Fluoranthene	ND	10	ug/L				
Pyrene	ND	10	ug/L				
Benzo(a)anthracene	ND	10	ug/L				
Chrysene	ND	10	ug/L				
Benzo(b) fluoranthene	ND	10	ug/L				
Benzo(k)fluoranthene	ND	10	ug/L				
Benzo(a)pyrene	ND	10	ug/L				
Indeno(1,2,3-cd)pyrene	ND	10	ug/L				
Dibenzo (a, h) anthracene	ND	10	ug/L				
Benzo(ghi)perylene	ND	10	ug/L				
	PERCENT	RECOVERY	,				
SURROGATE	RECOVERY	LIMITS					
2,4,6-Tribromophenol	86	(19 - 13	8)				
2-Fluorobiphenyl	73	(35 - 11	.5)				
2-Fluorophenol	72	(10 - 11	.8)				
Nitrobenzene-d5	75	(39 - 11	.5)				
Phenol-d5	75	(18 - 11	.5)				
Terphenyl-d14	61	(17 - 12	9)				

Client Sample ID: SW-02

GC/MS Volatiles

Lot-Sample #: C6H040256-002	Work Order #: JANPG1AA	Matrix WG
Date Sampled: 08/01/06	Date Received: 08/04/06	MS Run #: 6221310
Prep Date: 08/09/06	Analysis Date: 08/09/06	

Prep Date....: 08/09/06 Prep Batch #...: 6221524

Dilution Factor: 1 Method.....: SW846 8260B

REPORTI	NG
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		KEPUKIING	
PARAMETER	RESULT	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
	PERCENT	RECOVERY	
	220172		

PERCENT	ICISCO VISICI
RECOVERY	LIMITS
99	(71 - 118)
96	(64 - 135)
96	(70 - 118)
93	(64 - 128)
	RECOVERY 99 96 96

Client Sample ID: SW-02

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-002 Work Order #...: JANPG1AC Matrix.....: WG
Date Sampled...: 08/01/06 Date Received..: 08/04/06 MS Run #....:

Prep Batch #...: 6219146

Dilution Factor: 1.02 Method.....: SW846 8270C

REPORTING	

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

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
2,4,6-Tribromophenol	80	(19 - 138)
2-Fluorobiphenyl	70	(35 - 115)
2-Fluorophenol	73	(10 - 118)
Nitrobenzene-d5	76	(39 - 115)
Phenol-d5	71	(18 - 115)
Terphenyl-d14	39	(17 - 129)

Client Sample ID: MW-19

GC/MS Volatiles

Lot-Sample #: C6H040256-003 Date Sampled: 08/01/06 Prep Date: 08/09/06 Prep Batch #: 6221524 Dilution Factor: 250	Work Order #: Date Received: Analysis Date: Method	08/04/06 08/09/06	Matrix: WG MS Run #: 6221310
Director Faccor. 250	PROGRAMMA	5,1040 0200	5
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Benzene	5600	250	ug/L
Ethylbenzene	200 J	250	ug/L
Toluene	ND	250	ug/L
Xylenes (total)	810	750	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Toluene-d8	100	(71 - 118)	
1,2-Dichloroethane-d4	102	(64 - 135)	
4-Bromofluorobenzene	96	(70 - 118)	
Dibromofluoromethane	94	(64 - 128)	

J Estimated result. Result is less than RL.

NOTE(S):

Client Sample ID: MW-19

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-003 Work Order #...: JANPH1AC Matrix.....: WG
Date Sampled...: 08/01/06 Date Received..: 08/04/06 MS Run #....:

