June 22, 2010
Ref. No. 31129-074

Mr. Jaspal Walia
Project Manager
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Subject: January 2010 Groundwater Monitoring Data
Leica Area C
Cheektowaga, New York
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

Enclosed you will find a copy of the "January 2010 Groundwater Monitoring Data, Leica Area C, Cheektowaga, New York" report prepared for Energy*Solutions* by EnviroGroup Limited for your review. This report presents the second round of groundwater sampling results for the MW-25 and MW-26 well pairs, and is a follow-up to the "Rowan Road Groundwater Investigation Report, Leica, Area C, Cheektowaga, New York," forwarded to you on November 18, 2009.

If you have any questions regarding this report, please feel free to call me at 801-303-1092.

Sincerely,

Robert E. McPeak, Jr., P.E., LEP
Department Manager, Environmental Services

REM/lhc
Enclosure
cc: J. Egan (w/enclosure)
C. Grabinski (w/enclosure)
E. Lovenduski (w/out enclosure)
C. O'Connor, NYSDOH (w/enclosure)

EnviroGroup Limited
Vapor Intrusion Solutions

June 17, 2010

LE-0614

Mr. Robert E. McPeak, JR., P.E., LEP
Energy*Solutions*, *LLC.*
100 Mill Plain Road,
Second Floor, Mail Box 106
Danbury, CT 06811

Re: January 2010 Groundwater Monitoring Data
Leica Area C
Cheektowaga, New York

Dear Bob:

The following letter presents groundwater data from samples collected on January 27, 2010 for the Leica Site. A site location map and Area C map are included as Figures 1 and 2 respectively. These data represent the second round of groundwater sampling pursuant to the *Vapor Intrusion Investigation Work Plan* (EnviroGroup, 2008) as approved by the New York State Department of Environmental Conservation (NYSDEC) on January 21, 2009. Monitoring well installation and an initial round of groundwater sampling were conducted during August and September, 2009. These results were summarized in the *Rowan Road Groundwater Investigation Report* (EnviroGroup, 2009).

For this sampling event, groundwater samples were collected from four monitoring wells (MW-25, 25A, 26, and 26A) on the south side of Rowan Road (Figure 3) on January 27, 2010.

The following sections of the letter present Sample Locations and Procedures, Results, Data Quality, and Conclusions.

1.0 Sample Locations and Procedures

On January 27, 2010, groundwater samples were collected from four wells (MW-25, MW-25A, MW-26, and MW-26A) located adjacent to Rowan Road and south of the Leica property (see Figure 1).

Field water quality parameters collected during this event included temperature, pH, electrical conductivity, and oxidation/reduction potential (ORP). Field water sampling sheets are

presented as an attachment to this letter report. Groundwater samples were collected using dedicated disposable polyethylene bailers and analyzed for volatile organic compounds (VOCs) by USEPA Method 8260; total and dissolved manganese by USEPA method 6010B; total and dissolved ferrous iron by method SM 3500-Fe B.4.c; total organic carbon (TOC) by method SM20 5310 C; chloride, nitrate, and sulfate by method 300.0; and pH by method SM 4500-H+B. Groundwater samples were analyzed by Columbia Analytical Services, Inc in Rochester, New York. Groundwater samples were collected in the same manner as described in the *Rowan Road Groundwater Investigation Report* (EnviroGroup, 2009).

2.0 Results

Compounds detected during this and/or the previous (September, 2009) sampling event are summarized in Table 1. Laboratory analytical reports for the January, 2010 samples are attached.
The groundwater analytical results are divided by well cluster and discussed below.

MW-25/25A Analytical Results

No VOCs were detected over the laboratory reporting limits in the shallow groundwater sample collected from overburden well MW-25. Detections of ferrous iron, manganese, TOC, chloride, nitrate, and sulfate were below the respective New York State Division of Water Technical and Operation Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Value (TOGS) values.

Chloroform, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride were detected in the groundwater sample from bedrock well MW-25A at concentrations of 6.1, 6.4, and 23 micrograms per liter (µg/L), respectively. The cis-1,2-DCE and vinyl chloride concentrations exceed the remedial action objectives (RAOs) of 5 µg/L for these compounds. There is no RAO for chloroform, but the concentration detected in the sample collected from MW-25A is below the TOGS value for chloroform of 7 µg/L.

No other VOCs were detected in the groundwater sample from well MW-25A. Detections of iron, manganese, TOC, chloride, nitrate, and sulfate were below the respective TOGS values.

MW-26/26A Analytical Results

Cis-1,2-DCE was detected in the groundwater sample from overburden well MW-26 at a concentration of 5.2 µg/L. Additionally, cis-1,2-DCE was detected in the duplicate sample from this well at a concentration of 5.4 µg/L. These concentrations slightly exceed the RAOs of 5 µg/L for this compound. No other VOCs were detected in the samples collected from overburden well MW-26. Detections of iron, manganese, TOC, chloride, nitrate, and sulfate were below the respective TOGS values.

Vinyl chloride and cis-1,2-DCE were detected in the groundwater sample from bedrock well MW-26A at concentrations of 270 and 490 µg/L, respectively, which are above the RAOs of 5 µg/L. No other VOCs were detected in bedrock well MW-26A. Detections of iron, manganese, TOC, chloride, nitrate, and sulfate were below the respective TOGS values.

3.0 Data Quality

Data quality control procedures included the collection of one field duplicate and one trip blank during the sampling event.

Field procedures were conducted in accordance with the approved work plan (EnviroGroup, 2008). Procedures included sample documentation and collection of duplicate, replicate, and trip blank samples. Sample handling and chain of custody requirements were followed as outlined by USEPA guidance (USEPA, 2002).

The following is a summary of data validation results for the January 2010 groundwater sampling event.

The trip blank had non-detectable results for all VOCs.

For sample/sample duplicate pair results that were greater than 5 times the reporting limit, the calculated relative percent differences (RPD) were less than 16% for all analytes.

For sample/sample duplicate pair results that were less than 5 times the reporting limit, the calculated relative percent differences (RPD) were less than +/- the reporting limit for all analytes with the exception of dissolved ferrous iron.

Analyte	Sample ID	Results (mg/L)	RL
Dissolved	MW-26	0.2	0.1
Ferrous Iron	DUP 01/27/10	0.32	0.1

These results were flagged with an "&" on Table 1.

A data validation package is provided as an attachment to this letter report.

4.0 Conclusions

The results of this groundwater monitoring event generally confirm the results from the previous sampling event (September, 2009). The results indicate that VOCs from the Leica site may have migrated in bedrock groundwater to the location of the MW-25 well pair, and in both shallow and bedrock groundwater to the location of the MW-26 well pair, on the south side of Rowan Road.

VOC concentrations in bedrock groundwater were higher than concentrations in shallow groundwater in each well pair during both the September 2009 and January 2010 sampling events. This current groundwater data suggests that the potential for vapor intrusion in the vicinity of monitoring well pair MW-25/25A is low, based on the apparent presence of a shallow clean water lens as demonstrated by non-detectable concentrations from overburden well MW-25. Furthermore, the relatively low concentrations of vinyl chloride, cis-1,2-DCE, and chloroform in bedrock groundwater at well MW-25A also suggests that the risk of vapor intrusion is likely to be low in this area.

In addition, concentrations in overburden well MW-26 may be fluctuating with seasonal changes in the water table elevations. Concentrations of cis-1,2 DCE and vinyl chloride in overburden well MW-26 went from highs of 46 µg/L and 28 µg/L respectively in September of 2009 to lows of 5.2 µg/L and non-detected in January of 2010. These variations could be indicative of a seasonal clean water lens, which would decrease the potential for vapor intrusion following spring snowmelt and during wetter seasons.

The presence of cis-1,2-DCE and vinyl chloride in overburden well MW-26 could increase the potential for vapor intrusion in structures in this vicinity, although the potential for vapor intrusion could vary seasonally based on the September 2009 and January 2010 sampling events. Indoor air and sub-slab vapor sampling has been conducted at the two residences (130 and 134 Preston Road) nearest to the MW-26 well pair. These results are summarized in a separate report. When compared to the New York State Department of Health decision matrices (Matrix 1 and 2), the sub-slab vapor and indoor air results suggest no further action is needed relative to the vapor intrusion pathway for these residences.

We understand that Energy*Solutions* will be conducting additional rounds of groundwater sampling from the MW-25 and MW-26 well pairs. Data collected during these continued monitoring events will be assessed in order to confirm these conclusions.

We hope you find this information useful. If you have any questions, please contact us at (518) 258-3859.

Sincerely,
EnviroGroup Limited
E Lovenduski

Eric Lovenduski
Senior Project Manager

Attachments:

- Table 1: Groundwater Analytical Results
- Figures
- Field Sampling Sheets
- Laboratory Analytical Data
- Data Validation Memo

cc:

- Carl Grabinski
- John Egan

REFERENCES

New York State Division of Water Technical and Operation Guidance Series (1.1.1). Ambient Water Quality Standards and Guidance Values. New York, June 1998.

Guidance on Environmental Data Verification and Data Validation, USEPA, November, 2002.

Vapor Intrusion Investigation Work Plan, Leica Area C, Cheektowaga, New York. Prepared by EnviroGroup Limited, December 23, 2008.

Rowan Road Groundwater Investigation Report, Leica Area C, Cheektowaga, New York. Prepared by EnviroGroup Limited, November 16, 2009.

Letter to Energy*Solutions* "Vapor Intrusion Study in Private Homes". From NYSDEC, January 21, 2009.

