ENERGYSOLUTIONS

November 18, 2009
Ref. No. 31129-062

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

Subject: Groundwater Monitoring Results
Leica, Inc. Site; Erie County, Cheektowaga, NY
Inactive Hazardous Waste Disposal Site No. 915156

Dear Mr. Walia:

Enclosed please find the report entitled "Rowan Road Groundwater Investigation Report, Leica, Area C, Cheektowaga, New York," prepared for Energy*Solutions* by EnviroGroup Limited. The report highlights the installation and groundwater sampling of two monitoring well pairs, consisting of a shallow overburden monitoring well and a bedrock monitoring well, and identified as monitoring wells MW-25, MW-25A, MW-26, and MW-26A as shown on the attached Figure 1.

Groundwater samples were collected from the monitoring wells on September 2, 2009. The groundwater data from the MW-25 well pair indicates that chlorinated solvent compounds have migrated only in the bedrock aquifer to a location south of Rowan Road. The groundwater data from the MW-26 well pair indicates that chlorinated solvent compounds have migrated in the overburden and bedrock aquifers to the south of Rowan Road.

Based on the results of the groundwater sampling from the two monitoring well pairs, Energy*Solutions* proposes to install two additional monitoring well pairs for the purpose of further delineating the chlorinated solvent plume south of the facility. One monitoring well pair will be installed to the west of the MW-26 well pair on Rowan Road, and one well pair to the south of MW-26 on Preston Road. The proposed locations are identified on Figure 1.

Due to the presence of volatile organic compound (VOC) concentrations in the groundwater samples collected from the MW-26 well pair, and the proximity to residential properties, we are also planning indoor air sampling at the two residential properties south of the MW-26 well pair (along the west side of Preston Road). Indoor

100 Mill Plain Road, Second Floor • Mailbox No. 106 • Danbury, CT 06811
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ENERGYSOLUTIONS

air sampling at each residence will consist of the collection of both sub-slab samples and indoor air samples. The proposed indoor air sampling locations are shown on Figure 1.

We are currently preparing a Work Plan to perform these activities. We anticipate submitting this Plan to the Department for approval by December 11, 2009. In the interim, if you have any questions or would like to discuss the results, please feel free to call me at 801-303-1092.

Sincerely,

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

Enclosures
cc: C. Grabinski
E. Lovenduski
B. Sye Marvuglio

Figure 1

DOCUMENT CONTROL NO.	PROJECT	LEICA MICROSYSTEMS INC. 203 EGGERT ROAD CHEEKTOWAGA, NY	ENERGYSOLUTIONS 100 Mill Plain Road Danbury, CT 06811 203-797-8301	PROJECT # 137015
				FILENAME:
				SCALE: *SEE SCALEBAR* / DATE: 11/17/09
REVISION NO.	DRAWING	PROPOSED WELL AND INDOOR AIR SAMPLING LOCATIONS		BY: MT / CK:
				FIGURE # 1

ENERGYSOLUTIONS

Enclosure 1

EnviroGroup Limited

Rowan Road Groundwater Investigation Report
Leica, Area C, Cheektowaga, New York

Rowan Road Groundwater Investigation Report

Leica, Area C

Cheektowaga, New York

Prepared by:

EnviroGroup Limited
Centennial, Colorado

Prepared for:

Energy*Solutions*
Danbury, CT

November 16, 2009

Project No. LE-0614

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

This report presents the results of a limited offsite groundwater investigation that was performed in conjunction with an offsite vapor intrusion assessment adjacent to Area C of the former Leica facility in Cheektowaga, New York (the Site), as shown in Figures 1 and 2. The investigation was conducted by EnviroGroup Limited (EnviroGroup) personnel on behalf of Energy*Solutions*.

1.1 BACKGROUND INFORMATION

According to Energy*Solutions*, several environmental investigation and remediation activities have occurred at the Site since the early 1990s. Groundwater monitoring wells at the Site are mainly located between the facility and Rowan Road. Overburden groundwater flows to the south and southeast in the direction of Rowan Road and a residential area, which extends several hundred feet south of the Site. Figure 3 shows the location of the various groundwater monitoring wells in relation to the site and offsite residential properties south of the Site.

The results of groundwater monitoring in the spring of 2008 indicated that concentrations of volatile organic compounds (VOCs) in overburden or shallow groundwater were generally low. At that time, the highest VOC concentrations in shallow groundwater were at wells MW-10 (cis-1,2-DCE, 190 µg/L and vinyl chloride, 73 µg/L) and MW-14 (cis-1,2-DCE, 220 µg/L and vinyl chloride 25 µg/L). In the fall of 2007, a concentration of 12 µg/L of vinyl chloride was detected at the southernmost monitoring well (MW-22) near the presumed leading edge of the groundwater plume just north of Rowan Road, although in the spring of 2008 vinyl chloride was not detected in this well. Concentrations were below detection in other shallow wells immediately north of the residences along Rowan Road (MW-3 and MW-5) in the spring of 2008. Bedrock groundwater concentrations in the spring of 2008 were (cis-1,2-DCE, 10 µg/L and vinyl chloride, 14 µg/L) at MW-5A; (cis-1,2-DCE, 160 µg/L, trans-1,2-DCE, 6.1 µg/L, and vinyl chloride 56 µg/L) at MW-14A; and (acetone, 160 µg/L) at MW-22A.

A separate letter report for indoor air sampling at two homes on the north side of Rowan Road (30 and 34 Rowan Road) was submitted to Energy*Solutions* in May, 2009. Indoor air and sub-slab vapor samples were collected at each home. The purpose of this sampling was to investigate the potential for vapor intrusion at these homes based on detections of volatile organic compounds (VOCs) in nearby monitoring well MW-5A. VOCs were not detected in the sub-slab vapor or indoor air, indicating that VOCs in local groundwater had not affected the residences at 30 and 34 Rowan Road at that time.

1.2 INVESTIGATION OBJECTIVES

The activities described in this report were designed to gather information that would fill data gaps down gradient of the site. The focus area was chosen based on previous detections of VOCs at the Site, as discussed above, with the objectives of a) identifying the nature and extent of VOCs in groundwater immediately south of monitoring wells MW-22, MW-14, and MW-5A by collecting additional down gradient overburden and bedrock groundwater samples, and b) focusing any further investigations that may be required to address vapor intrusion potential.

The following sections of the report present the field investigation and laboratory procedures (Section 2.0); a summary of the Results of the Investigation (Section 3.0); and references (Section 4.0).

2.0 FIELD INVESTIGATION AND LABORATORY PROCEDURES

This section presents a description of the field investigations and laboratory procedures followed by EnviroGroup. Field activities included installation and sampling of two overburden monitoring wells (MW-25 & MW-26) and two shallow bedrock monitoring wells (MW-25A & MW-26A). The locations of these new monitoring wells are shown in Figure 3.

Prior to any field work, access to the investigation area was secured from the Town of Cheektowaga and each borehole location was approved by the Town Engineer. Also, the organization Dig Safely New York was contacted to identify and locate subsurface utilities.

2.1 BOREHOLE CONSTRUCTION AND SAMPLING

During this investigation, four boreholes were advanced and completed as two well pairs. The first well pair, MW-25 and MW-25A, was installed on the grassy area just south of Rowan Road, adjacent to the 135 Preston Road residential property. The second well pair, MW-26 and MW-26A, was installed on the grassy area south of Rowan Road, adjacent to the 134 Preston Road residential property.

MW-25/MW-25A Boreholes

The borehole for overburden monitoring well MW-25 was drilled through unconsolidated deposits from ground surface to 13 feet below ground surface (BGS), the presumed bedrock surface, using a 4.25-inch inside diameter (ID) hollow stem auger (HSA) drill rig. Soil samples were not collected from this borehole, but were collected from the adjacent borehole MW-25A, as discussed below.

The borehole for monitoring well MW-25A was drilled from the ground surface to 35 feet BGS. Initially, 4.25-inch ID HSAs were used to drill through the overburden to the

bedrock surface. Soil samples were collected using a 4-foot long, 2-inch ID macrocore sampler with disposable acetate liners. Soil lithologies were logged from ground surface to the bedrock surface based on evaluation of soil cores and described according to the Unified Soil Classification System (USCS) based on appearance. The cores were then screened for the presence of organic vapors using a MiniRAE 2000 photo-ionization detector (PID) and the results were recorded in parts per million (ppm) on borehole logs.

The HSAs were then removed and a 6-inch temporary steel casing was inserted into the borehole. Next, a bedrock socket was advanced using nominal 6-inch diameter wash rotary tools to 16.5 feet BGS. A 4-inch ID steel casing was then grouted in place and the temporary casing removed. Sufficient time (at least 24 hours) was allotted for grout to cure before drilling resumed. After the grout cured, a nominal 4-inch diameter open hole interval was advanced using wash rotary tools to a depth of 35 feet BGS consistent with on-site bedrock well depths.

MW-26/MW-26A Boreholes

The borehole for overburden monitoring well MW-26 was drilled through unconsolidated deposits from ground surface to19.2 feet BGS, the presumed bedrock surface, using a 4.25-inch ID hollow stem auger (HSA) drill rig. Soil samples were collected using a 4-foot long, 2-inch ID macrocore sampler with disposable acetate liners. Soil lithologies were logged from ground surface to the bedrock surface based on evaluation of soil cores. Soils were described based on appearance and were screened for the presence of organic vapors using a MiniRAE 2000 photo-ionization detector (PID). Results were recorded in parts per million (ppm) on borehole logs. The drill rig operator noted that the HSAs encountered a subsurface feature at approximately 13 feet BGS that caused the lead auger to migrate to the north as the drill string was advanced. Refusal was encountered at 19.2 feet BGS. Little to no soil was recovered in the macrocore samples collected from 13 feet to 19.2 feet BGS.

After completion of well MW-26, a separate borehole was drilled approximately 5 feet west to be completed at bedrock well MW-26A. The borehole for monitoring well MW-26A was drilled from the ground surface to approximately 35 feet BGS. Soil samples were not collected during drilling of this borehole. HSAs of 4.25-inch ID were used to drill through the overburden to the bedrock surface at 13.1 feet BGS. The HSAs were then removed and a 6-inch temporary steel casing was inserted into the borehole. Next, a bedrock socket was advanced using nominal 6-inch diameter wash rotary tools to 16.5 feet BGS. A 4-inch ID steel casing was then grouted in place and the temporary casing was removed. Sufficient time (at least 24 hours) was allotted for grout to cure before drilling resumed. After the grout cured, a nominal 4-inch diameter open hole interval was advanced using wash rotary tools to a depth of 35 feet BGS, consistent with on-site bedrock well depths.

Borehole logs are provided in Appendix A.