Prep Date....: 08/07/06 Analysis Date..: 08/09/06

Prep Batch #...: 6219146

Dilution Factor: 0.94 Method.....: SW846 8270C

		REPORTIN	īG
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	4.8 J	9.4	ug/L
Naphthalene	1300 R	9.4	ug/L
Acenaphthylene	ND	9.4	ug/L
Acenaphthene	ND	9.4	ug/L
Fluorene	ND	9.4	ug/L
Phenanthrene	ND	9.4	ug/L
Anthracene	ND	9.4	ug/L
Fluoranthene	ND	9.4	ug/L
Pyrene	ND	9.4	ug/L
Benzo(a)anthracene	ND	9.4	ug/L
Chrysene	ND	9.4	ug/L
Benzo(b) fluoranthene	ND	9.4	ug/L
Benzo(k) fluoranthene	ND	9.4	ug/L
Benzo(a)pyrene	ND	9.4	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.4	ug/L
Dibenzo(a,h)anthracene	ND	9.4	ug/L
Benzo(ghi)perylene	ND	9.4	ug/L
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
2,4,6-Tribromophenol	71	(19 - 13	8)
2-Fluorobiphenyl	62	(35 - 11	.5)
2-Fluorophenol	63	(10 - 11	.8)
Nitrobenzene-d5	96	(39 - 11	.5)
	62	(18 - 11	5)
Phenol-d5	0.2	,	,

NOTE(S):

I Estimated result. Result is less than RL.

E Estimated result. Result concentration exceeds the calibration range.

Client Sample ID: MW-19

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-003 Work Order #...: JANPH2AC Matrix......: WG
Date Sampled...: 08/01/06 Date Received..: 08/04/06 MS Run #.....:

Prep Date....: 08/07/06 Analysis Date..: 08/10/06

Prep Batch #...: 6219146

Dilution Factor: 47 Method.....: SW846 8270C

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	ND	470	ug/L
Naphthalene	3600	470	ug/L
Acenaphthylene	ND	470	ug/L
Acenaphthene	ND	470	ug/L
Fluorene	ND	470	ug/L
Phenanthrene	ND	470	ug/L
Anthracene	ND	470	ug/L
Fluoranthene	ND	470	ug/L
Pyrene	ND	470	ug/L
Benzo(a)anthracene	ND	470	ug/L
Chrysene	ND	470	ug/L
Benzo(b) fluoranthene	ND	470	ug/L
Benzo(k) fluoranthene	ND	470	ug/L
Benzo(a)pyrene	ND	470	ug/L
Indeno(1,2,3-cd)pyrene	ND	470	ug/L
Dibenzo(a,h)anthracene	ND	470	ug/L
Benzo(ghi)perylene	ND	470	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
2,4,6-Tribromophenol	NC, DIL	(19 - 13	8)
2-Fluorobiphenyl	NC, DIL	(35 - 11	.5)
2-Fluorophenol	NC, DIL	(10 - 11	8)
Nitrobenzene-d5	NC, DIL	(39 - 11	.5)
Phenol-d5	NC, DIL	(18 - 11	.5)
Terphenyl-d14	NC, DIL	(17 ~ 12	9)

NOTE(S):

NC The recovery and/or RPD were not calculated.

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

Client Sample ID: MW-13

GC/MS Volatiles

Lot-Sample #...: C6H040256-004 Work Order #...: JANPJlAA Matrix.....: WG

Prep Date....: 08/09/06 Analysis Date..: 08/09/06 Prep Batch #...: 6221524

Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTIN LIMIT	G UNITS
Benzene	1.9	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L
	PERCENT	RECOVERY	

PERCENT	RECOVERY
RECOVERY	LIMITS
100	(71 - 118)
96	(64 - 135)
95	(70 - 118)
91	(64 - 128)
	100 96 95

Client Sample ID: MW-13

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-004 Work Order #...: JANPJ1AC Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #....:

Prep Date....: 08/07/06 Analysis Date..: 08/09/06

Prep Batch #...: 6219146

Dilution Factor: 0.99 Method.....: SW846 8270C

		REPORTIN	
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	ND	9.9	ug/L
Naphthalene	2.8 J	9.9	ug/L
Acenaphthylene	ND	9.9	ug/L
Acenaphthene	ND	9.9	ug/L
Fluorene	ND	9.9	ug/L
Phenanthrene	ND	9.9	ug/L
Anthracene	ND	9.9	ug/L
Fluoranthene	ND	9.9	ug/L
Pyrene	ND	9.9	ug/L
Benzo(a)anthracene	ND	9.9	ug/L
Chrysene	ND	9.9	ug/L
Benzo(b) fluoranthene	ND	9.9	ug/L
Benzo(k)fluoranthene	ND	9.9	ug/L
Benzo(a)pyrene	ND	9.9	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.9	ug/L
Dibenzo(a,h)anthracene	ND	9.9	ug/L
Benzo(ghi)perylene	ND	9.9	ug/L
	PERCENT	RECOVERY	7
SURROGATE	RECOVERY	LIMITS	
2,4,6-Tribromophenol	74	(19 - 13	38)
2-Fluorobiphenyl	64	(35 - 13	L5)
2-Fluorophenol	65	(10 - 13	L8)
Nitrobenzene-d5	69	(39 - 13	L5)
Phenol-d5	65	(18 - 1	L5)
	53	(17 - 12	

J Estimated result. Result is less than RL.