TABLE

TABLE 1

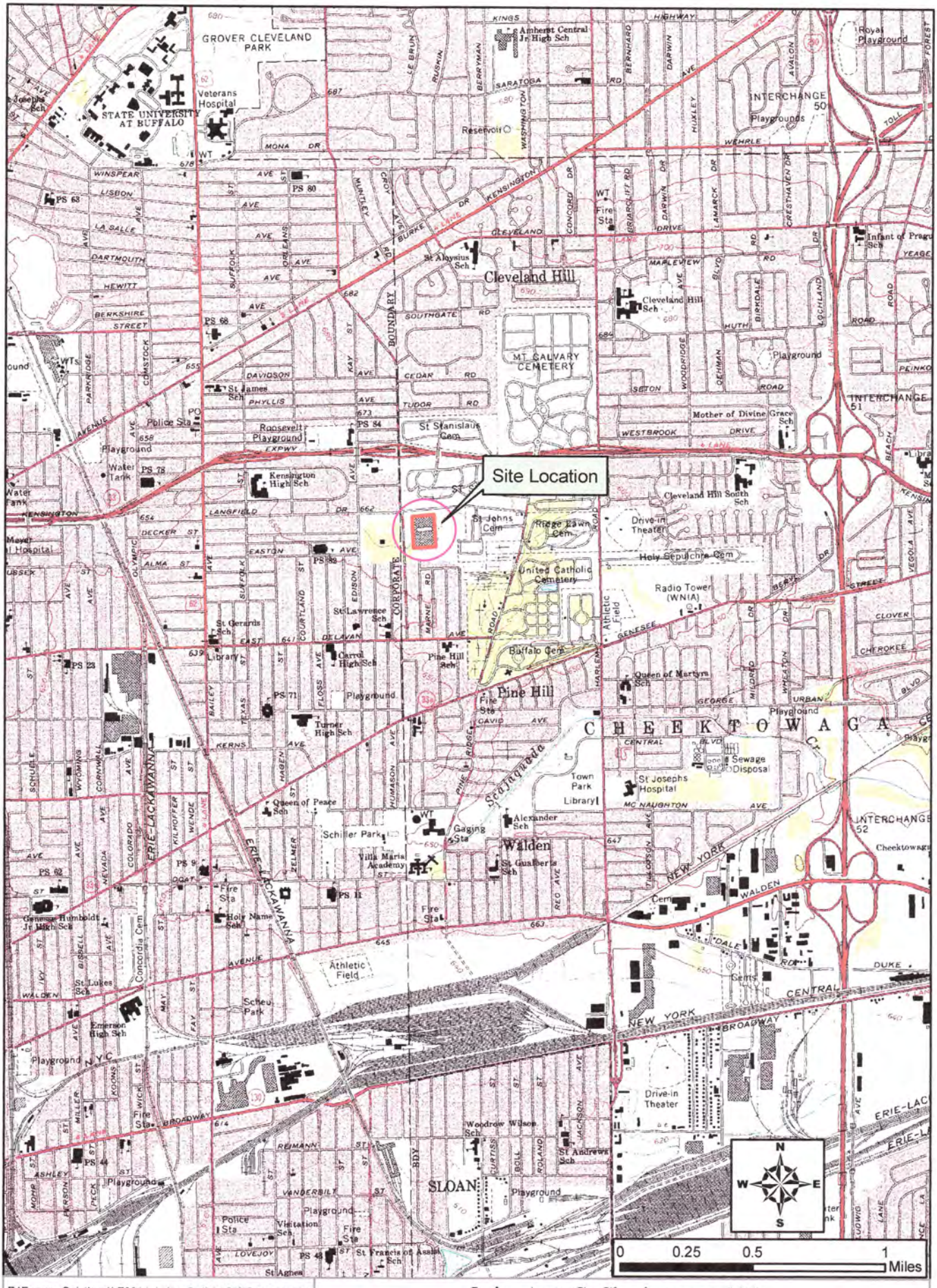
GROUNDWATER ANALYTICAL RESULTS

Leica
Cheektowaga, NY

Analytical Method	Parameter	TOGS Value (ug/L)	RAO (ug/L)	SAMPLE IDENTIFICATIO	MW-25	MW-25	MW-26	MW-26	DUP 01/27/10 (MW-26)	MW-25A	DUP 09/02/09 (MW-25A)	MW-25A	MW-26A	MW-26A	TB090209	TRIP BLANK
				SAMPLING DATE:	9/2/2009	1/27/2010	9/2/2009	1/27/2010	1/27/2010	9/2/2009	9/2/2009	1/27/2010	9/2/2009	1/27/2010	9/2/2009	1/27/2010
				Unit												
8260B	Chloroform	7	NA	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**14**	**14**	6.1	5.0 U	25 U	5.0 U	5.0 U
	cis-1,2-Dichloroethene	5	5	ug/L	5.0 U	5.0 U	**46**	**5.2**	**5.4**	5.0 U	5.0 U	**6.4**	**740 D**	**490**	5.0 U	5.0 U
	trans-1,2-Dichloroethene	5	NA	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**16**	25 U	5.0 U	5.0 U
	Toluene	5	NA	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**8.7**	**8.7**	5.0 U	5.0 U	25 U	5.0 U	5.0 U
	Vinyl Chloride	2	5	ug/L	5.0 U	5.0 U	**28**	5.0 U	5.0 U	**9.1**	**9.9**	**23**	**560 D**	**270**	5.0 U	5.0 U
	m,p-Xylenes	5	NA	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**8.3**	**8.1**	5.0 U	5.0 U	25 U	5.0 U	5.0 U
6010B	Iron, Dissolved	500*	NA	ug/L	100 U	NA	100 U	NA	NA	100 U	100 U	NA	130	NA	NA	NA
	Manganese, Total		NA	ug/L	NA	153	NA	1110	1110	NA	NA	215	NA	257	NA	NA
	Manganese, Dissolved		NA	ug/L	110	124	217	164	159	10 U	10 U	10 U	10 U	38	NA	NA
SM 3500	Ferrous Iron, Total	-	NA	mg/L	NA	2.99	NA	0.59	0.68	NA	NA	0.13	NA	0.37	NA	NA
	Ferrous Iron, Dissolved	-	NA	mg/L	NA	0.19	NA	0.2 &	0.32 &	NA	NA	0.1 U	NA	0.1 U	NA	NA
SM20 5310C	Carbon, Total Organic (TOC)	-	NA	mg/L	17.1	4.8	14.6	6.3	5.4	4.2	3.5	3.4	4.9	7.3	NA	NA
300.0	Chloride	250	NA	mg/L	49.4	33.0	550	532	523	50.3	59.9	53.9	46.1	85.5	NA	NA
	Nitrate as Nitrogen	10	NA	mg/L	0.88	0.50 U	0.50 U	0.50 U	0.50 U	0.91	0.91	0.50 U	0.50 U	0.50 U	NA	NA
	Sulfate	250	NA	mg/L	91.9	94.1	99.9	57.5	57.8	43.0	43.8	41.3	73.3	76.1	NA	NA
SM 4500-H+B	pH	-	NA	pH Units	7.15	7.15	7.18	7.22	7.28	7.69	8.34	9.26	8.49	8.02	NA	NA

Notes:
1. ug/L - Microgram per liter.
2. TOGS 1.1.1 Ambient Value from NYS Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.
3. RAO: Remedial Action Objective value.
4. "-" - TOGS 1.1.1 standard or guidance value does not exist.
5."D" - D flag; Sample re-analyzed at dilution.
6. **Bold -** Compound detected at or above TOGS 1.1.1 Ambient Value or RAO.
7. * Indicates the value applies to the sum of iron and manganese.
8. ** Indicates method reporting limit for cloride in the samples from MW-26 was 20 ug/L.
9. NA indicates parameter not analyzed, or not applicable.
10. & indicates sample/sample duplicate result relative percent difference exceeded quality assurance requirements.

FIGURES



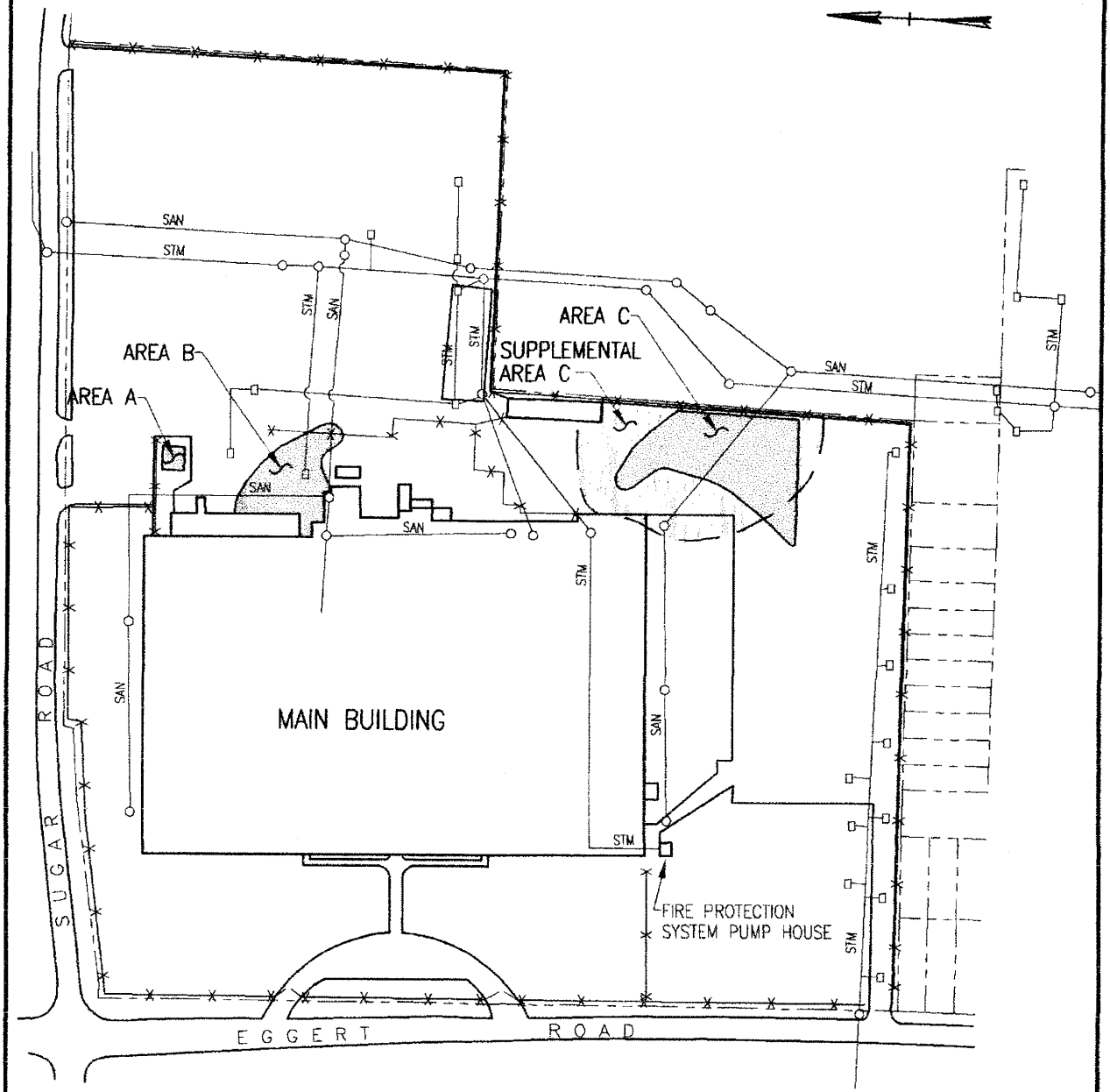
R:\Energy_Solutions\LE0614_Leica_Buffalo\GIS\SiteMap.mxd