2.2 OVERBURDEN MONITORING WELL INSTALLATION

Two overburden monitoring wells (MW-25 and MW-26) were installed within the upper saturated section of each borehole at the locations shown on Figure 3. The screens for these wells were set at or near the water table with screened intervals of 5 feet to identify concentrations at the water table and evaluate any potential for vapor intrusion into nearby buildings**.**

Overburden wells MW-25 and MW-26 were constructed with 2-inch ID, schedule 40 flush joint threaded PVC materials with 0.010-inch screen slots. An appropriate sized (e.g. 10/20 sieve) washed silica sand pack was placed in the annulus of each borehole to a level of approximately 2 feet above the top of the screen interval. Following installation of the filter material, a bentonite seal (bentonite chips) was placed on top of the filter material to a minimum thickness of two feet. Distilled water was added to ensure proper

hydration of the bentonite. All monitoring wells were completed with locking caps and flush mount road boxes.

As noted above, the borehole for monitoring well MW-26 was advanced to 19 feet BGS. The well was set at a total depth of 11 feet BGS with a screened interval from 11 feet to 6 feet BGS. The borehole was backfilled with sand from 19 feet to 14 feet BGS, then with bentonite from 14 feet to 12 feet BGS, and finally with sand from 12 feet to 11 feet BGS. This was done to ensure that the well was completed to screen the water table.

2.3 BEDROCK MONITORING WELL INSTALLATION

Two bedrock wells (MW-25A and MW-26A) were installed at the locations shown in Figure 3. As noted above, the overburden was sealed off from the bedrock using grouted in place 4-inch ID steel casing. A bedrock open hole interval was then advanced from 16.5 to 35 feet BGS to be consistent with on-site bedrock well depths.

Bedrock wells were completed with locking caps and flush mount road boxes.

2.4 WELL DEVELOPMENT

Overburden wells were developed using dedicated, disposable polyethylene bailers and nylon rope and bedrock wells were developed using the onboard pump on the drill rig. Prior to well development, static water level was measured with an electronic water-sensing probe. Then the wetted casing volume was determined (i.e., the volume of groundwater standing in the casing under steady-state conditions) by using the static water level, well diameter and well depth. After recording initial water levels from each well, the wells were developed by surging the water column with a bailer or drill tools to flush fine particles from the sand filter (overburden wells) or open hole wall (bedrock wells). Surging and purging continued until five wetted casing volumes were removed or

the well was purged dry. Purge water was containerized in 55-gallon drums and staged on the Leica Site pending analytical results.

After monitoring well development, sufficient time was allowed to elapse (approximately 10 days) for all wells to equilibrate with ambient conditions before sampling.

2.5 GROUNDWATER SAMPLING

After monitoring well installation, development and equilibration, the static water level was measured with an electronic water-sensing probe and used to calculate the wetted casing volume. A minimum of three wetted casing volumes, or until the well was dry in the case of well MW-26A were purged prior to sampling. Overburden wells were purged using dedicated polyethylene bailers and bedrock wells were purged using dedicated submersible pumps.

Before purging and collecting groundwater samples, field water quality parameters-- pH, temperature, specific conductance, dissolved oxygen, and oxidation-reduction potential-- were measured in situ using a calibrated field meter. The final set of field parameters from MW-26A was not collected in situ due to the low water level in the well as a result of poor recharge. Field water quality data collected during groundwater sampling was recorded on field water quality sampling and analysis forms (Appendix B).

Groundwater samples were collected using dedicated, disposable polyethylene bailers and nylon rope. Groundwater in the bailer was quickly transferred into clean, laboratory-supplied containers. Low–flow tips were used for collecting samples for VOC analysis. All sample containers were labeled, logged onto chain-of-custody documents, and stored on ice for submittal to an ELAP certified laboratory for analyses. These analyses included pH, total organic carbon, chloride, nitrate, sulfate, dissolved iron, dissolved manganese, and VOCs by EPA Method 8260B.

2.6 FIELD QUALITY CONTROL SAMPLES

Field quality control (QC) samples were collected including one duplicate sample (DUP 09/02/09 from well MW-25A) to determine the degree of data variations due to sampling technique and/or laboratory procedures. Quality control samples were obtained by analyzing a representative sample taken from the same medium and collected sequentially at the same location. The sample/sample duplicate pair was collected at the same time to ensure representative duplicate groundwater. One trip blank (TB090209) was collected to determine if cross contamination had occurred during sample transport. The duplicate sample was analyzed for pH, total organic carbon, chloride, nitrate, sulfate, dissolved iron, dissolved manganese, and VOCs by EPA Method 8260B. The trip blank sample was analyzed for VOCs only.

2.7 INVESTIGATIVE DERIVED WASTES

Soil cuttings generated from borehole drilling, decontamination (decon) water, purge water, sampling supplies and PPE were placed in 55 gallon drums and staged at the Leica site for management by Energy*Solutions*.

3.0 RESULTS OF INVESTIGATION

This section summarizes the results of this investigation. Complete laboratory analytical data reports for the groundwater samples are provided in Appendix C.

3.1 SOIL RESULTS

No soils samples were submitted for laboratory analysis. However, soils samples were collected from the bedrock well borehole at MW-25A, and the overburden well borehole at MW-26, and screened for total VOCs using a PID.

Soils encountered from grade to approximately 13 feet BGS at both borehole locations (MW-25A and MW-26) consisted of brown and grayish brown, medium to fine-grained sands with some silt and trace amounts of gravel. As noted above, during drilling of the borehole for well MW-26, the driller noted a subsurface disturbance (sideways movement of the augers) at approximately 13 feet BGS. The presumed bedrock surface was encountered at 19.2 feet at this location. Based on discussions with Energy*Solutions* representatives, the bedrock surface has historically been observed between 10 and 15 feet BGS. Therefore, the interval between 13 and 19.2 feet may be due to the augers encountering the edge of a local channel in the bedrock. The soils encountered from 13 to 19.2 feet BGS consisted of grayish brown to light grayish brown medium-grained sands with some gravel and silt. No odors, staining, or elevated PID readings were observed in soils during drilling.

The bedrock section of each borehole was drilled using wash rotary drilling methods. As such, core samples of bedrock were not collected. However, drill cuttings of bedrock were noted to be dark grey limestone.

3.2 GROUNDWATER RESULTS

Shallow groundwater was observed during drilling and well construction at approximately 7 feet BGS. 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 or overburden groundwater sample collected from overburden well MW-25. Detections of 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.

Vinyl chloride and chloroform were detected in the groundwater sample from bedrock well MW-25A at concentrations of 9.1 and 14 micrograms per liter (µg/L), respectively. Additionally, vinyl chloride and chloroform were detected in the duplicate sample from this well at concentrations of 9.9 and 14 µg/L respectively. The vinyl chloride concentration exceeds the remedial action objective (RAO) for vinyl chloride of 5 µg/L. There is no RAO for chloroform, but the concentrations detected in the samples collected from MW-25A exceed the TOGS) standards for chloroform of 7 µg/L.

M,p-xylenes and toluene (8.3 ug/L and 8.7 µg/L) were detected in the groundwater sample from well MW-25A and in the duplicate groundwater sample from this well (8.1 and 8.7 µg/L) at concentrations exceeding the TOGS values of 5 µg/L for these compounds. It is possible the source of these compounds is due to vehicular traffic and parking nearby the well location.

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

Vinyl chloride and cis-1,2-dichloroethene (cis-1,2-DCE) were detected in the groundwater sample from overburden well MW-26 at concentrations of 28 and 46 ug/L, respectively, which are above the RAOs for these two compounds of 5. No other VOCs were detected in overburden well MW-26. Detections of iron, manganese, TOC, chloride, nitrate, 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 560 and 750 ug/L respectively which is above the RAOs of 5. Also, trans-1,2-dichloroethene was detected in this well at a concentration of 16 ug/L which exceeds the TOGSs value of 5 ug/L. No other VOCs were detected in bedrock well MW-26. Detections of iron, manganese, TOC, chloride, nitrate, sulfate were below the respective TOGS values.

3.3 DISCUSSION AND CONCLUSIONS

The results of this limited investigation indicate that VOCs from the Leica site may have migrated in bedrock groundwater to the locations 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. The bedrock surface in the area of the MW-26 well pair was encountered deeper than has been observed at other locations during previous investigations by Energy*Solutions*. Although this deeper bedrock surface feature may be of significance to the migration of groundwater and VOCs from the site, the extent and actual relationship it may have to the Site contamination is unclear.

With regard to the vapor intrusion pathway, the presence of VOCs in MW-26 could increase the potential for vapor intrusion in structures in this vicinity. Although the VOC concentrations in bedrock (deeper) groundwater at MW-26A are not relevant to vapor intrusion at this location, they indicate the potential for more groundwater impacts extending further south than suggested by prior data.

The presence of a clean water lens (no detections of VOCs) at MW-25 suggests a low vapor intrusion potential to structures in the vicinity of this well. In addition, the relatively low concentrations of vinyl chloride and chloroform in bedrock groundwater at well MW-25A also suggests that the risk of vapor intrusion is low in this area. On the other hand, if basements in nearby homes extend beneath the clean water lens, a vapor intrusion condition could exist.

4.0 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.

Vapor Intrusion Sampling Results, 30 and 34 Rowan Road, Cheektowaga, New York. Prepared by EnviroGroup Limited, May 15, 2009.

Standard Practice for Classicfication of Soils for Engineering Purposes, Unified Soil Classification System, ASTM D2487