NOTE (S):

Client Sample ID: MW-17

GC/MS Volatiles

Lot-Sample #...: C6H040256-005 Work Order #...: JANPL1AA Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #.....: 6221310

Prep Date....: 08/09/06 Analysis Date..: 08/09/06

Prep Batch #...: 6221524

Dilution Factor: 1 Method....: SW846 8260B

PARAMETER	RESULT	REPORTIN LIMIT	IG 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
	PERCENT	RECOVERY	•

PERCENT	KECOVEKI
RECOVERY	LIMITS
101	(71 - 118)
95	(64 - 135)
92	(70 - 118)
92	(64 - 128)
	RECOVERY 101 95 92

Client Sample ID: MW-17

GC/MS Semivolatiles

Matrix..... WG

MS Run #....:

Lot-Sample #...: C6H040256-005 Work Order #...: JANPL1AC

Prep Batch #...: 6219146

Dilution Factor: 1.03 Method....: SW846 8270C

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

PERCENT	KECOVEKI
RECOVERY	LIMITS
72	(19 - 138)
66	(35 - 115)
65	(10 - 118)
70	(39 - 115)
63	(18 - 115)
36	(17 - 129)
	72 66 65 70 63

Client Sample ID: KB-020806

GC/MS Volatiles

Lot-Sample #...: C6H040256-006 Work Order #...: JANPM1AA Matrix.....: WQ
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #.....: 6221310

Prep Date....: 08/09/06 Analysis Date..: 08/09/06

Prep Batch #...: 6221524

Dilution Factor: 1 Method.....: SW846 8260B

		REPORTIN	IG .
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	ND	1.0	\mathtt{ug}/\mathtt{L}
Xylenes (total)	ND	3.0	ug/L

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Toluene-d8	97	(71 - 118)
1,2-Dichloroethane-d4	98	(64 - 135)
4-Bromofluorobenzene	96	(70 - 118)
Dibromofluoromethane	93	(64 - 128)

Client Sample ID: RB-020806

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-006 Work Order #...: JANPM1AC Matrix...... WQ
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #.....:

Prep Batch #...: 6219146

Dilution Factor: 1.01 Method.....: SW846 8270C

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

	PERCENT	RECOVERY
SURROGATE	RECOVERY	<u>LIMITS</u>
2,4,6-Tribromophenol	73	(19 - 138)
2-Fluorobiphenyl	66	(35 - 115)
2-Fluorophenol	71	(10 - 118)
Nitrobenzene-d5	73	(39 - 115)
Phenol-d5	71	(18 - 115)
Terphenyl-d14	73	(17 - 129)

Client Sample ID: SW-01

GC/MS Volatiles

Lot-Sample #...: C6H040256-007 Work Order #...: JANPV1AA Matrix...... WG

Prep Date....: 08/09/06 Analysis Date..: 08/09/06 Prep Batch #...: 6221524

Dilution Factor: 1 Method.....: SW846 8260B

		REPORTIN	1G
PARAMETER	RESULT	LIMIT	UNITS
Benzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Toluene	0.23 J	1.0	ug/L
Xylenes (total)	ND	3.0	ug/L
			_

PERCENT	RECOVERY
RECOVERY	LIMITS
98	(71 - 118)
94	(64 - 135)
92	(70 - 118)
89	(64 - 128)
	RECOVERY 98 94 92

NOTE(S):

J Estimated result. Result is less than RL.