EnviroGroup Limited
Centennial, Colorado

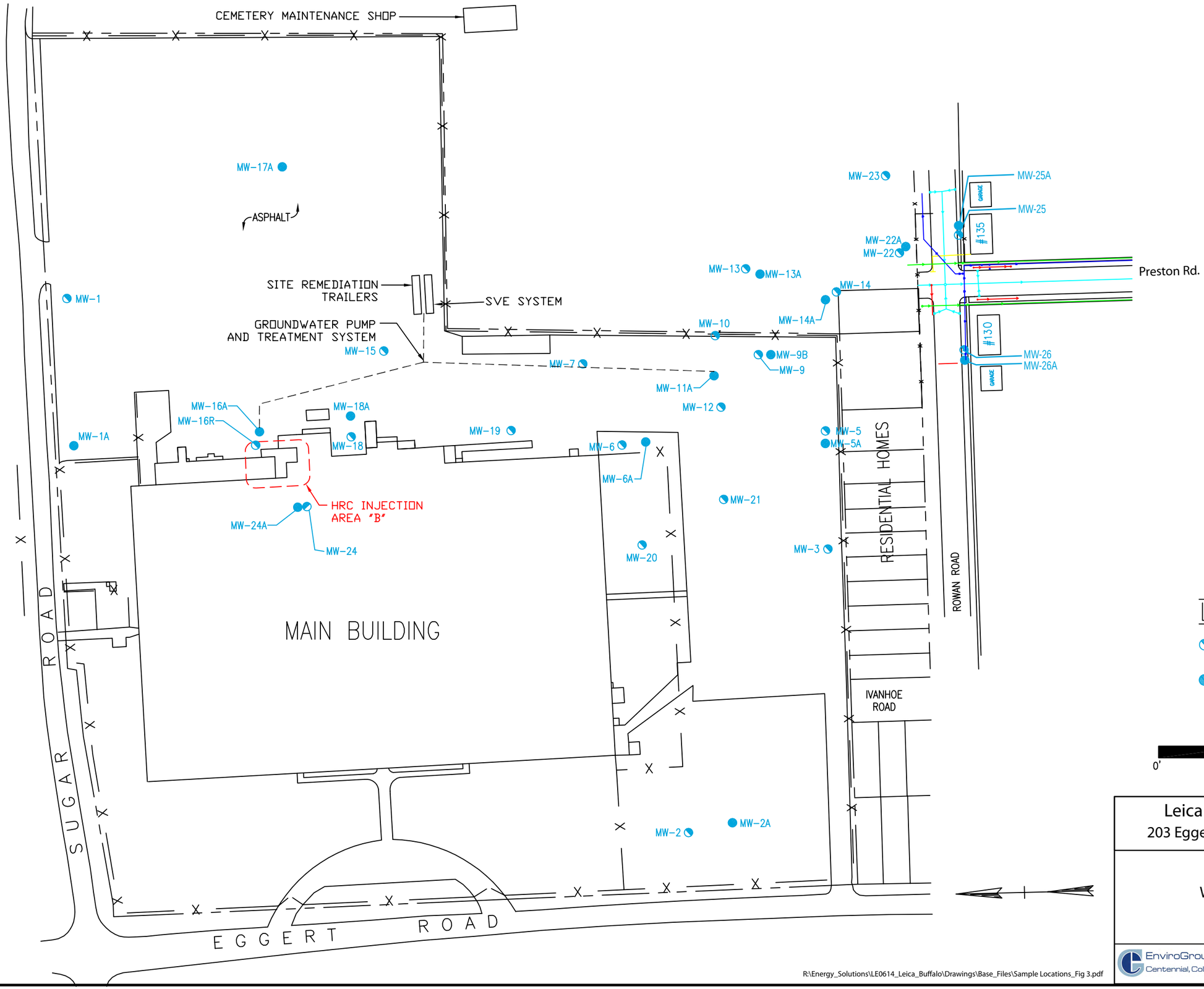
Figure 1
LE-0614

Leica Area C, Cheektowaga, NY

Site Map



DOCUMENT CONTROL NO.	PROJECT	LEICA, INC. EGGERT & SUGAR ROADS CHEEKTOWAGA, NEW YORK	NES, Inc. 44 Shelter Rock Road Danbury, CT 06810 (203) 798-5000	PROJECT # 3948-100 FILENAME: 3948100A SCALE: 1" =200' DATE: 4/9/98 BY: AD CK: MC FIGURE # 2
REVISION NO.	DRAWING	SITE PLAN		



R:\Energy_Solutions\LE0614_Leica_Buffalo\Drawings\Base_Files\Sample Locations_Fig 3.pdf

Leica Microsystems, Inc.
203 Eggert Rd., Cheektowaga, NY

WELL LOCATIONS

EnviroGroup Limited
Centennial, Colorado

Fig. 3	JCG
LE-0614	MAY 2010

ATTACHMENT A

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Leica LOCATION: Cheektowaga, NY

PROJECT NO. LE-0619 PERSONNEL: E. Lovencheski

INSTRUMENTS: (Conductivity, Temperature, pH, Redox, etc.) YSI Quatro

GENERAL					
WELL/LOCATION	MW-25				
WATER SOURCE					
DATE	1/27/10	1/27/10			
TIME	1057	1105			
SAMPLING CONDITIONS					
SAMPLING METHOD	Bailer				
DEPTH OF SAMPLE (BGS / TOC)	~8'				
WELL DEPTH (BGS / TOC)	10.51				
WATER LEVEL (BGS / TOC)	6.68				
ONE WET CASING VOLUME For 2 inch wells: (TD-WL)x0.16= 0.61 gallons x 3 = 1.83 gal			For 1 inch wells: (TD-WL)x0.04=_____ gallons For 4 inch wells: (TD-WL)x0.65=_____ gallons		
APPEARANCE	sl cloudy/brown	cl. brown			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	3			
TOTAL VOLUME REMOVED (GAL)	0	3			
TEMPERATURE (°C) or °F)	7.40	8.56			
CONDUCTIVITY (ATC, 25°C)	1.122	1.124			
pH	7.56	7.71			
REDOX (mV)	-20.2	-55.7			
~~OTHER~~ DO mg/L	5.12	4.63			
PURGE OR SAMPLE	Purge	Sample			
SAMPLES COLLECTED AND SAMPLE ANALYSIS					
GROSS UF/UP					
DISSOLVED ~~METALS~~ Mn, Fe, Fe F/HNO_3	X	X			
TOTAL ~~METALS~~ Mn, Fe, Fe UF/HNO_3	X	X			
PETROLEUM HCs UF/HCl					
VOLATILE ORGANICS UF/UP UF/HCl	X	X			
SEMIVOLATILE ORGANICS UF/UP					
pH, Cl, NO_3, SO_4, TOC	X	X			
LAB/DATE SUBMITTED		1/27/10			

CAS ROCHESTER - LABS PICK UP

EnviroGroup Limited

SAMPLER'S INITIALS EL DATE 1/27/10

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Lesca
LOCATION: Cheektowaga, NY
PROJECT NO. LE-0614
PERSONNEL: E Lowenduski
INSTRUMENTS: (Conductivity, Temperature, pH, Redox, etc.) YSI Coral

GENERAL	MW-26A				
WELL/LOCATION					
WATER SOURCE					
DATE	1/27/10	1/27/10			
TIME	0830	1240			
SAMPLING CONDITIONS					
SAMPLING METHOD	Purge w/ Submersible whale pump, Sample w/disposable bailer				
DEPTH OF SAMPLE (BGS / TOC)	~33				
WELL DEPTH (BGS / TOC)	34.4'				
WATER LEVEL (BGS / TOC)	4.48				
ONE WET CASING VOLUME For 2 inch wells: (TD-WL)x0.16=_____ gallons	For 1 inch wells: (TD-WL)x0.04=_____ gallons For 4 inch wells: (TD-WL)x0.65= 19.4 gallons				
APPEARANCE	sl. cloudy grey	sl. cloudy grey/brown			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	~20			
TOTAL VOLUME REMOVED (GAL)	0	~20			
TEMPERATURE (°C or °F)	11.34	10.62			
CONDUCTIVITY (ATC, 25°C)	1.1228	1.124			
pH	7.43	8.21			
REDOX (mV)	-120.8	8.5			
~~OTHER~~ DO mg/l	10.34	10.12			
PURGE OR SAMPLE	Purge	Sample			
SAMPLES COLLECTED AND SAMPLE ANALYSIS					
GROSS UF/UP					
DISSOLVED ~~METALS~~ Mn, Ferrous Fe F/HNO_3		X			
TOTAL ~~METALS~~ Mn, Ferrous Fe UF/HNO_3		X			
PETROLEUM HCs UF/HCl					
VOLATILE UF/UP ORGANICS UF/HCl		X			
SEMIVOLATILE ORGANICS UF/UP					
pH, Cl, NO_3, SO_4, TOC		X			
LAB/DATE SUBMITTED	1/27/10 - courier pick up CAS-Rochester				

EnviroGroup Limited

SAMPLER'S INITIALS EJL DATE 1/27/10

\\Eglserver\EGL_Admin\EGL STD Forms\Field Forms\Field Water Quality Sampling

* Well purged dry @ 1 well volume. Wait for recharge to sample.