TABLE

TABLE 1

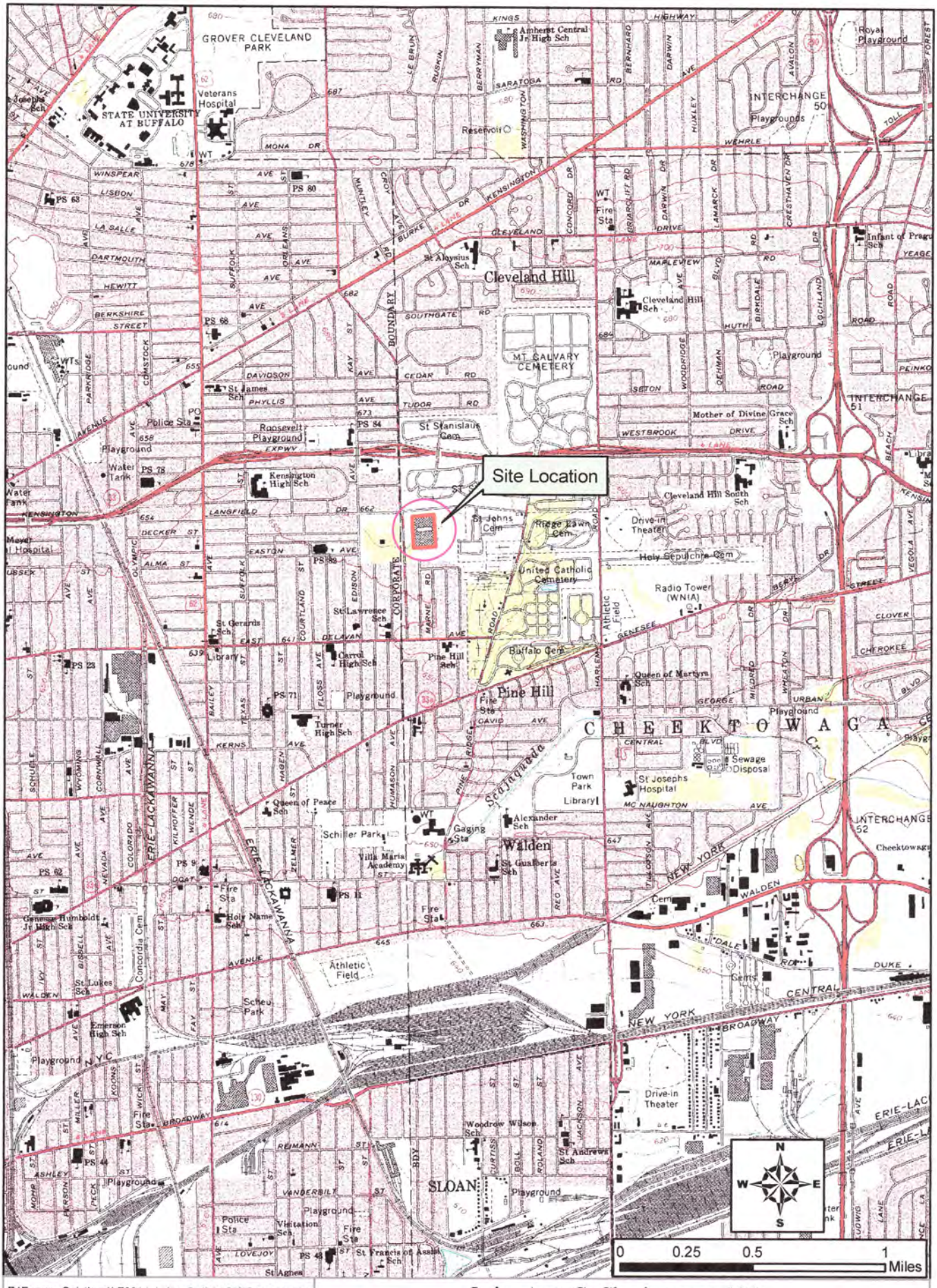
GROUNDWATER ANALYTICAL RESULTS

Leica
Cheektowaga, NY

Analytical Method	Parameter	TOGS Value (ug/L)	RAO (ug/L)	SAMPLE IDENTIFICATION:		MW-25	MW-26	MW-25A	DUP 09/02/09 ***	MW-26A	TB090209
				SAMPLING DATE:		9/2/2009	9/2/2009	9/2/2009	9/2/2009	9/2/2009	9/2/2009
				Method Reporting Limit	Unit						
8260B	Chloroform	7	NA	0.50	ug/L	5.0 U	5.0 U	**14**	**14**	5.0 U	5.0 U
	cis-1,2-Dichloroethene	5	5	0.50	ug/L	5.0 U	**46**	5.0 U	5.0 U	**740 D**	5.0 U
	trans-1,2-Dichloroethene	5	NA	0.50	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	**16**	5.0 U
	Toluene	5	NA	0.50	ug/L	5.0 U	5.0 U	**8.7**	**8.7**	5.0 U	5.0 U
	Vinyl Chloride	2	5	0.50	ug/L	5.0 U	**28**	**9.1**	**9.9**	**560 D**	5.0 U
	m,p-Xylenes	5	NA	0.50	ug/L	5.0 U	5.0 U	**8.3**	**8.1**	5.0 U	5.0 U
6010B	Iron, Dissolved	500*	NA	100	ug/L	100 U	100 U	100 U	100 U	130	NA
	Manganese, Dissolved		NA	10	ug/L	110	217	10 U	10 U	10 U	NA
SM20 5310C	Carbon, Total Organic (TOC)	-	NA	1.0	ug/L	17.1	14.6	4.2	3.5	4.9	NA
300.0	Chloride	250,000	NA	2**	ug/L	49.4	550	50.3	59.9	46.1	NA
	Nitrate as Nitrogen	10,000	NA	0.5	ug/L	0.88	0.50 U	0.91	0.91	0.50 U	NA
	Sulfate	250,000	NA	2.0	ug/L	91.9	99.9	43.0	43.8	73.3	NA
SM 4500-H+B	pH	-	NA	No reporting limit	ug/L	7.15	7.18	7.69	8.34	8.49	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 sample MW-26 was 20 ug/L.
9. *** Sample DUP 09/02/09 is a duplicate of sample MW-25A.

FIGURES



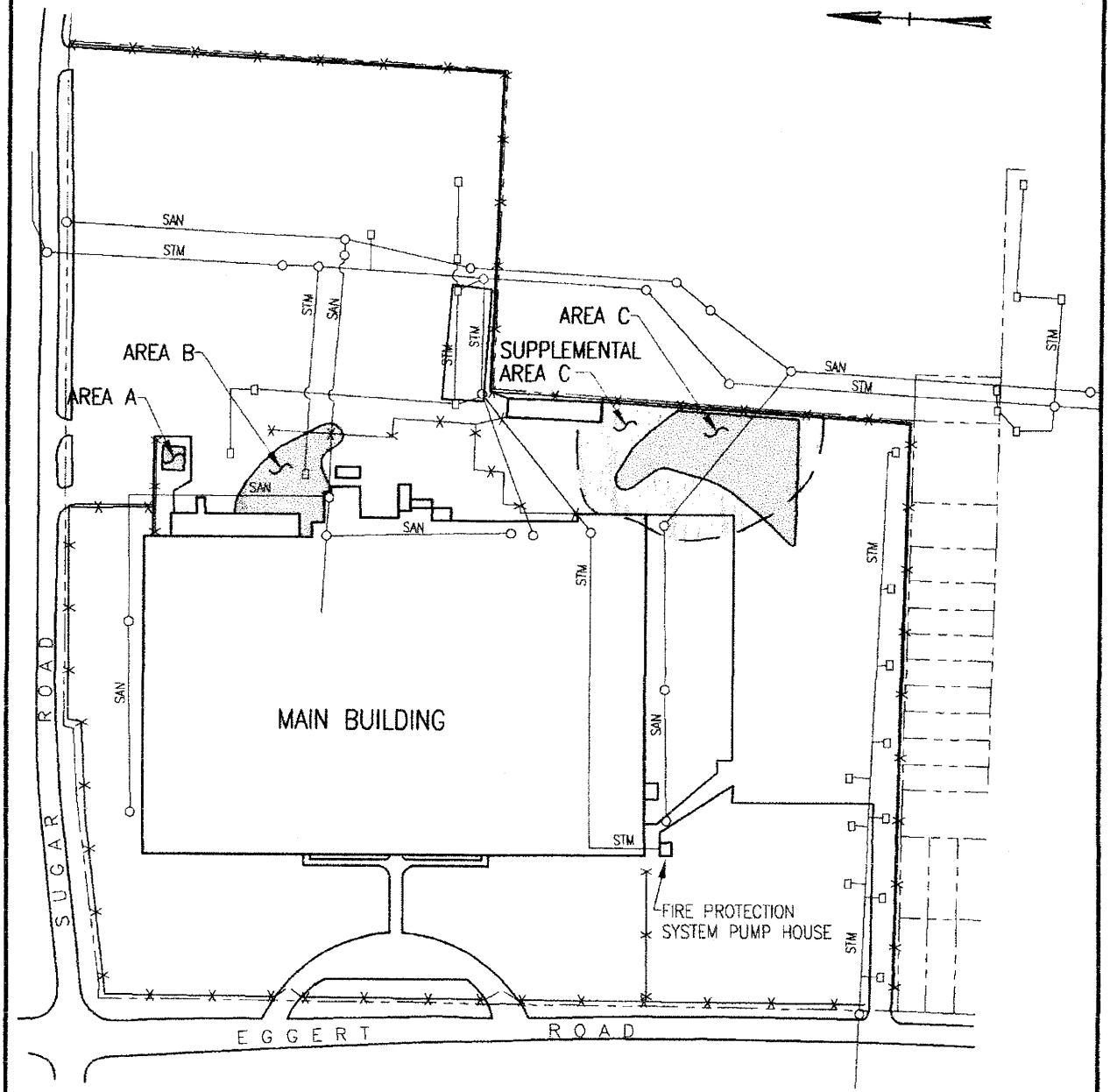
R:\Energy_Solutions\LE0614_Leica_Buffalo\GIS\SiteMap.mxd