Client Sample ID: SW-01

GC/MS Semivolatiles

Lot-Sample #: C6H040256-0	07 Work Order #: JANPV1AC	Matrix WG
Date Sampled: 08/02/06	Date Received: 08/04/06	MS Run #:

Prep Date....: 08/07/06 **Analysis Date..:** 08/09/06

Prep Batch #...: 6219146

Benzo(ghi)perylene

Dilution Factor: 0.96 Method.....: SW846 8270C

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	ND	9.6	ug/L
Naphthalene	ND	9.6	ug/L
Acenaphthylene	ND	9.6	ug/L
Acenaphthene	ND	9.6	ug/L
Fluorene	ND	9.6	ug/L
Phenanthrene	ND	9.6	ug/L
Anthracene	ND	9.6	ug/L
Fluoranthene	ND	9.6	ug/L
Pyrene	ND	9.6	ug/L
Benzo(a)anthracene	ND	9.6	ug/L
Chrysene	ND	9.6	ug/L
Benzo(b)fluoranthene	ND	9.6	ug/L
Benzo(k)fluoranthene	ND	9.6	ug/L
Benzo(a)pyrene	ND	9.6	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.6	ug/L
Dibenzo(a,h)anthracene	ND	9.6	ug/L

ND

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2,4,6-Tribromophenol	79	(19 - 138)
2-Fluorobiphenyl	69	(35 - 115)
2-Fluorophenol	72	(10 - 118)
Nitrobenzene-d5	77	(39 - 115)
Phenol-d5	71	(18 - 115)
Terphenyl-d14	38	(17 - 129)

9.6

ug/L

Client Sample ID: MW-10

GC/MS Volatiles

Lot-Sample #...: C6H040256-008 Work Order #...: JANPX1AA Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #.....: 6221310

(64 - 128)

Prep Date....: 08/09/06 Analysis Date..: 08/09/06

Prep Batch #...: 6221524

Dibromofluoromethane

Dilution Factor: 1 Method....: SW846 8260B

		REPORTING	
PARAMETER	RESULT	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
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Toluene-d8	92	(71 - 118)	
1,2-Dichloroethane-d4	90	(64 - 135)	
4-Bromofluorobenzene	89	(70 - 118)	

87

Client Sample ID: MW-10

GC/MS Semivolatiles

ug/L

9.9

Lot-Sample #...: C6H040256-008 Work Order #...: JANPX1AC Matrix..... WG Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #....:

Prep Date....: 08/07/06 Analysis Date..: 08/09/06

Prep Batch #...: 6219146

Benzo(ghi)perylene

Dilution Factor: 0.99 Method..... SW846 B270C

PARAMETER	RESULT	REPORTING LIMIT UNITS	
2-Methylnaphthalene	ND ND	9.9 ug/L	
Naphthalene	ND	9.9 ug/L	
Acenaphthylene	ND	9.9 ug/L	
Acenaphthene	ND	9.9 ug/L	
Fluorene	ND	9.9 ug/L	
Phenanthrene	ND	9.9 ug/L	
Anthracene	ND	9.9 ug/L	
Fluoranthene	ND	9. 9 ug/L	
Pyrene	ND	9.9 ug/L	
Benzo(a) anthracene	ND	9.9 ug/L	
Chrysene	ND	9.9 ug/L	
Benzo(b) fluoranthene	ND	9.9 ug/L	
Benzo(k) fluoranthene	ND	9.9 ug/ L	
Benzo(a)pyrene	ND	9.9 ug/L	
Indeno(1,2,3-cd)pyrene	ND	9.9 ug/L	
Dibenzo(a,h)anthracene	ND	9.9 ug/L	

ND

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
2,4,6-Tribromophenol	74	(19 - 138)
2-Fluorobiphenyl	62	(35 - 115)
2-Fluorophenol	70	(10 ~ 118)
Nitrobenzene-d5	71	(39 - 115)
Phenol-d5	70	(18 - 115)
Terphenyl-d14	61	(17 - 129)

Client Sample ID: MW-7

GC/MS Volatiles

Lot-Sample #...: C6H040256-009 Work Order #...: JANP01AA Matrix...... WG

Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #.....: 6224059

Prep Date....: 08/12/06 Analysis Date..: 08/12/06

Prep Batch #...: 6224096

Dilution Factor: 100 Method.....: SW846 8260B

		REPORTING	;
PARAMETER	RESULT	LIMIT	UNITS
Benzene	2600	100	ug/L
Ethylbenzene	2500	100	ug/L
Toluene	570	100	ug/L
Xylenes (total)	1500	300	ug/L