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Leica LOCATION: Cheektowaga, NY

PROJECT NO. LE-0614 PERSONNEL: E Lovenduski

INSTRUMENTS: (Conductivity, Temperature, pH, Redox, etc.) YSI 600XL

GENERAL	MW-26 + DUP 01/27/10				
WELL/LOCATION					
WATER SOURCE					
DATE	1/27/10	1/27/10			
TIME	0919	0925			
SAMPLING CONDITIONS					
SAMPLING METHOD	Bailer				
DEPTH OF SAMPLE (BGS / TOC)	~~6.80~~ 18'				
WELL DEPTH (BGS / TOC)	19.74				
WATER LEVEL (BGS / TOC)	6.80				
ONE WET CASING VOLUME For 2 inch wells: (TD-WL)x0.16= 0.66 gallons 2.0 gal			For 1 inch wells: (TD-WL)x0.04=_____ gallons For 4 inch wells: (TD-WL)x0.65=_____ gallons		
APPEARANCE	cloudy brown	cloudy brown			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	2.5			
TOTAL VOLUME REMOVED (GAL)	0	2.5			
TEMPERATURE (°C or °F)	8.77	8.49			
CONDUCTIVITY (ATC, 25°C)	2.244	2.655			
pH	7.61	7.65			
REDOX (mV)	-103.9	59.0			
~~OTHER~~ DO mg/L	4.23	7.68			
PURGE OR SAMPLE	Purge	Sample			
SAMPLES COLLECTED AND SAMPLE ANALYSIS					
GROSS UF/UP					
DISSOLVED ~~METALS~~ Mn, Ferrous Fe, Fe F/HNO_3		X			
TOTAL ~~METALS~~ Mn, Ferrous Fe, UF/HNO_3		X			
PETROLEUM HCs UF/HCl					
VOLATILE ORGANICS UF/UP UF/HCl		X			
SEMIVOLATILE ORGANICS UF/UP					
pH, Cl, NO_3, SO_4, TOC		X			
LAB/DATE SUBMITTED		1/27/10			

EnviroGroup Limited

CAS Rochester. lab pick up

SAMPLER'S INITIALS EJL DATE 1/27/10

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Leica | LOCATION: Cheektowaga, NY

PROJECT NO. LE-0614 | PERSONNEL: E. Lorenduski

INSTRUMENTS: (Conductivity, Temperature, pH, Redox, etc.) YSI 600XL

GENERAL					
WELL/LOCATION	MW-25A				
WATER SOURCE					
DATE	1/27/10	1/27/10			
TIME	1028	1050			
SAMPLING CONDITIONS					
SAMPLING METHOD	Purge w/ submersible pump. Sample w/ bailer				
DEPTH OF SAMPLE (BGS / TOC)	~32'				
WELL DEPTH (BGS / TOC)	34.34				
WATER LEVEL (BGS / TOC)	1.74				
ONE WET CASING VOLUME	For 1 inch wells: (TD-WL)x0.04=______ gallons				
For 2 inch wells: (TD-WL)x0.16=______ gallons	For 4 inch wells: (TD-WL)x0.65= 21.1 gallons x3= 63.2				
APPEARANCE	cl. greenish gray	clear-sl. cloudy, gray			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	70			
TOTAL VOLUME REMOVED (GAL)	0	70			
TEMPERATURE (°C) or °F)	11.21	10.13			
CONDUCTIVITY (ATC, 25°C)	0.547	0.382			
pH	7.62	10.15			
REDOX (mV)	-156.2	-38.6			
~~OTHER~~ DO mg/l	2.90	3.47			
PURGE OR SAMPLE	Purge	Sample			
SAMPLES COLLECTED AND SAMPLE ANALYSIS					
GROSS UF/UP					
DISSOLVED ~~METALS~~ Mn, Ferrous Fe F/HNO$_3$		X			
TOTAL ~~METALS~~ Mn, Ferrous Fe UF/HNO$_3$		X			
PETROLEUM HCs UF/HCl					
VOLATILE ORGANICS UF/UP UF/HCl		X			
SEMIVOLATILE ORGANICS UF/UP					
pH, Cl, NO$_3$, SO$_4$, TOC		X			
LAB/DATE SUBMITTED		1/27/10			

CAS - Rochester - Lab pick up

EnviroGroup Limited

SAMPLER'S INITIALS [signature] DATE 1/27/10

\\Eglserver\EGL_Admin\EGL STD Forms\Field Forms\Field Water Quality Sampling

ATTACHMENT B

Columbia Analytical Services™ 1 Mustard Street, Suite 250, Rochester, NY 14609-6925 | 585.288.5380 | www.caslab.com

February 11, 2010 Service Request No: R1000483

Mr. Eric Lovenduski
Enviro Group Limited
46 Lake Ave.
Suite 102
Saratoga Springs, NY 12866

Laboratory Results for: LEICA LE-0614

Dear Mr. Lovenduski:

Enclosed are the results of the sample(s) submitted to our laboratory on January 27, 2010. For your reference, these analyses have been assigned our service request number **R1000483**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 134. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Bunker
Project Manager

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1000483

Lab ID	Client ID
R1000483-001	Trip Blank
R1000483-002	MW-26
R1000483-003	MW-26 Dissolved
R1000483-004	MW-25A
R1000483-005	MW-25A Dissolved
R1000483-006	MW-25
R1000483-007	MW-25 Dissolved
R1000483-008	MW-26A
R1000483-009	MW-26A Dissolved
R1000483-010	Dup 01/27/10
R1000483-011	Dup 01/27/10 Dissolved

All samples were received in good condition unless otherwise noted on the cooler receipt and preservation check form located at the end of this report.

All samples were preserved in accordance with approved analytical methods.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

Columbia Analytical Services

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

CAS/Rochester Lab ID # for State Certifications[1]

NELAP Accredited
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Nebraska Accredited
Navy Facilities Engineering Service Center Approved
Nevada ID # NY-00032
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID# 68-786
Rhode Island ID # 158
West Virginia ID # 292

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Trip Blank	**Units:**	µg/L
Lab Code:	R1000483-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/4/10 17:34		188649	
Benzene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Bromodichloromethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Bromoform	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Bromomethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
2-Butanone (MEK)	10	U	10	1	NA	2/4/10 17:34		188649	
Carbon Disulfide	10	U	10	1	NA	2/4/10 17:34		188649	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Chlorobenzene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Chloroethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Chloroform	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Chloromethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Dibromochloromethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Ethylbenzene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
2-Hexanone	10	U	10	1	NA	2/4/10 17:34		188649	
Methylene Chloride	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/4/10 17:34		188649	
Styrene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Tetrachloroethene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Toluene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Trichloroethene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
Vinyl Chloride	5.0	U	5.0	1	NA	2/4/10 17:34		188649	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Trip Blank	**Units:**	µg/L
Lab Code:	R1000483-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/4/10 17:34		188649	
m,p-Xylenes	5.0	U	5.0	1	NA	2/4/10 17:34		188649	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	2/4/10 17:34		
Toluene-d8	102	87-121	2/4/10 17:34		
Dibromofluoromethane	104	89-119	2/4/10 17:34		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 0925
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26		
Lab Code:	R1000483-002	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	**6.3**		mg/L	3.0	3	NA	2/5/10 17:01
Chloride	300.0	**532**		mg/L	20	100	NA	2/3/10 02:24
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.59**		mg/L	0.10	1	NA	1/27/10 16:10
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	1/28/10 02:30
pH	SM 4500-H+ B	**7.22**		pH Units		1	NA	1/27/10 15:45
Sulfate	300.0	**57.5**		mg/L	2.0	10	NA	1/28/10 02:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 0925
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26 Dissolved		
Lab Code:	R1000483-003	**Basis:**	NA

Iron, Divalent, Dissolved Phenanthroline Method 20th Ed.

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	**0.20**		mg/L	0.10	1	NA	1/27/10 16:10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 0925
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26		
Lab Code:	R1000483-002	**Basis:**	NA

Manganese, Total, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Total	6010B	**1110**		µg/L	10	1	2/ 1/10	2/4/10 19:35

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 0925
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26 Dissolved		
Lab Code:	R1000483-003	**Basis:**	NA

Manganese, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	**164**		µg/L	10	1	2/ 1/10	2/4/10 19:41

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 0925
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26	**Units:**	µg/L
Lab Code:	R1000483-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/4/10 18:01		188649	
Benzene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Bromodichloromethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Bromoform	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Bromomethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
2-Butanone (MEK)	10	U	10	1	NA	2/4/10 18:01		188649	
Carbon Disulfide	10	U	10	1	NA	2/4/10 18:01		188649	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Chlorobenzene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Chloroethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Chloroform	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Chloromethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Dibromochloromethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
cis-1,2-Dichloroethene	5.2		5.0	1	NA	2/4/10 18:01		188649	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Ethylbenzene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
2-Hexanone	10	U	10	1	NA	2/4/10 18:01		188649	
Methylene Chloride	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/4/10 18:01		188649	
Styrene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Tetrachloroethene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Toluene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Trichloroethene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
Vinyl Chloride	5.0	U	5.0	1	NA	2/4/10 18:01		188649	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 0925
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26	**Units:**	µg/L
Lab Code:	R1000483-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/4/10 18:01		188649	
m,p-Xylenes	5.0	U	5.0	1	NA	2/4/10 18:01		188649	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	97	85-122	2/4/10 18:01		
Toluene-d8	104	87-121	2/4/10 18:01		
Dibromofluoromethane	105	89-119	2/4/10 18:01		

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1050
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25A		
Lab Code:	R1000483-004	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	**3.4**		mg/L	1.0	1	NA	2/2/10 04:47
Chloride	300.0	**53.9**		mg/L	2.0	10	NA	1/28/10 03:15
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.13**		mg/L	0.10	1	NA	1/27/10 16:10
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	1/28/10 03:15
pH	SM 4500-H+ B	**9.26**		pH Units		1	NA	1/27/10 15:45
Sulfate	300.0	**41.3**		mg/L	2.0	10	NA	1/28/10 03:15

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1050
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25A Dissolved		
Lab Code:	R1000483-005	**Basis:**	NA

Iron, Divalent, Dissolved Phenanthroline Method 20th Ed.