EnviroGroup Limited
Centennial, Colorado

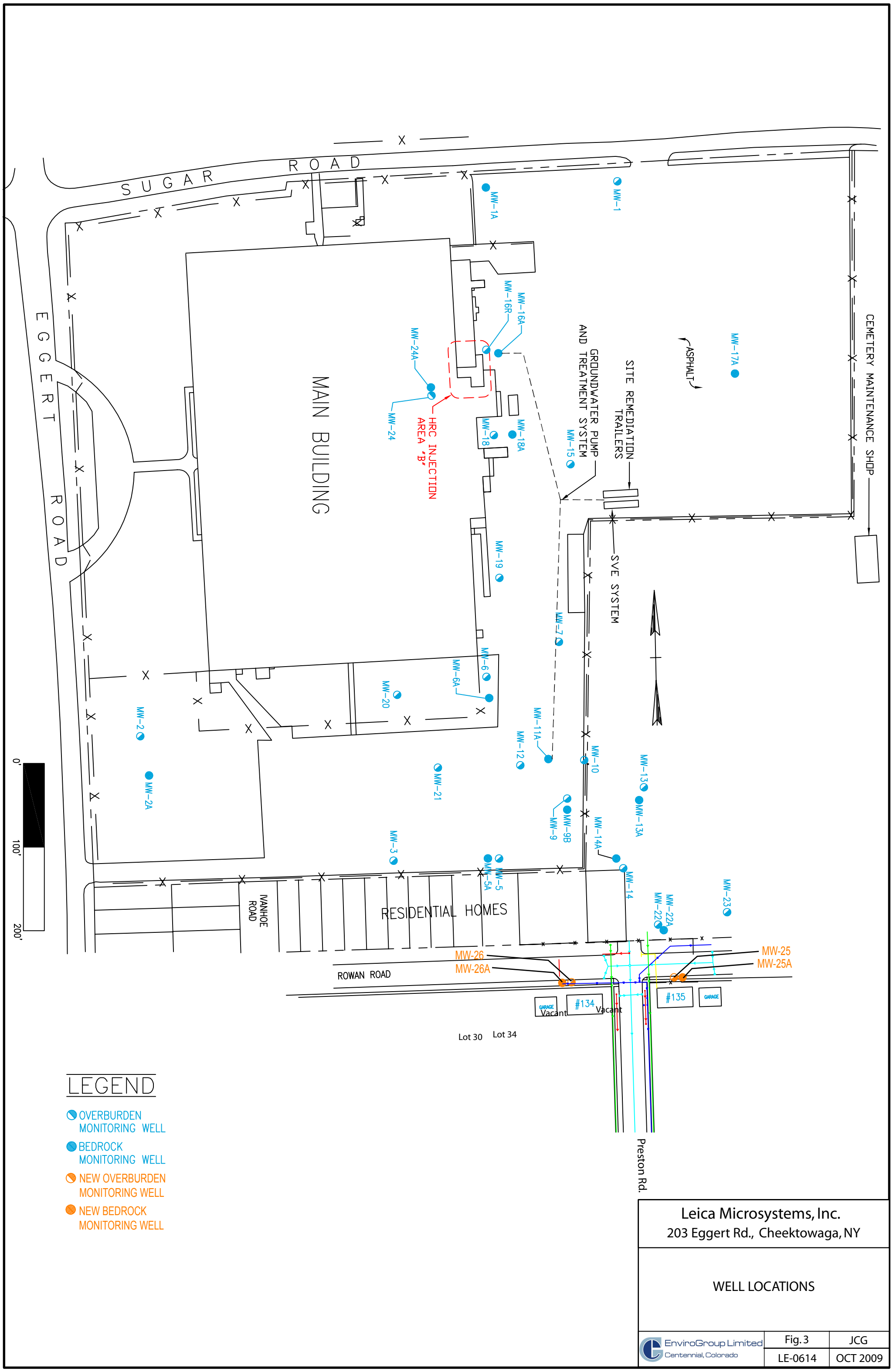
Figure 1
LE-0614

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		



LEGEND

- OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- NEW OVERBURDEN MONITORING WELL
- NEW BEDROCK MONITORING WELL

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

WELL LOCATIONS

EnviroGroup Limited, Centennial, Colorado	Fig. 3	JCG
	LE-0614	OCT 2009

APPENDIX A
BOREHOLE LOGS

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. MW-25
PAGE 1 OF 1

NORTH	DRILLER Nothnagle	DATE START 8/18/09
EAST	RIG BK-81	DATE FINISH 8/18/09
GRD ELEV.	BITS · FLUIDS	TOTAL DEPTH 13'
TOC ELEV.	LOGGED BY E. Lovendusky	WATER DEPTH ~8'

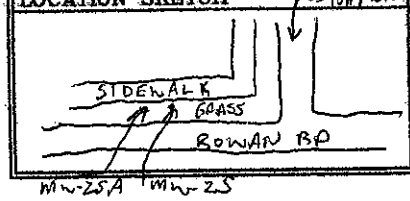
SAMPLE TYPES:
CT Cuttings WS Wash
SS Split Spoon NX NX Core
DC Dry Core CS Continuous Sampler
Other:

SAMPLER SPECIFICATIONS:
Length NA Material NA
O.D. NA Liner NA
I.D. NA Other NA

SURFACE CONDITION: Grass

DEPTH (FT.)	BIT CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SOIL/ROCK DESCRIPTION	SOIL VAPOR PID ☐ FID ☐ BG	HS	Core
							NO SOIL SAMPLES COLLECTED SEE BOREHOLE LOG FOR WELL MW-25A FOR LITHOLOGY.			
							DRILLED w/ 4.25" ID HSA TO REFUSAL (13') bgs. BACKFILLED WITH BENTONITE FROM 13 TO 11.5'. BACKFILL WITH SAND FROM 11.5-11.0'. SET 2" SCH 40 PVC WELL @ 11' BGS. 0.010" SLOT SCREEN FROM 11-6' #0 SAND PACK FROM 11'-4' BENTONITE FROM 4'-0.5' FINISHED AS FLUSHMOUNT.			

LOCATION SKETCH



DENSITY:

GRANULAR:		COHESIVE:	
0-10	Loose	0-4	Soft
10-30	Med Dense	4-8	Med Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff

PROPORTIONS:

0-10%	Trace
10-20%	Little
20-35%	Some
35-50%	And

REMARKS/WEATHER: Clear, mid 80's F.

LOG STATUS:
PRELIMINARY: _____ FINAL: _____

EnviroGroup Limited
Centennial, Colorado

R:\Drawings\STDA Borelog5.dwg 08/05 at 08:57

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. MW-25A
PAGE 1 OF

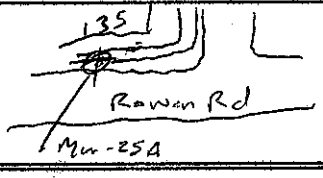
NORTH	DRILLER Nothnagle		DATE START 8/18/09
EAST	RIG		DATE FINISH
GRD ELEV.	BITS	FLUIDS	TOTAL DEPTH
TOC ELEV.	LOGGED BY E. Lovendusk		WATER DEPTH

SAMPLE TYPES:
CT Cuttings WS Wash
SS Split Spoon NX NX Core
DC Dry Core CS Continuous Sampler
Other: MacroCore (mc)

SAMPLER SPECIFICATIONS:
Length 4
O.D. 2.25
I.D. 2"
Material Stainless Steel
Liner Acetate
Other

DEPTH (FT.)	BIT CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SURFACE CONDITION: Grass / SOIL/ROCK DESCRIPTION	SOIL VAPOR PID ☒ FID ☐ BG	HS	Core
0										
1	0'	0-4	MC	2.8/4.0	NA		0-1.9' Brown medium dense fine SAND, some silt, trace organics, dry	0		0
2							1.9-2.8' Brown dense SILTY SAND, trace coarse sand, dry	0		0
3							2.8'-4.0' NO RECOVERY	0		0
4								0		NL
5	4'	4-8'	MC	4.0/4.0	NA		4.0'-6.8' Brown-greyish brown dense SILTY SAND, little fine angular gravel, dry.	0		0
6							6.8-8.0' Grey-brownish grey STIFF SILT, trace fine sand, dry to moist.	0		0
7								0		0
8										
9	8'	8-12	MC	2.7/4.0	NA		8'-8.5' Grey Soft SILT, trace fine + coarse sand, wet	0		0
10							8.5'-10.7' Grey loose SILTY SAND, little coarse angular gravel, wet (8.5-9.0') to moist (9.0-10.7')	0		0

LOCATION SKETCH



DENSITY:

GRANULAR:		COHESIVE:	
0-10	Loose	0-4	Soft
10-30	Med Dense	4-8	Med Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff

PROPORTIONS:

0-10%	Trace
10-20%	Little
20-35%	Some
35-50%	And

REMARKS/WEATHER
Ptly cloudy, mid 70s F
South wind.

LOG STATUS:
PRELIMINARY: SJS FINAL:

EnviroGroup Limited
Centennial, Colorado

R:\Drawings\STD\Borelog5.dwg 08/08/05 at 08:57

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. MW-25A
PAGE 1 OF

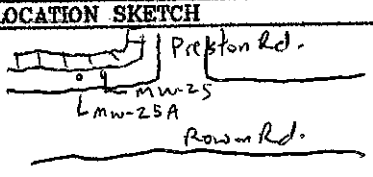
NORTH	DRILLER Nothnagle		DATE START 8/18/09
EAST	RIG BK-81		DATE FINISH
GRD ELEV.	BITS See notes	FLUIDS	TOTAL DEPTH
TOC ELEV.	LOGGED BY E. Lovendusky		WATER DEPTH

SAMPLE TYPES:
CT Cuttings
SS Split Spoon
DC Dry Core
WS Wash
NX NX Core
CS Continuous Sampler
Other: MC

SAMPLER SPECIFICATIONS:
Length
O.D. See pg 1
I.D.
Material
Liner
Other

DEPTH (FT.)	BIT CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SURFACE CONDITION: Grass / SOIL/ROCK DESCRIPTION	SOIL VAPOR PID ☒ FID ☐ BG	HS	Core
10										
								0		NR
11						NR	10.7'-12.0' NO RECOVERY	0		NR
12	12	12-12.5' MC		0.5/0.5	NA		12.0'-12.5' Grey medium stiff silt, little coarse	0		0
	AUGERED TO 13' BGS.					NR	rounded gravel, moist.			
13							Refusale 12.5' bgs. Auger refusale 13' bgs.			
	NO SAMPLES COLLECTED						Top of bedrock.			
14	5 7/8" WASH ROTARY TO 16.5' bgs.						Set 6" Steel temporary casing to 13'. Drilled			
15							w/ 5 7/8" wash rotary bit to 16.5' bgs. Grouted			
							in place 4" steel casing to 16.5' bgs. Removed			
16							6" Casing. Will let grout set. 8/18/09.			
							8/20/09 - Set up w/ 3 7/8" Wash rotary to drill open			
17							hole interval.			
18										
19										
20										

LOCATION SKETCH



DENSITY:

GRANULAR:		COHESIVE:	
0-10	Loose	0-4	Soft
10-30	Med Dense	4-8	Med Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff

PROPORTIONS:

0-10%	Trace
10-20%	Little
20-35%	Some
35-50%	And

REMARKS/WEATHER
8/20/09 - Ptly cloudy mid 70s

LOG STATUS:
PRELIMINARY: EJL FINAL:

EnviroGroup Limited
Centennial, Colorado

R:\Drawings\STDs\Borelog5.dwg 03/08/05 at 08:57

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. ~~MW-26A~~ MW-26 '08
PAGE 1 OF 3

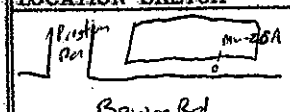
NORTH	DRILLER Nothnagle		DATE START 8/19/09
EAST	RIG BK-81		DATE FINISH 8/19/09
GRD ELEV.	BITS	FLUIDS	TOTAL DEPTH 19.2
TOC ELEV.	LOGGED BY E. Lovendusky		WATER DEPTH 7.8'

SAMPLE TYPES:
CT Cuttings WS Wash
SS Split Spoon NX NX Core
DC Dry Core CS Continuous Sampler
Other: Macrocore (MC)

SAMPLER SPECIFICATIONS:
Length 4'
O.D. 2.25
I.D. 2
Material S.S.
Liner ACETATE
Other —

SURFACE CONDITION: Grass

DEPTH (FT.)	BIT CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SOIL/ROCK DESCRIPTION	SOIL VAPOR PID [X] FID [ ] BG	HS	Core
0										
1	0	0-4	MC	4.0/4.0	NA		0-0.7' Dark brown med dense SILTY SAND, some organics, moist.	0		0
2							0.7'-7.6' Brown very dense SILTY SAND, ~~little~~ (15) trace clay, dry to moist.	0		0
3								0		0
4								0		0
5	4	4-8	MC	4.0/4.0	NA			0		0
6								0		0
7								0		0
8						SS	7.6'-9.5' Gray-brownish gray ~~loose~~ (9C) soft SILT AND FINE SAND, wet. (wet to 7.8')	0		0
9	8	8-12	MC	2.5/4.0	NA		9.5'-10.5' Brownish gray med dense fine SAND, some silt, trace fine gravel, moist.	0		0
10										

LOCATION SKETCH


DENSITY:

GRANULAR:		COHESIVE:	
0-10	Loose	0-4	Soft
10-30	Med Dense	4-8	Med Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff

PROPORTIONS:

0-10%	Trace
10-20%	Little
20-35%	Some
35-50%	And

REMARKS/WEATHER: Cloudy, low 70's

LOG STATUS:
PRELIMINARY: AJ FINAL:

EnviroGroup Limited
Centennial, Colorado

R:\Drawings\STM\Borelog5.pwg 08/08/05 at 08:57

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. ~~MW-26A~~ MW-26
PAGE 2 OF 3