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Toluene-d8	96	(71 - 118)
1,2-Dichloroethane-d4	104	(64 - 135)
4-Bromofluorobenzene	98	(70 - 118)
Dibromofluoromethane	97	(64 - 128)

Client Sample ID: MW-7

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-009 Work Order #...: JANP01AC Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #....:

Prep Date....: 08/07/06 Analysis Date..: 08/09/06

Prep Batch #...: 6219146

Dilution Factor: 0.94 Method....: SW846 8270C

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	310 B	9.4	ug/L
Naphthalene	1500 B	9.4	ug/L
Acenaphthylene	ND	9.4	ug/L
Acenaphthene	130 B	9.4	ug/L
Fluorene	24	9.4	ug/L
Phenanthrene	28	9.4	ug/L
Anthracene	3.9 J	9.4	ug/L
Fluoranthene	ND	9.4	ug/L
Pyrene	ND	9.4	ug/L
Benzo(a)anthracene	ND	9.4	ng/L
Chrysene	ND	9.4	ug/L
Benzo(b) fluoranthene	ND	9.4	ug/L
Benzo(k) fluoranthene	ND	9.4	ug/L
Benzo(a)pyrene	ND	9.4	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.4	ug/L
Dibenzo(a,h)anthracene	ND	9.4	ug/L
Benzo(ghi)perylene	ND	9 - 4	ug/L
	PERCENT	RECOVERY	?
SURROGATE	RECOVERY	LIMITS	
2,4,6-Tribromophenol	66	(19 - 13	(8)
2-Fluorobiphenyl	56	(35 - 11	.5)
2-Fluorophenol	58	(10 - 11	.8)
Nitrobenzene-d5	93	(39 - 11	.5)
Phenol-d5	59	(18 - 11	.5)
Terphenyl-d14	42	(17 - 12	9)

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

J Estimated result. Result is less than RL.

Client Sample ID: MW-7

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-009 Work Order #...: JANP02AC Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #....:

Prep Date....: 08/07/06 Analysis Date..: 08/12/06

Prep Batch #...: 6219146

Dilution Factor: 94 Method.....: SW846 8270C

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	250 J	940	ug/L
Naphthalene	3600	940	ug/L
Acenaphthylene	ND	940	ug/L
cenaphthene	ND	940	ug/L
luorene	ND	940	ug/L
Phenanthrene	ND	940	ug/L
Anthracene	ND	940	ug/L
Fluoranthene	ND	940	ug/L
Pyrene	ND	940	ug/L
Senzo(a) anthracene	ND	940	ug/L
hrysene	ND	940	ug/L
enzo(b)fluoranthene	ND	940	ug/L
enzo(k)fluoranthene	ND	940	ug/L
enzo(a)pyrene	ND	940	ug/L
ndeno(1,2,3-cd)pyrene	ND	940	ug/L
ibenzo(a,h)anthracene	ND	940	ug/L
enzo(ghi)perylene	ND	940	ug/L
	PERCENT	RECOVERY	
URROGATE	RECOVERY	LIMITS	
4,6-Tribromophenol	NC, DIL	(19 - 13	8)
-Fluorobiphenyl	NC, DIL	(35 - 11	5)
Fluorophenol	NC, DIL	(10 - 11	8)
trobenzene-d5	NC, DIL	(39 - 11	5)
nenol-d5	NC, DIL	(18 - 11	5)
erphenyl-d14	NC, DIL	(17 - 12	9)

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.