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	0.10	U	mg/L	0.10	1	NA	1/27/10 16:10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1050
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25A		
Lab Code:	R1000483-004	**Basis:**	NA

Manganese, Total, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Total	6010B	**215**		µg/L	10	1	2/ 1/10	2/4/10 19:47

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1050
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25A Dissolved		
Lab Code:	R1000483-005	**Basis:**	NA

Manganese, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	10	U	µg/L	10	1	2/ 1/10	2/4/10 20:04

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1050
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25A	**Units:**	µg/L
Lab Code:	R1000483-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/4/10 18:29		188649	
Benzene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Bromodichloromethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Bromoform	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Bromomethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
2-Butanone (MEK)	10	U	10	1	NA	2/4/10 18:29		188649	
Carbon Disulfide	10	U	10	1	NA	2/4/10 18:29		188649	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Chlorobenzene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Chloroethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Chloroform	**6.1**		5.0	1	NA	2/4/10 18:29		188649	
Chloromethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Dibromochloromethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
cis-1,2-Dichloroethene	**6.4**		5.0	1	NA	2/4/10 18:29		188649	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Ethylbenzene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
2-Hexanone	10	U	10	1	NA	2/4/10 18:29		188649	
Methylene Chloride	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/4/10 18:29		188649	
Styrene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Tetrachloroethene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Toluene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Trichloroethene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
Vinyl Chloride	**23**		5.0	1	NA	2/4/10 18:29		188649	

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1050
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25A	**Units:**	µg/L
Lab Code:	R1000483-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/4/10 18:29		188649	
m,p-Xylenes	5.0	U	5.0	1	NA	2/4/10 18:29		188649	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	2/4/10 18:29		
Toluene-d8	105	87-121	2/4/10 18:29		
Dibromofluoromethane	105	89-119	2/4/10 18:29		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1105
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25		
Lab Code:	R1000483-006	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	**4.8**		mg/L	1.0	1	NA	2/2/10 05:05
Chloride	300.0	**33.0**		mg/L	2.0	10	NA	1/28/10 03:30
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**2.99**		mg/L	0.20	2	NA	1/27/10 16:10
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	1/28/10 03:30
pH	SM 4500-H+ B	**7.15**		pH Units		1	NA	1/27/10 15:45
Sulfate	300.0	**94.1**		mg/L	2.0	10	NA	1/28/10 03:30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1105
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25 Dissolved		
Lab Code:	R1000483-007	**Basis:**	NA

Iron, Divalent, Dissolved Phenanthroline Method 20th Ed.

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	**0.19**		mg/L	0.10	1	NA	1/27/10 16:10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1105
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25		
Lab Code:	R1000483-006	**Basis:**	NA

Manganese, Total, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Total	6010B	**153**		µg/L	10	1	2/ 1/10	2/4/10 20:10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1105
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25 Dissolved		
Lab Code:	R1000483-007	**Basis:**	NA

Manganese, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	**124**		µg/L	10	1	2/ 1/10	2/4/10 20:17

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1105
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25	**Units:**	µg/L
Lab Code:	R1000483-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/4/10 18:56		188649	
Benzene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Bromodichloromethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Bromoform	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Bromomethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
2-Butanone (MEK)	10	U	10	1	NA	2/4/10 18:56		188649	
Carbon Disulfide	10	U	10	1	NA	2/4/10 18:56		188649	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Chlorobenzene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Chloroethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Chloroform	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Chloromethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Dibromochloromethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Ethylbenzene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
2-Hexanone	10	U	10	1	NA	2/4/10 18:56		188649	
Methylene Chloride	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/4/10 18:56		188649	
Styrene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Tetrachloroethene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Toluene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Trichloroethene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
Vinyl Chloride	5.0	U	5.0	1	NA	2/4/10 18:56		188649	

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1105
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-25	**Units:**	µg/L
Lab Code:	R1000483-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/4/10 18:56		188649	
m,p-Xylenes	5.0	U	5.0	1	NA	2/4/10 18:56		188649	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	2/4/10 18:56		
Toluene-d8	106	87-121	2/4/10 18:56		
Dibromofluoromethane	109	89-119	2/4/10 18:56		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1240
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26A		
Lab Code:	R1000483-008	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	**7.3**		mg/L	1.0	1	NA	2/2/10 05:23
Chloride	300.0	**85.5**		mg/L	2.0	10	NA	1/28/10 03:45
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.37**		mg/L	0.10	1	NA	1/27/10 16:10
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	1/28/10 03:45
pH	SM 4500-H+ B	**8.02**		pH Units		1	NA	1/27/10 15:45
Sulfate	300.0	**76.1**		mg/L	2.0	10	NA	1/28/10 03:45

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1240
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26A Dissolved		
Lab Code:	R1000483-009	**Basis:**	NA

Iron, Divalent, Dissolved Phenanthroline Method 20th Ed.

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	0.10	U	mg/L	0.10	1	NA	1/27/10 16:10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1240
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26A		
Lab Code:	R1000483-008	**Basis:**	NA

Manganese, Total, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Total	6010B	257		µg/L	10	1	2/ 1/10	2/4/10 20:23

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1240
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26A Dissolved		
Lab Code:	R1000483-009	**Basis:**	NA

Manganese, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	**38**		µg/L	10	1	2/ 1/10	2/4/10 20:28

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1240
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26A	**Units:**	µg/L
Lab Code:	R1000483-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	100	U	100	5	NA	2/5/10 12:24		188813	
Benzene	25	U	25	5	NA	2/5/10 12:24		188813	
Bromodichloromethane	25	U	25	5	NA	2/5/10 12:24		188813	
Bromoform	25	U	25	5	NA	2/5/10 12:24		188813	
Bromomethane	25	U	25	5	NA	2/5/10 12:24		188813	
2-Butanone (MEK)	50	U	50	5	NA	2/5/10 12:24		188813	
Carbon Disulfide	50	U	50	5	NA	2/5/10 12:24		188813	
Carbon Tetrachloride	25	U	25	5	NA	2/5/10 12:24		188813	
Chlorobenzene	25	U	25	5	NA	2/5/10 12:24		188813	
Chloroethane	25	U	25	5	NA	2/5/10 12:24		188813	
Chloroform	25	U	25	5	NA	2/5/10 12:24		188813	
Chloromethane	25	U	25	5	NA	2/5/10 12:24		188813	
Dibromochloromethane	25	U	25	5	NA	2/5/10 12:24		188813	
1,1-Dichloroethane	25	U	25	5	NA	2/5/10 12:24		188813	
1,2-Dichloroethane	25	U	25	5	NA	2/5/10 12:24		188813	
1,1-Dichloroethene	25	U	25	5	NA	2/5/10 12:24		188813	
cis-1,2-Dichloroethene	**490**		25	5	NA	2/5/10 12:24		188813	
trans-1,2-Dichloroethene	25	U	25	5	NA	2/5/10 12:24		188813	
1,2-Dichloropropane	25	U	25	5	NA	2/5/10 12:24		188813	
cis-1,3-Dichloropropene	25	U	25	5	NA	2/5/10 12:24		188813	
trans-1,3-Dichloropropene	25	U	25	5	NA	2/5/10 12:24		188813	
Ethylbenzene	25	U	25	5	NA	2/5/10 12:24		188813	
2-Hexanone	50	U	50	5	NA	2/5/10 12:24		188813	
Methylene Chloride	25	U	25	5	NA	2/5/10 12:24		188813	
4-Methyl-2-pentanone (MIBK)	50	U	50	5	NA	2/5/10 12:24		188813	
Styrene	25	U	25	5	NA	2/5/10 12:24		188813	
1,1,2,2-Tetrachloroethane	25	U	25	5	NA	2/5/10 12:24		188813	
Tetrachloroethene	25	U	25	5	NA	2/5/10 12:24		188813	
Toluene	25	U	25	5	NA	2/5/10 12:24		188813	
1,1,1-Trichloroethane	25	U	25	5	NA	2/5/10 12:24		188813	
1,1,2-Trichloroethane	25	U	25	5	NA	2/5/10 12:24		188813	
Trichloroethene	25	U	25	5	NA	2/5/10 12:24		188813	
Vinyl Chloride	**270**		25	5	NA	2/5/10 12:24		188813	

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10 1240
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	MW-26A	**Units:**	µg/L
Lab Code:	R1000483-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	25	U	25	5	NA	2/5/10 12:24		188813	
m,p-Xylenes	25	U	25	5	NA	2/5/10 12:24		188813	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	2/5/10 12:24		
Toluene-d8	109	87-121	2/5/10 12:24		
Dibromofluoromethane	107	89-119	2/5/10 12:24		

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Dup 01/27/10		
Lab Code:	R1000483-010	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	**5.4**		mg/L	3.0	3	NA	2/5/10 17:56
Chloride	300.0	**523**		mg/L	20	100	NA	2/3/10 03:13
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.68**		mg/L	0.10	1	NA	1/27/10 16:10
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	1/28/10 04:00
pH	SM 4500-H+ B	**7.28**		pH Units		1	NA	1/27/10 15:45
Sulfate	300.0	**57.8**		mg/L	2.0	10	NA	1/28/10 04:00

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Dup 01/27/10 Dissolved		
Lab Code:	R1000483-011	**Basis:**	NA

Iron, Divalent, Dissolved Phenanthroline Method 20th Ed.

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	**0.32**		mg/L	0.10	1	NA	1/27/10 16:10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Dup 01/27/10		
Lab Code:	R1000483-010	**Basis:**	NA

Manganese, Total, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Total	6010B	**1110**		µg/L	10	1	2/ 1/10	2/4/10 20:34

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Dup 01/27/10 Dissolved		
Lab Code:	R1000483-011	**Basis:**	NA

Manganese, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	**159**		µg/L	10	1	2/ 1/10	2/4/10 20:40

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Dup 01/27/10	**Units:**	µg/L
Lab Code:	R1000483-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/5/10 11:56		188813	
Benzene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Bromodichloromethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Bromoform	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Bromomethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
2-Butanone (MEK)	10	U	10	1	NA	2/5/10 11:56		188813	
Carbon Disulfide	10	U	10	1	NA	2/5/10 11:56		188813	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Chlorobenzene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Chloroethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Chloroform	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Chloromethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Dibromochloromethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
cis-1,2-Dichloroethene	**5.4**		5.0	1	NA	2/5/10 11:56		188813	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Ethylbenzene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
2-Hexanone	10	U	10	1	NA	2/5/10 11:56		188813	
Methylene Chloride	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/5/10 11:56		188813	
Styrene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Tetrachloroethene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Toluene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Trichloroethene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
Vinyl Chloride	5.0	U	5.0	1	NA	2/5/10 11:56		188813	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	1/27/10
Sample Matrix:	Water	**Date Received:**	1/27/10
Sample Name:	Dup 01/27/10	**Units:**	µg/L
Lab Code:	R1000483-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/5/10 11:56		188813	
m,p-Xylenes	5.0	U	5.0	1	NA	2/5/10 11:56		188813	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	2/5/10 11:56		
Toluene-d8	110	87-121	2/5/10 11:56		
Dibromofluoromethane	107	89-119	2/5/10 11:56		