NORTH	DRILLER Nothnagle		DATE START 8/17/09
EAST	RIG BK-81		DATE FINISH 8/19/09
GRD ELEV.	BITS	FLUIDS	TOTAL DEPTH 19.2'
TOC ELEV.	LOGGED BY E. Lovendusk.		WATER DEPTH 7.8'

SAMPLE TYPES:
CT Cuttings WS Wash
SS Split Spoon NX NX Core
DC Dry Core CS Continuous Sampler
Other:

SAMPLER SPECIFICATIONS:
Length
O.D. Seepg1
I.D.
Material
Liner
Other

DEPTH (FT.)	BIT CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SURFACE CONDITION: GRASS / SOIL/ROCK DESCRIPTION	SOIL VAPOR PID ☒ FID ☐ BG	HS	Core
10										
							10.5'-12.0' NO RECOVERY			0
11						NR				NR
12										
	12'	12-13.2	MC	0.4/1.2	NA		12.0'-12.4' Grey medium dense med-fine SAND, little coarse angular gravel and silt, moist			0
13						NR				NR
	NO SAMPLE 13.2'-15'					NO SAMPLE	12.4'-13.2' NO RECOVERY - Refusal @ 13.2'.			NR
14							Augered to 15'			
15							15'-16.7' Grey-brownish grey medium dense medium SAND, some coarse angular gravel, trace silt, wet.			0
16										0
	15	15-19	MC	1.7/4.0	NA		16.7'-19.0' No recovery			
17										NR
18						NR	DRILLER NOTED AUGERS ARE KICKING TO SOUTH @ APPROX. 13' b.s.			NR
19							19.0-19.2' Lt. greyish brown med. dense medium SAND, little silt, trace coarse angular gravel, wet.			0.4
20							Refusal @ 19.2'			

LOCATION SKETCH	DENSITY: GRANULAR:	DENSITY: COHESIVE:	PROPORTIONS:	REMARKS/WEATHER
Seepg1	0-10 Loose	0-4 Soft	0-10% Trace	Cloudy low 80's
	10-30 Med Dense	4-8 Med Stiff	10-20% Little	
	30-50 Dense	8-15 Stiff	20-35% Some	-See Pg 3 for well completion
	>50 Very Dense	15-30 Very Stiff	35-50% And	

LOG STATUS:
PRELIMINARY: JJ FINAL:

EnviroGroup Limited
Centennial, Colorado

R:\Drawings\STD\Borelog5.dwg 09/08/05 at 08:57

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. MW-26
PAGE 3 OF 3

NORTH	DRILLER Nothnagle		DATE START 8/19/09
EAST	RIG B-81		DATE FINISH 8/19/09
GRD ELEV.	BITS	FLUIDS	TOTAL DEPTH 19.2
TOC ELEV.	LOGGED BY E. Lovendusky		WATER DEPTH 7.8

SAMPLE TYPES:
CT Cuttings — WS Wash
SS Split Spoon — NX NX Core
DC Dry Core — CS Continuous Sampler
Other:

SAMPLER SPECIFICATIONS:
Length
O.D.
I.D.
Material
Liner
Other

DEPTH (FT.)	BIT / CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SURFACE CONDITION: / SOIL/ROCK DESCRIPTION	SOIL VAPOR PID ☐ FID ☐ BG	HS	Core
							* Continued from pg 2.			
							- Auger refusal @ 19.2' bgs. Will not use this borehole to set casing b/c it is at an angle. Backfill to 12' bgs with bentonite chips, then to 11' with sand. Set 2" diameter Sch 40 PVC well @ 11' bgs.			
							- 0.010" slot screen (11-6')			
							- #0 Sandpack (11-4')			
							- Bentonite (4-0.5')			
							- Finished as flush mount.			

LOCATION SKETCH

DENSITY:

GRANULAR:		COHESIVE:	
0-10	Loose	0-4	Soft
10-30	Med Dense	4-8	Med Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff

PROPORTIONS:

0-10%	Trace
10-20%	Little
20-35%	Some
35-50%	And

REMARKS/WEATHER

LOG STATUS:
PRELIMINARY: [signature] FINAL:

EnviroGroup Limited
Centennial, Colorado

R:\Drawings\STD\Borelog5.dwg 08/08/05 at 08:57

CLIENT Energy Solutions
PROJECT LOCATION Cheektowaga, NY
PROJECT NO. LE-0614

BOREHOLE LOG

BH NO. MW-26A
PAGE 1 OF

NORTH	DRILLER Nothnagle		DATE START 8/19/09
EAST	RIG BK-81		DATE FINISH
GRD ELEV.	BITS	FLUIDS	TOTAL DEPTH
TOC ELEV.	LOGGED BY E. Lovendusky		WATER DEPTH

SAMPLE TYPES:
CT Cuttings WS Wash
SS Split Spoon NX NX Core
DC Dry Core CS Continuous Sampler
Other:

SAMPLER SPECIFICATIONS:
Length Material
O.D. Liner
I.D. Other

DEPTH (FT.)	BIT CASING	SAMP NO.	SAMP TYPE	RECOV. FT/FT	BLOWS per 6"	SYM	SURFACE CONDITION: SOIL/ROCK DESCRIPTION	SOIL VAPOR PID ☐ FID ☐ BG	HS	Core
10							No soil sampling. For lithology, see borehole log for well MW-26.			
11							- Encounter auger refusal (4.25" ID) @ ~~13.4' bgs~~ 13.1' bgs. Set 4" steel			
12							casing to 16.5' bgs. Drilled rock socket			
13	ANGER REFUSAL - TOP OF BEDROCK						w/ 5 7/8" Roller bit. Grouted casing in			
14							place 8/19/09.			
15										
16	4" STEEL CASING SET TO 16.5'									
17										
18										
19										
20										

LOCATION SKETCH

DENSITY:

GRANULAR:		COHESIVE:	
0–10	Loose	0–4	Soft
10–30	Med Dense	4–8	Med Stiff
30–50	Dense	8–15	Stiff
>50	Very Dense	15–30	Very Stiff

PROPORTIONS:

0–10%	Trace
10–20%	Little
20–35%	Some
35–50%	And

REMARKS/WEATHER

LOG STATUS:
PRELIMINARY: FINAL:

EnviroGroup Limited
Centennial, Colorado

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APPENDIX B

FIELD WATER QUALITY SAMPLING AND ANALYSIS FORMS

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Leica LOCATION: Cheektowaga, NY

PROJECT NO. LE-0514 PERSONNEL: E. Lovendusk;

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

GENERAL					
WELL/LOCATION	MW-25				
WATER SOURCE					
DATE	9/2/09	9/2/09			
TIME	1015	1035			
SAMPLING CONDITIONS					
SAMPLING METHOD - Purge + Sample w/ poly bailer					
DEPTH OF SAMPLE (BGS / TOC) ~9.5'					
WELL DEPTH (BGS / TOC) 10.51'					
WATER LEVEL (BGS / TOC) 6.27					
ONE WET CASING VOLUME For 2 inch wells: (TD-WL)x0.16= 0.69 gallons			For 1 inch wells: (TD-WL)x0.04= ___ gallons For 4 inch wells: (TD-WL)x0.65= ___ gallons		
APPEARANCE	clear/sl. cloudy	sl. cloudy			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	2.5			
TOTAL VOLUME REMOVED (GAL)	~~50~~	2.5			
TEMPERATURE (°C or °F)	15.58	16.35			
CONDUCTIVITY (ATC, 25°C)	0.966 ms/cm	0.925 ms/cm			
pH	7.26	7.27			
REDOX (mV)	28.7	25.9			
OTHER DO	1.07 mg/L	4.23 mg/L			
PURGE OR SAMPLE	Purge	Sample			
SAMPLES COLLECTED AND SAMPLE ANALYSIS VOCs, TOC, pH, chloride, nitrate, sulfate, dissolved Fe + Mn					
GROSS UF/UP					
DISSOLVED METALS F/HNO_3					
TOTAL METALS UF/HNO_3					
PETROLEUM HCs UF/HCl					
VOLATILE ORGANICS UF/UP UF/HCl					
SEMIVOLATILE ORGANICS UF/UP					
LAB/DATE SUBMITTED					

EnviroGroup Limited

SAMPLER'S INITIALS ___ DATE 9/2/09

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					
WELL/LOCATION	MW-25A				
WATER SOURCE					
DATE	9/2/09	9/2/09			
TIME	0915	1005			
SAMPLING CONDITIONS					
SAMPLING METHOD - Purge- submersible pump, sample w/ ~~Disp~~ Poly bailer					
DEPTH OF SAMPLE (BGS / TOC) ~34'					
WELL DEPTH (BGS / TOC) 34.34					
WATER LEVEL (BGS / TOC) 7.13					
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= 17.7 gallons					
APPEARANCE	clear	clear			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	55			
TOTAL VOLUME REMOVED (GAL)	0	55			
TEMPERATURE (°C or °F)	11.93°C	12.05°C			
CONDUCTIVITY (ATC, 25°C)	0.504 ms/cm	0.492 ms/cm			
pH	8.45	8.48			
REDOX (mV)	-28.2	-86.3			
OTHER DO	0.97 mg/l	0.66 mg/l			
PURGE OR SAMPLE	Purge	Sample			
SAMPLES COLLECTED AND SAMPLE ANALYSIS VOCs, pH, Toc, chloride, nitrate, sulfate, dissolved Fe+Mn.					
GROSS UF/UP	~~XX~~	DUPLICAE	COLLECTED ~~XX~~ "DUP 09/02/09"		
DISSOLVED METALS F/HNO_3					
TOTAL METALS UF/HNO_3					
PETROLEUM HCs UF/HCl					
VOLATILE ORGANICS UF/UP UF/HCl					
SEMIVOLATILE ORGANICS UF/UP					
LAB/DATE SUBMITTED					

EnviroGroup Limited

SAMPLER'S INITIALS SJS DATE 9/2/09

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 - IN SITU

GENERAL					
WELL/LOCATION	MW-76				
WATER SOURCE					
DATE	9/2/09	9/2/09			
TIME	0833	0850			
SAMPLING CONDITIONS					
SAMPLING METHOD	- Purge + Sample w/ poly bailer				
DEPTH OF SAMPLE (BGS / TOC)	~10'				
WELL DEPTH (BGS / TOC)	10.94				
WATER LEVEL (BGS / TOC)	7.45				
ONE WET CASING VOLUME For 2 inch wells: (TD-WL)x0.16=	0.57 gallons		For 1 inch wells: (TD-WL)x0.04= gallons For 4 inch wells: (TD-WL)x0.65= gallons		
APPEARANCE	Sl. cloudy	Sl. cloudy			
FIELD MEASUREMENTS					
VOLUME REMOVED (GAL)	0	2.5			
TOTAL VOLUME REMOVED (GAL)	0	2.5			
TEMPERATURE (°C or °F)	15.34°C	16.50°C			
CONDUCTIVITY (ATC, 25°C)	1.884 mS/cm	2.041 mS/cm			
pH	7.29	7.21			
REDOX (mV)	-96.7	-68.7			
OTHER: DO mg/L	0.15	0.89			
PURGE OR SAMPLE	PURGE	SAMPLE			

SAMPLES COLLECTED AND SAMPLE ANALYSIS- VOCs, pH, TOC, chloride, nitrate, sulfate, dissolved Fe+Mn.