Client Sample ID: MW-70

GC/MS Volatiles

Lot-Sample #...: C6H040256-010 Work Order #...: JANP11AA

Matrix..... WG

NW-1 DUP

Date Sampled...: 08/02/06

4-Bromofluorobenzene

Dibromofluoromethane

Date Received..: 08/04/06 Analysis Date..: 08/12/06

MS Rum #..... 6224059

Prep Date....: 08/12/06 Prep Batch #...: 6224096

Dilution Factor: 125

Method.....: SW846 8260B

|--|

(70 - 118)

(64 - 128)

PARAMETER	RESULT	LIMIT_	UNITS
Benzene	2600	120	ug/L
Ethylbenzene	2600	120	ug/L
Toluene	580	120	ug/L
Xylenes (total)	1500	380	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	<u>LIMI</u> TS	
Toluene-d8	98	(71 - 110	8)
1.2-Dichloroethane-d4	107	(64 - 13	5)

101

108

Client Sample ID: MW-70

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-010 Work Order #...: JANP11AC Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #....:

Prep Date....: 08/07/06 Analysis Date..: 08/09/06

Prep Batch #...: 6219146

Dilution Factor: 0.94 Method.....: SWB46 8270C

		REPORTIN	I G
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	350 E	9.4	ug/L
Naphthalene	1600 B	9.4	ug/L
Acenaphthylene	ND	9.4	ug/L
Acenaphthene	140 B	9.4	ug/L
Pluorene	27	9.4	ug/L
Phenanthrene	30	9.4	ug/L
Anthracene	4.3 J	9.4	ug/L
Fluoranthen e	ND	9.4	ug/L
Pyrene	ND	9.4	ug/L
Benzo(a)anthracene	ND	9.4	ug/L
Chrysene	ND	9.4	ug/L
Benzo(b)fluoranthene	ND	9.4	ug/L
Benzo(k)fluoranthene	ND	9.4	ug/L
Benzo(a)pyrene	ND	9.4	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.4	ug/L
Dibenzo(a,h) anthracene	ND	9.4	ug/L
Benzo(ghi)perylene	ND	9.4	ug/L

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
2,4,6-Tribromophenol	74	(19 - 138)
2-Fluorobiphenyl	62	(35 - 115)
2-Fluorophenol	66	(10 - 118)
Nitrobenzene-d5	107	(39 - 115)
Phenol-d5	67	(18 - 115)
Terphenyl-d14	45	(17 ~ 129)

NOTE(S):

E Estimated result. Result concentration exceeds the calibration range.

J Estimated result. Result is less than RL.

Client Sample ID: MW-70

GC/MS Semivolatiles

Lot-Sample #...: C6H040256-010 Work Order #...: JANP12AC Matrix.....: WG
Date Sampled...: 08/02/06 Date Received..: 08/04/06 MS Run #....:

Prep Batch #...: 6219146

Dilution Factor: 94 Method.....: SW846 8270C

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	300 J	940	ug/L
Naphthalene	4400	940	ug/L
Acenaphthylene	ND	940	ug/L
Acenaphthene	ND	940	ug/L
luorene	ND .	940	ug/L
henanthrene	ND	940	ug/L
nthracene	ND	940	ug/L
luoranthene	ND	940	ug/L
Pyrene	ND	940	ug/L
Benzo(a) anthracene	ND	940	ug/L
Thrysene	ND	940	ug/L
enzo(b)fluoranthene	ND	940	ug/L
Senzo(k)fluoranthene	ND	940	ug/L
enzo(a)pyrene	ND	940	ug/L
indeno(1,2,3-cd)pyrene	ND	940	ug/L
ibenzo(a,h)anthracene	ND	940	ug/L
enzo(ghi)perylene	ND	940	ug/L
	PERCENT	RECOVERY	
URROGATE	RECOVERY	LIMITS	
,4,6-Tribromophenol	NC, DIL	(19 - 13	8)
-Fluorobiphenyl	NC, DIL	(35 - 11	5)
-Fluorophenol	NC, DIL	(10 - 11	8)
itrobenzene-d5	NC, DIL	(39 - 11	
henol-d5	NC, DIL	(18 - 11	
erphenyl-d14	NC, DIL	(17 - 12	9)

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.