Comments:

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1000483-MB1	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	2/2/10 02:58
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	1/27/10 23:14
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	0.10	U	mg/L	0.10	1	NA	1/27/10 16:10
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	0.10	U	mg/L	0.10	1	NA	1/27/10 16:10
Nitrate as Nitrogen	300.0	0.050	U	mg/L	0.050	1	NA	1/27/10 23:14
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	1/27/10 23:14

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1000483-MB2	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Carbon, Total Organic (TOC)	SM20 5310 C	1.0	U	mg/L	1.0	1	NA	2/5/10 16:25
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	2/3/10 01:35

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1000483-MB1	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	10	U	µg/L	10	1	2/ 1/10	2/4/10 17:50
Manganese, Total	6010B	10	U	µg/L	10	1	2/ 1/10	2/4/10 17:50

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1000483-MB2	**Basis:**	NA

Manganese, Dissolved, by Inductively Coupled Plasma-Atomic Emission Spectrometry

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Manganese, Dissolved	6010B	10	U	µg/L	10	1	2/ 1/10	2/4/10 17:56

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1000868-03	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/4/10 12:30		188649	
Benzene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Bromodichloromethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Bromoform	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Bromomethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
2-Butanone (MEK)	10	U	10	1	NA	2/4/10 12:30		188649	
Carbon Disulfide	10	U	10	1	NA	2/4/10 12:30		188649	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Chlorobenzene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Chloroethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Chloroform	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Chloromethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Dibromochloromethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Ethylbenzene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
2-Hexanone	10	U	10	1	NA	2/4/10 12:30		188649	
Methylene Chloride	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/4/10 12:30		188649	
Styrene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Tetrachloroethene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Toluene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Trichloroethene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
Vinyl Chloride	5.0	U	5.0	1	NA	2/4/10 12:30		188649	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1000868-03	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/4/10 12:30		188649	
m,p-Xylenes	5.0	U	5.0	1	NA	2/4/10 12:30		188649	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	2/4/10 12:30		
Toluene-d8	104	87-121	2/4/10 12:30		
Dibromofluoromethane	104	89-119	2/4/10 12:30		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1000898-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Acetone	20	U	20	1	NA	2/5/10 11:29		188813	
Benzene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Bromodichloromethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Bromoform	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Bromomethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
2-Butanone (MEK)	10	U	10	1	NA	2/5/10 11:29		188813	
Carbon Disulfide	10	U	10	1	NA	2/5/10 11:29		188813	
Carbon Tetrachloride	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Chlorobenzene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Chloroethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Chloroform	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Chloromethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Dibromochloromethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,1-Dichloroethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,2-Dichloroethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,1-Dichloroethene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,2-Dichloropropane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Ethylbenzene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
2-Hexanone	10	U	10	1	NA	2/5/10 11:29		188813	
Methylene Chloride	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	2/5/10 11:29		188813	
Styrene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Tetrachloroethene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Toluene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Trichloroethene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
Vinyl Chloride	5.0	U	5.0	1	NA	2/5/10 11:29		188813	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R1000483
Project:	LEICA LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1000898-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
o-Xylene	5.0	U	5.0	1	NA	2/5/10 11:29		188813	
m,p-Xylenes	5.0	U	5.0	1	NA	2/5/10 11:29		188813	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	2/5/10 11:29		
Toluene-d8	109	87-121	2/5/10 11:29		
Dibromofluoromethane	107	89-119	2/5/10 11:29		

Comments:

Client: Enviro Group Limited
Project: LEICA LE-0614
Sample Matrix: Water

Service Request: R1000483
Date Analyzed: 1/27/10 - 2/ 2/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1000483-LCS1 Result	Expected	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	**9.64**	10.0	96	86 - 117
Chloride	300.0	**1.97**	2.00	98	90 - 110
Iron, Divalent (Ferrous Iron)	SM 3500-Fe B.4.c	**0.380**	0.40	95	77 - 129
Iron, Divalent (Ferrous Iron), Dissolved	SM 3500-Fe B.4.c	**0.380**	0.40	95	77 - 129
Nitrate as Nitrogen	300.0	**0.964**	1.00	96	90 - 110
Sulfate	300.0	**2.08**	2.00	104	90 - 110

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Enviro Group Limited
Project: LEICA LE-0614
Sample Matrix: Water

Service Request: R1000483
Date Analyzed: 2/ 3/10 - 2/ 5/10

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1000483-LCS2 Result	Expected	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	9.75	10.0	97	86 - 117
Chloride	300.0	1.90	2.00	95	90 - 110

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Enviro Group Limited
Project: LEICA LE-0614
Sample Matrix: Water

Service Request: R1000483
Date Analyzed: 2/ 4/10

Lab Control Sample Summary
Inorganic Parameters

Units: µg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1000483-LCS Result	Expected	% Rec	% Rec Limits
Manganese, Dissolved	6010B	485	500	97	80 - 120
Manganese, Total	6010B	485	500	97	80 - 120

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Enviro Group Limited
Project: LEICA LE-0614
Sample Matrix: Water

Service Request: R1000483
Date Analyzed: 2/ 4/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 188649

Analyte Name	Lab Control Sample RQ1000868-04 Result	Expected	% Rec	% Rec Limits
Acetone	**19.0**	20.0	95	50 - 150
Benzene	**20.0**	20.0	100	70 - 130
Bromodichloromethane	**19.7**	20.0	99	70 - 130
Bromoform	**21.0**	20.0	105	70 - 130
Bromomethane	**18.6**	20.0	93	50 - 150
2-Butanone (MEK)	**18.7**	20.0	94	50 - 150
Carbon Disulfide	**18.1**	20.0	90	70 - 130
Carbon Tetrachloride	**18.8**	20.0	94	70 - 130
Chlorobenzene	**20.8**	20.0	104	70 - 130
Chloroethane	**18.2**	20.0	91	70 - 130
Chloroform	**18.8**	20.0	94	70 - 130
Chloromethane	**19.6**	20.0	98	70 - 130
Dibromochloromethane	**21.6**	20.0	108	70 - 130
1,1-Dichloroethane	**18.9**	20.0	95	70 - 130
1,2-Dichloroethane	**18.3**	20.0	91	70 - 130
1,1-Dichloroethene	**19.4**	20.0	97	70 - 130
cis-1,2-Dichloroethene	**18.6**	20.0	93	70 - 130
trans-1,2-Dichloroethene	**18.7**	20.0	93	70 - 130
1,2-Dichloropropane	**20.2**	20.0	101	70 - 130
cis-1,3-Dichloropropene	**19.6**	20.0	98	70 - 130
trans-1,3-Dichloropropene	**20.1**	20.0	101	70 - 130
Ethylbenzene	**20.9**	20.0	105	70 - 130
2-Hexanone	**19.3**	20.0	97	70 - 130
Methylene Chloride	**19.1**	20.0	95	70 - 130
4-Methyl-2-pentanone (MIBK)	**19.7**	20.0	99	70 - 130
Styrene	**20.5**	20.0	103	70 - 130
1,1,2,2-Tetrachloroethane	**20.4**	20.0	102	70 - 130
Tetrachloroethene	**22.9**	20.0	114	70 - 130
Toluene	**20.8**	20.0	104	70 - 130
1,1,1-Trichloroethane	**17.7**	20.0	89	70 - 130
1,1,2-Trichloroethane	**21.1**	20.0	106	70 - 130
Trichloroethene	**19.2**	20.0	96	70 - 130
Vinyl Chloride	**21.6**	20.0	108	70 - 130
o-Xylene	**20.1**	20.0	100	70 - 130
m,p-Xylenes	**41.6**	40.0	104	70 - 130

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Enviro Group Limited
Project: LEICA LE-0614
Sample Matrix: Water

Service Request: R1000483
Date Analyzed: 2/ 5/10

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 188813

Analyte Name	Lab Control Sample RQ1000898-02 Result	Expected	% Rec	% Rec Limits
Acetone	**17.3**	20.0	86	50 - 150
Benzene	**20.3**	20.0	102	70 - 130
Bromodichloromethane	**19.8**	20.0	99	70 - 130
Bromoform	**20.4**	20.0	102	70 - 130
Bromomethane	**16.0**	20.0	80	50 - 150
2-Butanone (MEK)	**17.9**	20.0	89	50 - 150
Carbon Disulfide	**18.8**	20.0	94	70 - 130
Carbon Tetrachloride	**18.2**	20.0	91	70 - 130
Chlorobenzene	**20.9**	20.0	104	70 - 130
Chloroethane	**18.6**	20.0	93	70 - 130
Chloroform	**18.6**	20.0	93	70 - 130
Chloromethane	**17.0**	20.0	85	70 - 130
Dibromochloromethane	**21.3**	20.0	107	70 - 130
1,1-Dichloroethane	**18.4**	20.0	92	70 - 130
1,2-Dichloroethane	**18.0**	20.0	90	70 - 130
1,1-Dichloroethene	**19.0**	20.0	95	70 - 130
cis-1,2-Dichloroethene	**18.7**	20.0	94	70 - 130
trans-1,2-Dichloroethene	**18.5**	20.0	93	70 - 130
1,2-Dichloropropane	**20.8**	20.0	104	70 - 130
cis-1,3-Dichloropropene	**19.5**	20.0	97	70 - 130
trans-1,3-Dichloropropene	**19.8**	20.0	99	70 - 130
Ethylbenzene	**20.7**	20.0	104	70 - 130
2-Hexanone	**19.4**	20.0	97	70 - 130
Methylene Chloride	**19.0**	20.0	95	70 - 130
4-Methyl-2-pentanone (MIBK)	**20.8**	20.0	104	70 - 130
Styrene	**20.4**	20.0	102	70 - 130
1,1,2,2-Tetrachloroethane	**20.2**	20.0	101	70 - 130
Tetrachloroethene	**23.3**	20.0	117	70 - 130
Toluene	**20.7**	20.0	103	70 - 130
1,1,1-Trichloroethane	**17.5**	20.0	88	70 - 130
1,1,2-Trichloroethane	**21.6**	20.0	108	70 - 130
Trichloroethene	**19.4**	20.0	97	70 - 130
Vinyl Chloride	**21.6**	20.0	108	70 - 130
o-Xylene	**20.3**	20.0	101	70 - 130
m,p-Xylenes	**41.3**	40.0	103	70 - 130