GROSS	UF/UP				
DISSOLVED METALS	F/HNO_3				
TOTAL METALS	UF/HNO_3				
PETROLEUM HCs	UF/HCl				
VOLATILE ORGANICS	UF/UP UF/HCl				
SEMIVOLATILE ORGANICS	UF/UP				
LAB/DATE SUBMITTED					

EnviroGroup Limited

SAMPLER'S INITIALS EJL DATE 9/2/09

FIELD WATER QUALITY SAMPLING AND ANALYSIS

PROJECT: Lecica - Ch LOCATION: Cheektowaga, NY

PROJECT NO. LE-0614 PERSONNEL: EL

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

* FINAL PARAMETERS TAKEN EX SITU B/C INSUFFICIENT VOLUME.

GENERAL	9/2/09				
WELL/LOCATION	MW-26A				
WATER SOURCE					
DATE	9/2/09	9/2/09			
TIME	0815	1420			
SAMPLING CONDITIONS					
SAMPLING METHOD - Purge w/ submersible whale pump, sample w/ poly bailer					
DEPTH OF SAMPLE (BGS / TOC) 34'					
WELL DEPTH (BGS / TOC) 34.4'					
WATER LEVEL (BGS / TOC) 7.90					
ONE WET CASING VOLUME		For 1 inch wells: (TD-WL)x0.04= ~~0.4~~ gallons			
For 2 inch wells: (TD-WL)x0.16=_____ gallons		For 4 inch wells: (TD-WL)x0.65= ~~0.65~~ 17.3 gallons			
APPEARANCE	Cloudy	Cloudy, grey			
FIELD MEASUREMENTS		* Well purged dry after 1 volume.	Sample time: 1415		
VOLUME REMOVED (GAL)	0	17.5			
TOTAL VOLUME REMOVED (GAL)	0	17.5			
TEMPERATURE (°C or °F)	12.31	15.12			
CONDUCTIVITY (ATC, 25°C)	0.839 ms/cm	0.924 ms/cm			
pH	8.85	6.95			
REDOX (mV)	-182.3	42.2			
~~OTHER~~ DO	0.65 mg/L	7.99 mg/L			
PURGE OR SAMPLE	PURGE	SAMPLE			
SAMPLES COLLECTED AND SAMPLE ANALYSIS - pH, TOC, chloride, nitrate, sulfate, Fe+Mn diss, VOCs					
GROSS UF/UP					
DISSOLVED METALS F/HNO_3					
TOTAL METALS UF/HNO_3					
PETROLEUM HCs UF/HCl					
VOLATILE ORGANICS UF/UP UF/HCl					
SEMIVOLATILE ORGANICS UF/UP					
LAB/DATE SUBMITTED					

EnviroGroup Limited

SAMPLER'S INITIALS SJB DATE 9/2/09

APPENDIX C
LABORATORY ANALYTICAL DATA

September 24, 2009

Service Request No: R0905046

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

Laboratory Results for: LEICA/ LE-0614

Dear Eric:

Enclosed are the results of the sample(s) submitted to our laboratory on September 3, 2009. For your reference, these analyses have been assigned our service request number **R0905046**.

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

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Enviro Group Limited	**Service Request No.:**	R0905046
Project:	Leica LE -0614	**Date Received:**	9/3/09
Sample Matrix:	Water		

Lab ID	Client ID
R0905046-001	TB090209
R0905046-002	MW-26
R0905046-003	MW-25A
R0905046-004	MW-25
R0905046-005	MW-26A
R0905046-006	DUP 09/02/09

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

Sample Receipt

Six (6) groundwater samples and one (1) Trip Blank were collected by the client on 9/2/09 and received for analysis at Columbia Analytical Services on 9/3/09 via CAS Courier. The samples were received in good condition and consistent with the accompanying chain of custody form. The cooler receipt temperature was 6°C, within the guidelines of 0-6°C.

Volatile Organics

Seven (7) water samples including one (1) Trip Blank were analyzed for Volatile Organic compounds by GC/MS method 8260B.

The Initial and Continuing Calibration Criteria were met.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries for target compounds were within QC limits except for Tetrachloroethene which was outside limits, high on the 9/11/09 analytical run. No data is affected by this exceedence. The recovery is flagged as "*".

All Surrogate recoveries are within acceptance limits.

All Laboratory Method Blanks were free from contamination.

Hits above the calibration range of the standards are flagged as "E", estimated. The sample is then repeated at the appropriate dilution for the hit. Both sets of data are included in the report. The subsequent hits on the dilutions are flagged as "D".

The samples were analyzed within the 14 day holding time for the method. All vials are checked for preservation after the analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No problems were encountered during the analysis of these samples.

Approved by Karen Burdick Date 9/24/09

Inorganics

Seven (7) water samples were analyzed for pH, TOC, Total and Soluble Iron and Manganese and IC compounds: Chloride, Nitrate, and Sulfate. All Method numbers are noted on the Data Form 1's of the report. The Soluble metals aliquots were filtered in the laboratory prior to analysis.

All Initial and Continuing Calibration Criteria was met for these analyses.

Batch QC is included in the report. All Laboratory Control Sample recoveries were within QC acceptance limits.

All Laboratory Method Blanks were free from contamination.

All holding times were met for these analyses except for pH which has an "immediate" holding time. The samples were analyzed as soon as possible after receipt in the laboratory.

No problems were encountered with these analyses.

Approved by Karen Burdick **Date** 9/24/09

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.

ACCREDITED IN ACCORDANCE WITH nelac

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
Project: LEICA/ LE-0614
Sample Matrix: Water

Sample Name: TB090209
Lab Code: R0905046-001

Service Request: R0905046
Date Collected: 9/ 2/09
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 16:39		170010	
Benzene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Bromodichloromethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Bromoform	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Bromomethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
2-Butanone (MEK)	10	U	10	1	NA	9/11/09 16:39		170010	
Carbon Disulfide	10	U	10	1	NA	9/11/09 16:39		170010	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Chlorobenzene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Chloroethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Chloroform	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Chloromethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Dibromochloromethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Ethylbenzene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
2-Hexanone	10	U	10	1	NA	9/11/09 16:39		170010	
Methylene Chloride	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/11/09 16:39		170010	
Styrene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Tetrachloroethene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Toluene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Trichloroethene	5.0	U	5.0	1	NA	9/11/09 16:39		170010	
Vinyl Chloride	5.0	U	5.0	1	NA	9/11/09 16:39		170010	

Comments:

Client:	Enviro Group Limited	**Service Request:**	R0905046
Project:	LEICA/ LE-0614	**Date Collected:**	9/ 2/09
Sample Matrix:	Water	**Date Received:**	9/ 3/09
Sample Name:	TB090209	**Units:**	µg/L
Lab Code:	R0905046-001	**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	9/11/09 16:39		170010	
m,p-Xylenes	5.0	U	5.0	1	NA	9/11/09 16:39		170010	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	9/11/09 16:39		
Toluene-d8	107	87-121	9/11/09 16:39		
Dibromofluoromethane	102	89-119	9/11/09 16:39		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: 9/ 2/09 0845
Date Received: 9/ 3/09

Sample Name: MW-26
Lab Code: R0905046-002

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	**14.6**		mg/L	1.0	1	NA	9/16/09 06:13
Chloride	300.0	**550**		mg/L	20	100	NA	9/4/09 20:29
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	9/3/09 22:18
pH	SM 4500-H+ B	**7.18**		pH Units		1	NA	9/3/09 17:20
Sulfate	300.0	**99.9**		mg/L	2.0	10	NA	9/3/09 22:18

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: 9/ 2/09 0845
Date Received: 9/ 3/09

Sample Name: MW-26
Lab Code: R0905046-002

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100	U	µg/L	100	1	9/10/09	9/16/09 01:10
Manganese, Dissolved	6010B	**217**		µg/L	10	1	9/10/09	9/16/09 01:10

Comments:

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

Sample Name: MW-26
Lab Code: R0905046-002

Service Request: R0905046
Date Collected: 9/ 2/09 0845
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 17:07		170010	
Benzene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Bromodichloromethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Bromoform	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Bromomethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
2-Butanone (MEK)	10	U	10	1	NA	9/11/09 17:07		170010	
Carbon Disulfide	10	U	10	1	NA	9/11/09 17:07		170010	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Chlorobenzene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Chloroethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Chloroform	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Chloromethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Dibromochloromethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
cis-1,2-Dichloroethene	**46**		5.0	1	NA	9/11/09 17:07		170010	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Ethylbenzene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
2-Hexanone	10	U	10	1	NA	9/11/09 17:07		170010	
Methylene Chloride	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/11/09 17:07		170010	
Styrene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Tetrachloroethene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Toluene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Trichloroethene	5.0	U	5.0	1	NA	9/11/09 17:07		170010	
Vinyl Chloride	**28**		5.0	1	NA	9/11/09 17:07		170010	

Comments:

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

Sample Name: MW-26
Lab Code: R0905046-002

Service Request: R0905046
Date Collected: 9/ 2/09 0845
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 17:07		170010	
m,p-Xylenes	5.0	U	5.0	1	NA	9/11/09 17:07		170010	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	9/11/09 17:07		
Toluene-d8	104	87-121	9/11/09 17:07		
Dibromofluoromethane	97	89-119	9/11/09 17:07		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: 9/ 2/09 1000
Date Received: 9/ 3/09

Sample Name: MW-25A
Lab Code: R0905046-003

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	**4.2**		mg/L	1.0	1	NA	9/16/09 06:31
Chloride	300.0	**50.3**		mg/L	2.0	10	NA	9/3/09 19:35
Nitrate as Nitrogen	300.0	**0.91**		mg/L	0.50	10	NA	9/3/09 19:35
pH	SM 4500-H+ B	**7.69**		pH Units		1	NA	9/3/09 17:20
Sulfate	300.0	**43.0**		mg/L	2.0	10	NA	9/3/09 19:35

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: 9/ 2/09 1000
Date Received: 9/ 3/09

Sample Name: MW-25A
Lab Code: R0905046-003

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100	U	µg/L	100	1	9/10/09	9/16/09 01:16
Manganese, Dissolved	6010B	10	U	µg/L	10	1	9/10/09	9/16/09 01:16

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Sample Name: MW-25A
Lab Code: R0905046-003