Client Sample ID: MW-23

GC/MS Volatiles

Lot-Sample #...: C6H040256-011 Work Order #...: JANP31AA

Matrix....: WG

Date Sampled...: 08/02/06

Date Received..: 08/04/06

MS Run #.....: 6224059

Prep Date....: 08/12/06

Analysis Date..: 08/12/06

Prep Batch #...: 6224096

Method..... SW846 8260B

Dilution Factor: 1

PARAMETER	RESULT	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

PERCENT	RECOVERY
RECOVERY	LIMITS
95	(71 - 118)
102	(64 - 135)
100	(70 - 118)
100	(64 - 128)
	RECOVERY 95 102 100

Client Sample ID: MW-23

GC/MS Semivolatiles

Lot-Sample #: C6H040256-011	Work Order #: JANP31AC	Matrix WG
Date Sampled: 08/02/06	Date Received: 08/04/06	MS Run #:
Prep Date: 08/07/06	Analysis Date: 08/09/06	

Prep Date....: 08/07/06 Prep Batch #...: 6219146

Dilution Factor: 0.94 Method.....: SW846 8270C

		REPORTIN	īG
PARAMETER	RESULT	LIMIT	UNITS
2-Methylnaphthalene	ND	9.4	ug/L
Naphthalene	3.6 J	9.4	ug/L
Acenaphthylene	ND	9.4	ug/L
Acenaphthene	ND	9.4	ug/L
Fluorene	ND	9.4	ug/L
Phenanthrene	ND	9.4	ug/L
Anthracene	ND	9.4	ug/L
Fluoranthene	ND	9.4	ug/L
Pyrene	ND	9.4	ug/L
Benzo(a)anthracene	ND	9.4	ug/L
Chrysene	ND	9.4	ug/L
Benzo(b)fluoranthene	ND	9.4	ug/L
Benzo(k)fluoranthene	ND	9.4	ug/L
Benzo(a)pyrene	ND	9.4	ug/L
Indeno(1,2,3-cd)pyrene	ND	9.4	ug/L
Dibenzo(a,h)anthracene	ND	9.4	ug/L
Benzo(ghi)perylene	ND	9.4	ug/L
	PERCENT	RECOVERY	ť
SURROGATE	RECOVERY	LIMITS	

PERCENT	RECOVERY
RECOVERY	LIMITS
56	(19 - 138)
43	(35 - 115)
49	(10 - 118)
50	(39 - 115)
48	(18 - 115)
49	(17 - 129)
	56 43 49 50 48

NOTE(S):

J Estimated result. Result is less than RL.

Client Sample ID: TB-080206

GC/MS Volatiles

Lot-Sample #...: C6H040256-012 Work Order #...: JANP51AA Matrix...... WQ

Prep Date....: 08/12/06 Analysis Date..: 08/12/06

Prep Batch #...: 6224096

Dilution Factor: 1 Method....: SW846 8260B

		REPORTING		
PARAMETER	RESULT	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	

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Toluene-d8	95	(71 - 118)
1,2-Dichloroethane-d4	103	(64 - 135)
4-Bromofluorobenzene	101	(70 - 118)
Dibromofluoromethane	98	(64 - 128)

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DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

August 14, 2006

Mark Hofferbert 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. Hofferbert:

Thirteen groundwater samples were received from The RETEC Group, Inc. on August 4, 2006 The samples arrived cold (4°C) in brown plastic bottles, two 250-ml bottles for each sample. The Chain of Custody Record indicated that the samples were treated with lead carbonate and filtered in the field. pH's of the samples were about 14. 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, reagent blanks and calibration standard repeats 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 samples 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 µg CN⁻/L

ID	TOTAL CN	FREE CYANIDE
MW-12	415	<2.3
MW-13	300	<2.3
MW-14	281	<2.3
MW-16	368	<2.3
MW-17	183	<2.3
MW-20	172	<2.3
MW-21	448	<2.3
MW-22	540	<2.3
MW-23	321	<2.3
MW-160	370	<2.3
SW-01	24	2.4
SW-02	<3	<2.3
EB 080206	<3	<2.3
MATRIX SPIKE	96.6%	99.2%
MATRIX SPIKE DUP.	95.3%	95.4%
	MW-21	MW-20
REAGENT BLANK	<3	<2.3
CHECK STANDARD	96.2%	100.8%
CALIBRATION CHECK	103.0%	90.6%

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

Cleanon Hopke

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e-mail: hopkeef@clarkson.edu

Chain of Custody Record

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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.

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1001 W. Seneca Street, Suite 204 • Ithaca, NY 14850-3342
(607) 277-5716 Phone • (607) 277-9057 Fax
www.refree_comp

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