Comments:

Columbia Analytical Services — CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

SR #

CAS Contact

www.caslab.com One Mustard St., Suite 250 • Rochester, NY 14609-0859(585) 288-5380 • 800-695-7222 x11 • FAX (585) 288-8475 PAGE 1 OF 1

Project Name: Leica	Project Number: LE-0614
Project Manager: Eric Lovenduski	Report CC:
Company/Address: EnviroGroup LTD 46 Lake Avenue Suite 102 Saratoga Springs, NY 12866	
Phone #: 518-254-3859	FAX#: 303-790-1347
Sampler's Signature: EJ Lovenduski	Sampler's Printed Name: Eric Lovenduski

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1 | 0 2 0 0 0 0 3 0 0

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☒ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ CLP	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES ☐ 8081 ☐ 608 ☐ CLP	PCB's ☐ 8082 ☐ 608 ☐ CLP	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	pH	Cl	NO3	SO4	TOC	Fe+2	Soluble Fe+2	REMARKS/ ALTERNATE DESCRIPTION
TRIP BLANK 01/27/10	-001	1/27/10	—	TB	3	X					~~X~~	~~X~~	X							
MW-26	-002, 003	1/27/10	0925	GW	11	X					X	X	X	X	X	X	X	X	X	
MW-25A	004, 005	1/27/10	1050	GW	11	X					X	X	X	X	X	X	X	X	X	
MW-25	006, 007	1/27/10	1105	GW	11	X					X	X	X	X	X	X	X	X	X	
MW-26A	008, 009	1/27/10	1240	GW	11	X					X	X	X	X	X	X	X	X	X	
DUP 01/27/10	010, 011	1/27/10	—	GW	11	X					X	X	X	X	X	X	X	X	X	

Preservative Key: 0. NONE 1. HCl 2. HNO_3 3. H_2SO_4 4. NaOH 5. Zn. Acetate 6. MeOH 7. $NaHSO_4$ 8. Other

SPECIAL INSTRUCTIONS/COMMENTS

Metals Fe+Mn In lab filter for dissolved

See quote# 14587
Leica Site

See QAPP ☐ *Report as for Samples from EnergySolutions for Leica Site. Call 518-258-3859 w/questions

TURNAROUND REQUIREMENTS
___ RUSH (SURCHARGES APPLY)
___ 24 hr ___ 48 hr ___ 5 day
X STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
___ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
___ IV. Data Validation Report with Raw Da
___ V. Specialized Forms / Custom Report
Edata X Yes ___ No

INVOICE INFORMATION
PO#
BILL TO:

R1000483
Enviro Group Limited
LEICA LE-0614

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 5.1°C CUSTODY SEALS (Y) N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	Signature
Printed Name: Eric Lovenduski	Printed Name: Pat Bennett	Printed Name: Pat Bennett	Printed Name: Gregory Lisiecki	Printed Name	Printed Name
Firm: EnviroGroup LTD	Firm: CAS	Firm: CAS	Firm: CAS	Firm	Firm
Date/Time: 1/27/10 1300	Date/Time: 1/27/10 1300	Date/Time: 1/27/10 1500	Date/Time: 1/27/10 1500	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-1102-08

51003

R1000483
Enviro Group Limited
LEICA LE-0614

Cooler Receipt And Preservation Check Form

Project/Client Leica Submission Number R10-483.

Cooler received on 1/27/10 by: AP **COURIER:** (CAS) UPS FEDEX VELOCITY CLIENT

1.	Were custody seals on outside of cooler?		YES	(NO)		
2.	Were custody papers properly filled out (ink, signed, etc.)?		(YES)	NO		
3.	Did all bottles arrive in good condition (unbroken)?		(YES)	NO		
4.	Did any VOA vials have significant* air bubbles?		YES	(NO)	N/A	
5.	Were **Ice** or **Ice packs** present?		(YES)	NO		
6.	Where did the bottles originate?		(CAS/ROC), CLIENT			
7.	Temperature of cooler(s) upon receipt:	5.1°				
	Is the temperature within 0° - 6° C?:	(Yes)	Yes	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 1/27/10 1533

Thermometer ID: IR GUN#3 / (IR GUN#4) Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples:

PC Secondary Review: KB 2/11/10

Cooler Breakdown: Date: 1/28/10 by: AP

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO	
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO	
3.	Were correct containers used for the tests indicated?	(YES)	NO	
4.	Air Samples: Cassettes / Tubes Intact	Canisters Pressurized	Tedlar® Bags Inflated	(N/A)

Explain any discrepancies:

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		BDB2698C	11/10				
≤2	H_2SO_4								
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*	4109080	01/11				

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 9-308-001, BDB26971, 011110-2B, 01410-2A

Other Comments:

PC Secondary Review: KB 2/11/10

*significant air bubbles are greater than 5-6 mm

ATTACHMENT C

Data Validation Status Report

Validated by: M. Litasi *Date:* 2/22/10
Approved by: _____ *Date:* _____
Entered by: N/A *Date:* _____
Proofed by: N/A *Date:* _____

Project Name/ No: Leica LE-0614
Task Manager: E. Lovendulski
Data Package #: 2- January 2010 GROUNDWATER
Name of Laboratory: Columbia Analytical Services
Laboratory Job #'s: R1000483

The following are included in this package: (check if applicable)

N/A Split Sample(s) Report :
Name of Laboratory: _____
Laboratory Job #: _____
✓ QAP form
✓ COC
✓ Field Forms
N/A Field Notes
N/A Preliminary Analytical Results
✓ Final Analytical Report

List of Samples included in Group

SAMPLES	QA/QC SAMPLES	
MW-26	TRIP BLANK	
MW-25A	DUP 01/27/10	
MW-25		
MW-26A		

Data Validation Documentation

Project Name Leica — Validator M. Litasi

Project No. LE-0614 — Project/Task Mgr E. Lovendusk;

Task Name GW Sampling — Date of Validation 2/22/10

Data Package No. 2-January 2010 Groundwater

Sample Custody and Handling

Total number of samples analyzed in this data package (does not include QA samples) 4

Randomly select one in twenty samples.

Number of samples tracked for this data package 1

List samples tracked MW-26

For the selected samples:

- Were all samples received by the lab under chain of custody? ✓yes __no
- Were all sample identities maintained by the lab? (Evaluate by comparing sample IDs, and date and time of collection listed on generator's chain of custody with field water quality forms, and the lab's chain of custody and lab confirmation sheet, as applicable.) ✓yes* __no
- Were field calculations (e.g., conductivities and water levels) accurate? ✓yes __no
- Were the samples collected, preserved and shipped in accordance with project specs?[1] ✓yes __no
- Were the samples analyzed within the required holding times?[1] ✓yes __no

If any problems were detected in the review of selected samples, all samples represented by the data package must be evaluated. Was it necessary to evaluate all samples? __yes ✓no

Provide any additional comments below and on attached sheets, as necessary, including any custody and handling exceptions noted in the laboratory narrative(s) and any flags placed by data validation personnel to denote problems or issues associated with sample collection, site conditions, or documentation.

* Trip Blank sample collected 1/27/10 was given a sample ID - "Trip Blank 01/27/10" on the C-O-C. The laboratory reported the sample as "Trip Blank", omitting the date after the sample ID. As it is a laboratory prepared QA/QC sample and collected on the day that was on the C-O-C + in the sample ID, there is no cause for concern + no flagging is required.

[1] Refer to the Project Quality Assurance Specifications sheets.

Field QA Samples

Number of Trip Blanks required[1,2] 1
Number of Trip Blanks collected 1

Were a sufficient number of Trip Blanks collected? ✓yes __no
Were contaminants detected in any Trip Blank? __yes ✓no
If contaminants[3] were reported for the Trip Blank(s), list the affected samples (i.e., those collected prior to Trip Blank) and the concentration(s) of contaminant(s) reported in both the affected samples and the Trip Blank(s) below and on additional sheets, as necessary. Also, specify any flags placed by data validation personnel to denote problems or issues associated with the Trip Blank(s).

Number of Field Blanks required[1] 0
Number of Field Blanks collected 0

Were a sufficient number of Field Blanks collected? N/A __yes __no
Were contaminants detected in any Field Blank? N/A __yes __no
If contaminants were detected in the Field Blank(s), list the affected samples and the concentration(s) of contaminant(s) reported in both the affected samples and the field blank below and on additional sheets, as necessary. Also, specify any flags placed by data validation personnel to denote problems or issues associated with the Field Blank(s).

* Field Blank requirement waived by task manager.

[2] Field QA sample requirements are waived on special sampling events at the Task Manager's direction.
[3] For purposes of data validation, contaminants are defined as compounds reported above the laboratory's reporting limits.

Field QA Samples (cont.)

Number of Field Duplicates required[1]	1
Number of Field Duplicates collected	1
Were a sufficient number of Field Duplicates collected?	✓yes __no
Number of Replicates (Splits) required[1]	0
Number of Replicates collected	0
Were a sufficient number of Replicates collected?	✓yes __no

Discuss Duplicate/Replicate sample results below and on attached sheets, as necessary. Specifically, include a discussion of the relative concentration relationship between the samples and their Duplicates/Replicates (i.e., the difference between the sample results and the Duplicate/Replicate results where the concentrations are less than 10 times the Reporting Limits and the calculated Relative Percent Difference where the concentrations are greater than 10 times the Reporting Limit). For Duplicate samples, also include a discussion of how the sample results and Duplicate results fall within the historic ranges for these sample locations. Finally, specify any flags placed by data validation personnel to denote problems or issues associated with the Duplicate/Replicate sample(s).