Service Request: R0905046
Date Collected: 9/ 2/09 1000
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 17:35		170010	
Benzene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Bromodichloromethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Bromoform	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Bromomethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
2-Butanone (MEK)	10	U	10	1	NA	9/11/09 17:35		170010	
Carbon Disulfide	10	U	10	1	NA	9/11/09 17:35		170010	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Chlorobenzene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Chloroethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Chloroform	**14**		5.0	1	NA	9/11/09 17:35		170010	
Chloromethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Dibromochloromethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Ethylbenzene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
2-Hexanone	10	U	10	1	NA	9/11/09 17:35		170010	
Methylene Chloride	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/11/09 17:35		170010	
Styrene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Tetrachloroethene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Toluene	**8.7**		5.0	1	NA	9/11/09 17:35		170010	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Trichloroethene	5.0	U	5.0	1	NA	9/11/09 17:35		170010	
Vinyl Chloride	**9.1**		5.0	1	NA	9/11/09 17:35		170010	

Comments:

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

Sample Name: MW-25A
Lab Code: R0905046-003

Service Request: R0905046
Date Collected: 9/ 2/09 1000
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 17:35		170010	
m,p-Xylenes	**8.3**		5.0	1	NA	9/11/09 17:35		170010	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	97	85-122	9/11/09 17:35		
Toluene-d8	109	87-121	9/11/09 17:35		
Dibromofluoromethane	104	89-119	9/11/09 17:35		

Comments:

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

Service Request: R0905046
Date Collected: 9/ 2/09 1030
Date Received: 9/ 3/09

Sample Name: MW-25
Lab Code: R0905046-004

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	**17.1**		mg/L	1.0	1	NA	9/16/09 06:49
Chloride	300.0	**49.4**		mg/L	2.0	10	NA	9/3/09 20:57
Nitrate as Nitrogen	300.0	**0.88**		mg/L	0.50	10	NA	9/3/09 20:57
pH	SM 4500-H+ B	**7.15**		pH Units		1	NA	9/3/09 17:20
Sulfate	300.0	**91.9**		mg/L	2.0	10	NA	9/3/09 20:57

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R0905046
Project:	LEICA/ LE-0614	**Date Collected:**	9/ 2/09 1030
Sample Matrix:	Water	**Date Received:**	9/ 3/09
Sample Name:	MW-25		
Lab Code:	R0905046-004	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100	U	µg/L	100	1	9/10/09	9/16/09 01:22
Manganese, Dissolved	6010B	**110**		µg/L	10	1	9/10/09	9/16/09 01:22

Comments:

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

Sample Name: MW-25
Lab Code: R0905046-004

Service Request: R0905046
Date Collected: 9/ 2/09 1030
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 18:04		170010	
Benzene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Bromodichloromethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Bromoform	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Bromomethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
2-Butanone (MEK)	10	U	10	1	NA	9/11/09 18:04		170010	
Carbon Disulfide	10	U	10	1	NA	9/11/09 18:04		170010	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Chlorobenzene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Chloroethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Chloroform	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Chloromethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Dibromochloromethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Ethylbenzene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
2-Hexanone	10	U	10	1	NA	9/11/09 18:04		170010	
Methylene Chloride	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/11/09 18:04		170010	
Styrene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Tetrachloroethene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Toluene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Trichloroethene	5.0	U	5.0	1	NA	9/11/09 18:04		170010	
Vinyl Chloride	5.0	U	5.0	1	NA	9/11/09 18:04		170010	

Comments:

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

Sample Name: MW-25
Lab Code: R0905046-004

Service Request: R0905046
Date Collected: 9/ 2/09 1030
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 18:04		170010	
m,p-Xylenes	5.0	U	5.0	1	NA	9/11/09 18:04		170010	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	9/11/09 18:04		
Toluene-d8	106	87-121	9/11/09 18:04		
Dibromofluoromethane	100	89-119	9/11/09 18:04		

Comments:

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

Service Request: R0905046
Date Collected: 9/ 2/09 1415
Date Received: 9/ 3/09

Sample Name: MW-26A
Lab Code: R0905046-005

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	**4.9**		mg/L	1.0	1	NA	9/16/09 07:07
Chloride	300.0	**46.1**		mg/L	2.0	10	NA	9/3/09 21:46
Nitrate as Nitrogen	300.0	0.50	U	mg/L	0.50	10	NA	9/3/09 21:46
pH	SM 4500-H+ B	**8.49**		pH Units		1	NA	9/3/09 17:20
Sulfate	300.0	**73.3**		mg/L	2.0	10	NA	9/3/09 21:46

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: 9/ 2/09 1415
Date Received: 9/ 3/09

Sample Name: MW-26A
Lab Code: R0905046-005

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	**130**		µg/L	100	1	9/10/09	9/16/09 01:28
Manganese, Dissolved	6010B	10	U	µg/L	10	1	9/10/09	9/16/09 01:28

Comments:

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

Sample Name: MW-26A
Lab Code: R0905046-005

Service Request: R0905046
Date Collected: 9/ 2/09 1415
Date Received: 9/ 3/09

Units: µg/L
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	9/11/09 18:32		170010	
Benzene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Bromodichloromethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Bromoform	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Bromomethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
2-Butanone (MEK)	10	U	10	1	NA	9/11/09 18:32		170010	
Carbon Disulfide	10	U	10	1	NA	9/11/09 18:32		170010	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Chlorobenzene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Chloroethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Chloroform	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Chloromethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Dibromochloromethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
cis-1,2-Dichloroethene	**750**	E	5.0	1	NA	9/11/09 18:32		170010	
trans-1,2-Dichloroethene	**16**		5.0	1	NA	9/11/09 18:32		170010	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Ethylbenzene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
2-Hexanone	10	U	10	1	NA	9/11/09 18:32		170010	
Methylene Chloride	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/11/09 18:32		170010	
Styrene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Tetrachloroethene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Toluene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Trichloroethene	5.0	U	5.0	1	NA	9/11/09 18:32		170010	
Vinyl Chloride	**560**	E	5.0	1	NA	9/11/09 18:32		170010	

Comments:

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

Service Request: R0905046
Date Collected: 9/ 2/09 1415
Date Received: 9/ 3/09

Sample Name: MW-26A
Lab Code: R0905046-005

Units: µg/L
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	9/11/09 18:32		170010	
m,p-Xylenes	5.0	U	5.0	1	NA	9/11/09 18:32		170010	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	9/11/09 18:32		
Toluene-d8	108	87-121	9/11/09 18:32		
Dibromofluoromethane	102	89-119	9/11/09 18:32		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: 9/ 2/09 1415
Date Received: 9/ 3/09

Sample Name: MW-26A
Lab Code: R0905046-005
Run Type: Dilution

Units: µg/L
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	200	U	200	10	NA	9/14/09 14:35		170232	
Benzene	50	U	50	10	NA	9/14/09 14:35		170232	
Bromodichloromethane	50	U	50	10	NA	9/14/09 14:35		170232	
Bromoform	50	U	50	10	NA	9/14/09 14:35		170232	
Bromomethane	50	U	50	10	NA	9/14/09 14:35		170232	
2-Butanone (MEK)	100	U	100	10	NA	9/14/09 14:35		170232	
Carbon Disulfide	100	U	100	10	NA	9/14/09 14:35		170232	
Carbon Tetrachloride	50	U	50	10	NA	9/14/09 14:35		170232	
Chlorobenzene	50	U	50	10	NA	9/14/09 14:35		170232	
Chloroethane	50	U	50	10	NA	9/14/09 14:35		170232	
Chloroform	50	U	50	10	NA	9/14/09 14:35		170232	
Chloromethane	50	U	50	10	NA	9/14/09 14:35		170232	
Dibromochloromethane	50	U	50	10	NA	9/14/09 14:35		170232	
1,1-Dichloroethane	50	U	50	10	NA	9/14/09 14:35		170232	
1,2-Dichloroethane	50	U	50	10	NA	9/14/09 14:35		170232	
1,1-Dichloroethene	50	U	50	10	NA	9/14/09 14:35		170232	
cis-1,2-Dichloroethene	**740**	D	50	10	NA	9/14/09 14:35		170232	
trans-1,2-Dichloroethene	50	U	50	10	NA	9/14/09 14:35		170232	
1,2-Dichloropropane	50	U	50	10	NA	9/14/09 14:35		170232	
cis-1,3-Dichloropropene	50	U	50	10	NA	9/14/09 14:35		170232	
trans-1,3-Dichloropropene	50	U	50	10	NA	9/14/09 14:35		170232	
Ethylbenzene	50	U	50	10	NA	9/14/09 14:35		170232	
2-Hexanone	100	U	100	10	NA	9/14/09 14:35		170232	
Methylene Chloride	50	U	50	10	NA	9/14/09 14:35		170232	
4-Methyl-2-pentanone (MIBK)	100	U	100	10	NA	9/14/09 14:35		170232	
Styrene	50	U	50	10	NA	9/14/09 14:35		170232	
1,1,2,2-Tetrachloroethane	50	U	50	10	NA	9/14/09 14:35		170232	
Tetrachloroethene	50	U	50	10	NA	9/14/09 14:35		170232	
Toluene	50	U	50	10	NA	9/14/09 14:35		170232	
1,1,1-Trichloroethane	50	U	50	10	NA	9/14/09 14:35		170232	
1,1,2-Trichloroethane	50	U	50	10	NA	9/14/09 14:35		170232	
Trichloroethene	50	U	50	10	NA	9/14/09 14:35		170232	
Vinyl Chloride	**560**	D	50	10	NA	9/14/09 14:35		170232	

Comments:

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

Service Request: R0905046
Date Collected: 9/ 2/09 1415
Date Received: 9/ 3/09

Sample Name: MW-26A
Lab Code: R0905046-005
Run Type: Dilution

Units: µg/L
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	50	U	50	10	NA	9/14/09 14:35		170232	
m,p-Xylenes	50	U	50	10	NA	9/14/09 14:35		170232	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	85-122	9/14/09 14:35		
Toluene-d8	110	87-121	9/14/09 14:35		
Dibromofluoromethane	99	89-119	9/14/09 14:35		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Sample Name: DUP 09/02/09
Lab Code: R0905046-006

Service Request: R0905046
Date Collected: 9/ 2/09
Date Received: 9/ 3/09

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	**3.5**		mg/L	1.0	1	NA	9/18/09 08:37
Chloride	300.0	**59.9**		mg/L	2.0	10	NA	9/3/09 22:02
Nitrate as Nitrogen	300.0	**0.91**		mg/L	0.50	10	NA	9/3/09 22:02
pH	SM 4500-H+ B	**8.34**		pH Units		1	NA	9/3/09 17:20
Sulfate	300.0	**43.8**		mg/L	2.0	10	NA	9/3/09 22:02

Comments:

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

Service Request: R0905046
Date Collected: 9/ 2/09
Date Received: 9/ 3/09

Sample Name: DUP 09/02/09
Lab Code: R0905046-006

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100	U	µg/L	100	1	9/10/09	9/16/09 01:34
Manganese, Dissolved	6010B	10	U	µg/L	10	1	9/10/09	9/16/09 01:34

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Sample Name: DUP 09/02/09
Lab Code: R0905046-006