1 Duplicate sample (DUP 01/27/10) was collected w/ associated sample MW-26 at the same collection time of 9:25 am on 1/27/10. The following is a result comparison:

Sample ID	Analyte Name	Sample date	Result	Units	Qual	RL	
MW-26	Total Organic Carbon (TOC)	1/27/2010	6.3	mg/L		3	±3 6.3±3 = 9.3 / 3.3 (OK)
MW-26 DUP*	Total Organic Carbon (TOC)	1/27/2010	5.4	mg/L		3	
MW-26	Chloride	1/27/2010	532	mg/L		20	±100 RPD = (532-523)/((532+523)/2) ×100 = 1.7% (OK)
MW-26 DUP	Chloride	1/27/2010	523	mg/L		20	
MW-26	Total Iron, Divalent (Ferrous Iron)	1/27/2010	0.59	mg/L		0.1	±0.5 RPD = (0.68-0.59)/((0.68+0.59)/2) ×100 = 14.2 % (OK)
MW-26 DUP	Total Iron, Divalent (Ferrous Iron)	1/27/2010	0.68	mg/L		0.1	
MW-26	pH	1/27/2010	7.22	s.u.			(OK)
MW-26 DUP	pH	1/27/2010	7.28	s.u.			
MW-26	Sulfate	1/27/2010	57.5	mg/L		2	±10 RPD = (57.8-57.5)/((57.8+57.5)/2) ×100 = 0.5% (OK)
MW-26 DUP	Sulfate	1/27/2010	57.8	mg/L		2	
MW-26	Dissolved Iron, Divalent (Ferrous Iron)	1/27/2010	0.2	mg/L		0.1	±0.5 0.2±0.1 = 0.3 / 0.1 Flag *
MW-26 DUP	Dissolved Iron, Divalent (Ferrous Iron)	1/27/2010	0.32	mg/L		0.1	
MW-26	Total Manganese	1/27/2010	1110	ug/L		10	(OK)
MW-26 DUP	Total Manganese	1/27/2010	1110	ug/L		10	
MW-26	Dissolved Manganese	1/27/2010	164	ug/L		10	±50 RPD = (164-159)/((164+159)/2) ×100 = 3% (OK)
MW-26 DUP	Dissolved Manganese	1/27/2010	159	ug/L		10	
MW-26	cis-1,2-Dichloroethene	1/27/2010	5.2	ug/L		5	±5 5.2±5 = 10.2 / 0.2 (OK)
MW-26 DUP	cis-1,2-Dichloroethene	1/27/2010	5.4	ug/L		5	

Flag *

* MW-26DUP = DUP 01/27/10

- All sample/sample DUP results (where the sample results are < 5X R.L.) are +/- the R.L with the exception of:

SAMPLE	ANALYTE	RESULTS	R.L.
MW-26 / DUP 01/27/10	Dissolved Iron	**0.2/0.32**	0.1/0.1

- RPD's for all sample/sample DUP results (where the sample results are > 5X R.L.) are < 20%.

Sample/sample DUP results in bold will be flagged in the data report with an "&" indicating that all QA/QC requirements were not met.

Chemical Laboratory QA Verification

Laboratory Name: Columbia Analytical Services Laboratory Job No. R1000493

List analytical methods included in report.

SW846 8260B (VOA's); SM20 5310C (TOC); 300.0 (Chloride, Nitrate, Sulfate); SM3500-Fe B.4.c (Total + Dissolved Iron); SM 4500 - H+B (pH); 6010B (Total + Dissolved Manganese).

Verify that the lab QC tests met applicable specifications for the analytes of concern[4].

Did the lab properly flag results not meeting the Acceptance Criteria? N/A __yes __no

If not, identify the additional flagging requirements below, contact the lab to discuss the situation, and request appropriate replacement pages. Document telephone conversations with the lab and attach copies of correspondence (i.e., e-mails, replacement pages).

No flagging required.

Discuss or document any other quality assurance issues not previously addressed, if any.

[4] In addition to summary information on the Project QA Specifications sheet, details on method specified QC tests may be found in the associated method document.

Project Quality Assurance Specifications

Project No: LE-0614 **Revision No:** 0

Project Name: Leica **By:** M. Citas;

Field QA/QC Sample Requirements	Standard ☑	Other ☐ (Indicate Below)

QA/QC Sample	Frequency of Collection (Check if Applicable)	
	Groundwater	Soil
Trip Blank	☑ 1 per Sampling Event (VOC's Only)*	☐ 1 per Sampling Event (VOC's Only)
Field Blank	☐ 1 per Day per Sampler per Sampling Technique**	☐ 1 per Day per Sampler per Sampling Technique**
Duplicate	☑ 1 per 10 samples - Minimum 1	☐ None
Replicate	☐ 1 per 10 samples - Minimum 1 **	☐ None
Other	☐	☐

** Note: QA/QC Sample requirements are waived at Task Manager's direction.

Parameter/Method Series (check if applicable)		Matrix	Holding Time[1]	Sample Volume/Container[2]	Filtration[3]	Preservation	Storage and Shipping
VOCs	☑ 8260B	☐ Soil	14 days	4 oz Glass/Teflon	None	None	4° C/Overnight
	☐ 624	☑ Water	14 days	2-40 ml Glass/Teflon	None	None(Colo.)HCl(other)	4° C/Overnight
SVOCs	☐ 8270C	☐ Soil	14 days	4 oz Glass/Teflon	None	None	4° C/Overnight
	☐ 625	☐ Water	7 days	2-1 liter Amber Glass/Teflon	None	None	4° C/Overnight
Metals	☑ 6010/6020	☐ Soil	6 mo.	4 oz Plastic	None	None	Any
	☐ 9000 ☐ 200	☑ Water	6 mo.	500 ml Plastic/ 250 to 500 ml Plastic (dissolved)	0.45 µm (dissolved)	HNO_3	Any
Mercury	7470A	☐ Water	28 Days	250 to 500 ml Plastic	None	HNO_3	4° C/Overnight
BETX	☐ 8020/8021	☐ Soil	14 days	4 oz Glass/Teflon	None	None	4° C/Overnight
	☐ 602	☐ Water	14 days	2 - 40 ml Glass/Teflon	None	HCl (Colo. and other)	4° C/Overnight
TPH	☐ 418.1	☐ Soil	14 days	4 oz Glass/Teflon	None	None	4° C/Overnight
	☐ 8015	☐ Water	14 days	2-1 liter Glass/Teflon	None	HCl or H_2SO_4	4° C/Overnight
Bromide	300.0A	☐ Soil	" >leached	4 oz Glass/Teflon	None	None	4° C/Overnight
		☐ Water	28 days	250 ml Plastic	None	None	4° C/Overnight
Orthophosphate	365.3	☐ Soil	" >leached	4 oz Glass/Teflon	None	None	4° C/Overnight
		☐ Water	48 hours	250 ml Plastic	Yes	None	4° C/Overnight
Ethane, Ethene, Methane	RSK SOP-175	☐ Water	7 days	2-40 ml Glass/Teflon	None	HCl	4° C/Overnight
NO_2/NO_3	300.0A	☑ Water	28 days	250 ml Amber/500ml Plastic	None	H_2SO_4	4° C/Overnight
Chloride	300.0A	☑ Water	28 days	250 ml Plastic/125 ml Glass	None	None	4° C/Overnight
Sulfate	300.0A	☑ Water	28 days	250 ml Plastic/125 ml Glass	None	None	4° C/Overnight
Alkalinity	310.1	☐ Water	14 days	250 ml to 1 liter Plastic	None	None	4° C/Overnight
Diss. Ammonia	350.1	☐ Water	28 days	500 ml Amber G/500 ml Plastic	None	H_2SO_4	4° C/Overnight
TKN	351.2	☐ Water	28 days	500 ml Amber G/500 ml Plastic	None	H_2SO_4	4° C/Overnight
BOD	405.1	☐ Water	48 hours	500 ml to 1 liter Plastic	None	None	4° C/Overnight
COD	410.4	☐ Water	28 days	250 to 500 ml G/500 ml Plastic	None	H_2SO_4	4° C/Overnight
DOC/TOC	415.1/5130	☑ Water	28 days	250 to 500 ml Amber Glass	None	H_2SO_4	4° C/Overnight
Ferrous/Ferric Iron	3500-FE D	☑ Water	14 days	250 to 500 ml Plastic	None	None	4° C/Overnight

* - NTE 72 hours in the field.

** - None required based on the use of dedicated, disposable sampling equipment and PPE.

[1] - Holding time is the maximum time between sample collection and laboratory preparation.

[2] - Sample volumes and containers listed are general requirements only and may vary between laboratories.

[3] - May vary between laboratories and if lab or field filtered.

Project Quality Assurance Specifications, Continued

Project No:_____ Revision No: 0

Project Name: Leica By: M. Litasi

Analytical QA/QC Requirements	Standard ☑	Other ☐	(Indicate Below)

	Parameter/Method (check if Applicable)	ICV % Recovery		CCV % Recovery		Lab Blanks		LCS % Recovery		Accuracy- % Recovery (Fortification)		Precision-RPD (Duplication)	
		Std.	Other	Std.	Other	Std.	Other	Std.	Other	Std.	Other	Std.	Other
✓	VOCs-8260,624,Other	90-110		90-110		ND		80-120		80-120		0-20	
	SVOCs-8270,625	90-110		90-110		ND		80-120		80-120		0-20	
✓	Metals-6010/6020,9000, 200 Series	90-110		90-110		ND		80-120		80-120		0-20	
	BETX-8020/8021,602	90-110		90-110		ND		80-120		80-120		0-20	
	TPH-418.1,8015	90-110		90-110		ND		80-120		80-120		0-20	
✓	Bromide, Nitrate, Nitrite, Chloride, Sulfate-300.0A	90-110		90-110		ND		80-120		80-120		0-20	
	Orthophospate-365.3	90-110		90-110		ND		80-120		80-120		0-20	
	Ethane, Ethene, Methane-RSK SOP-175	85-115		85-115		ND		85-115		85-115		0-20	
	Alkalinity-310.1	90-110		90-110		ND		80-120		80-120		0-20	
	Diss. Ammonia-350.1	90-110		90-110		ND		80-120		80-120		0-20	
	TKN-351.2	90-110		90-110		ND		80-120		80-120		0-20	
	BOD-405.1	90-110		90-110		ND		80-120		80-120		0-20	
	COD-410.4	90-110		90-110		ND		80-120		80-120		0-20	
✓	DOC, TOC-415.1	90-110		90-110		ND		80-120		80-120		0-20	
✓	Ferrous Iron, Ferric Iron-3500-FE D	90-110		90-110		ND		80-120		80-120		0-20	

Note: Laboratory specific acceptance criteria are preferred by EPA, and will be used for verification assessments in each category during data validation. Criteria presented in this table are general guidelines and may vary for each laboratory based on internal QA/QC procedures.