Service Request: R0905046
Date Collected: 9/ 2/09
Date Received: 9/ 3/09

Units: µg/L
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	9/14/09 15:44		170232	
Benzene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Bromodichloromethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Bromoform	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Bromomethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
2-Butanone (MEK)	10	U	10	1	NA	9/14/09 15:44		170232	
Carbon Disulfide	10	U	10	1	NA	9/14/09 15:44		170232	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Chlorobenzene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Chloroethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Chloroform	**14**		5.0	1	NA	9/14/09 15:44		170232	
Chloromethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Dibromochloromethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Ethylbenzene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
2-Hexanone	10	U	10	1	NA	9/14/09 15:44		170232	
Methylene Chloride	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/14/09 15:44		170232	
Styrene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Tetrachloroethene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Toluene	**8.7**		5.0	1	NA	9/14/09 15:44		170232	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Trichloroethene	5.0	U	5.0	1	NA	9/14/09 15:44		170232	
Vinyl Chloride	**9.9**		5.0	1	NA	9/14/09 15:44		170232	

Comments:

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

Sample Name: DUP 09/02/09
Lab Code: R0905046-006

Service Request: R0905046
Date Collected: 9/ 2/09
Date Received: 9/ 3/09

Units: µg/L
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	9/14/09 15:44		170232	
m,p-Xylenes	**8.1**		5.0	1	NA	9/14/09 15:44		170232	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	9/14/09 15:44		
Toluene-d8	111	87-121	9/14/09 15:44		
Dibromofluoromethane	103	89-119	9/14/09 15:44		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

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

Service Request: R0905046
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: R0905046-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	9/16/09 00:47
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	9/3/09 17:25
Nitrate as Nitrogen	300.0	0.050	U	mg/L	0.050	1	NA	9/3/09 17:25
Sulfate	300.0	0.20	U	mg/L	0.20	1	NA	9/3/09 17:25

Comments:

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

Service Request: R0905046
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: R0905046-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	9/18/09 02:17
Chloride	300.0	0.20	U	mg/L	0.20	1	NA	9/4/09 13:37

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R0905046
Project:	LEICA/ LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R0905046-MB1	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100	U	µg/L	100	1	9/10/09	9/15/09 23:31
Manganese, Dissolved	6010B	10	U	µg/L	10	1	9/10/09	9/15/09 23:31

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R0905046
Project:	LEICA/ LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R0905046-MB2	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Iron, Dissolved	6010B	100	U	µg/L	100	1	9/10/09	9/15/09 23:43
Manganese, Dissolved	6010B	10	U	µg/L	10	1	9/10/09	9/15/09 23:43

Comments:

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

Sample Name: Method Blank
Lab Code: RQ0908527-01

Service Request: R0905046
Date Collected: NA
Date Received: NA

Units: µg/L
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	9/11/09 11:55		170010	
Benzene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Bromodichloromethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Bromoform	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Bromomethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
2-Butanone (MEK)	10	U	10	1	NA	9/11/09 11:55		170010	
Carbon Disulfide	10	U	10	1	NA	9/11/09 11:55		170010	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Chlorobenzene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Chloroethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Chloroform	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Chloromethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Dibromochloromethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Ethylbenzene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
2-Hexanone	10	U	10	1	NA	9/11/09 11:55		170010	
Methylene Chloride	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/11/09 11:55		170010	
Styrene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Tetrachloroethene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Toluene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Trichloroethene	5.0	U	5.0	1	NA	9/11/09 11:55		170010	
Vinyl Chloride	5.0	U	5.0	1	NA	9/11/09 11:55		170010	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Enviro Group Limited	**Service Request:**	R0905046
Project:	LEICA/ LE-0614	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0908527-01	**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	9/11/09 11:55		170010	
m,p-Xylenes	5.0	U	5.0	1	NA	9/11/09 11:55		170010	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	9/11/09 11:55		
Toluene-d8	108	87-121	9/11/09 11:55		
Dibromofluoromethane	102	89-119	9/11/09 11:55		

Comments:

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

Sample Name: Method Blank
Lab Code: RQ0908590-01

Service Request: R0905046
Date Collected: NA
Date Received: NA

Units: µg/L
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	9/14/09 11:45		170232	
Benzene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Bromodichloromethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Bromoform	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Bromomethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
2-Butanone (MEK)	10	U	10	1	NA	9/14/09 11:45		170232	
Carbon Disulfide	10	U	10	1	NA	9/14/09 11:45		170232	
Carbon Tetrachloride	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Chlorobenzene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Chloroethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Chloroform	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Chloromethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Dibromochloromethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,1-Dichloroethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,2-Dichloroethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,1-Dichloroethene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
cis-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
trans-1,2-Dichloroethene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,2-Dichloropropane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
cis-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
trans-1,3-Dichloropropene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Ethylbenzene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
2-Hexanone	10	U	10	1	NA	9/14/09 11:45		170232	
Methylene Chloride	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	NA	9/14/09 11:45		170232	
Styrene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Tetrachloroethene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Toluene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,1,1-Trichloroethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
1,1,2-Trichloroethane	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Trichloroethene	5.0	U	5.0	1	NA	9/14/09 11:45		170232	
Vinyl Chloride	5.0	U	5.0	1	NA	9/14/09 11:45		170232	

Comments:

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

Sample Name: Method Blank
Lab Code: RQ0908590-01

Service Request: R0905046
Date Collected: NA
Date Received: NA

Units: µg/L
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	9/14/09 11:45		170232	
m,p-Xylenes	5.0	U	5.0	1	NA	9/14/09 11:45		170232	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	92	85-122	9/14/09 11:45		
Toluene-d8	103	87-121	9/14/09 11:45		
Dibromofluoromethane	95	89-119	9/14/09 11:45		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

Service Request: R0905046
Date Analyzed: 9/ 3/09 - 9/16/09

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0905046-LCS1 Result	Expected	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	**9.82**	10.0	98	86 - 117
Chloride	300.0	**1.80**	2.00	90	90 - 110
Nitrate as Nitrogen	300.0	**0.948**	1.00	95	90 - 110
Sulfate	300.0	**2.01**	2.00	101	90 - 110

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

Service Request: R0905046
Date Analyzed: 9/ 4/09 - 9/18/09

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0905046-LCS2 Result	Expected	% Rec	% Rec Limits
Carbon, Total Organic (TOC)	SM20 5310 C	**9.91**	10.0	99	86 - 117
Chloride	300.0	**1.93**	2.00	97	90 - 110

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

Service Request: R0905046
Date Analyzed: 9/15/09

Lab Control Sample Summary
Inorganic Parameters

Units: µg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0905046-LCS Result	Expected	% Rec	% Rec Limits
Iron, Dissolved	6010B	**1010**	1000	101	80 - 120
Manganese, Dissolved	6010B	**495**	500	99	80 - 120

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

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

Service Request: R0905046
Date Analyzed: 9/11/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 170010

Analyte Name	Lab Control Sample RQ0908527-02 Result	Expected	% Rec		% Rec Limits
Acetone	**19.6**	20.0	98		50 - 150
Benzene	**23.2**	20.0	116		70 - 130
Bromodichloromethane	**21.1**	20.0	106		70 - 130
Bromoform	**20.6**	20.0	103		70 - 130
Bromomethane	**24.7**	20.0	124		50 - 150
2-Butanone (MEK)	**16.7**	20.0	84		50 - 150
Carbon Disulfide	**23.7**	20.0	118		70 - 130
Carbon Tetrachloride	**24.5**	20.0	122		70 - 130
Chlorobenzene	**23.9**	20.0	119		70 - 130
Chloroethane	**22.9**	20.0	115		70 - 130
Chloroform	**22.6**	20.0	113		70 - 130
Chloromethane	**23.5**	20.0	117		70 - 130
Dibromochloromethane	**21.2**	20.0	106		70 - 130
1,1-Dichloroethane	**22.9**	20.0	115		70 - 130
1,2-Dichloroethane	**19.6**	20.0	98		70 - 130
1,1-Dichloroethene	**23.3**	20.0	116		70 - 130
cis-1,2-Dichloroethene	**21.2**	20.0	106		70 - 130
trans-1,2-Dichloroethene	**22.0**	20.0	110		70 - 130
1,2-Dichloropropane	**21.9**	20.0	109		70 - 130
cis-1,3-Dichloropropene	**20.1**	20.0	100		70 - 130
trans-1,3-Dichloropropene	**19.2**	20.0	96		70 - 130
Ethylbenzene	**24.3**	20.0	121		70 - 130
2-Hexanone	**16.2**	20.0	81		70 - 130
Methylene Chloride	**21.9**	20.0	109		70 - 130
4-Methyl-2-pentanone (MIBK)	**16.6**	20.0	83		70 - 130
Styrene	**24.5**	20.0	122		70 - 130
1,1,2,2-Tetrachloroethane	**20.9**	20.0	104		70 - 130
Tetrachloroethene	**26.4**	20.0	132	*	70 - 130
Toluene	**24.0**	20.0	120		70 - 130
1,1,1-Trichloroethane	**23.2**	20.0	116		70 - 130
1,1,2-Trichloroethane	**19.7**	20.0	98		70 - 130
Trichloroethene	**23.1**	20.0	115		70 - 130
Vinyl Chloride	**24.5**	20.0	122		70 - 130
o-Xylene	**24.4**	20.0	122		70 - 130
m,p-Xylenes	**49.3**	40.0	123		70 - 130

Comments:

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

Service Request: R0905046
Date Analyzed: 9/14/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 170232

Analyte Name	Lab Control Sample RQ0908590-02 Result	Expected	% Rec	% Rec Limits
Acetone	**17.7**	20.0	88	50 - 150
Benzene	**21.2**	20.0	106	70 - 130
Bromodichloromethane	**19.7**	20.0	98	70 - 130
Bromoform	**18.8**	20.0	94	70 - 130
Bromomethane	**21.3**	20.0	106	50 - 150
2-Butanone (MEK)	**15.6**	20.0	78	50 - 150
Carbon Disulfide	**22.6**	20.0	113	70 - 130
Carbon Tetrachloride	**21.8**	20.0	109	70 - 130
Chlorobenzene	**21.7**	20.0	108	70 - 130
Chloroethane	**22.2**	20.0	111	70 - 130
Chloroform	**21.4**	20.0	107	70 - 130
Chloromethane	**20.5**	20.0	103	70 - 130
Dibromochloromethane	**20.0**	20.0	100	70 - 130
1,1-Dichloroethane	**21.2**	20.0	106	70 - 130
1,2-Dichloroethane	**18.5**	20.0	93	70 - 130
1,1-Dichloroethene	**20.8**	20.0	104	70 - 130
cis-1,2-Dichloroethene	**19.8**	20.0	99	70 - 130
trans-1,2-Dichloroethene	**20.4**	20.0	102	70 - 130
1,2-Dichloropropane	**20.5**	20.0	102	70 - 130
cis-1,3-Dichloropropene	**18.8**	20.0	94	70 - 130
trans-1,3-Dichloropropene	**17.7**	20.0	89	70 - 130
Ethylbenzene	**21.1**	20.0	105	70 - 130
2-Hexanone	**16.3**	20.0	81	70 - 130
Methylene Chloride	**20.7**	20.0	103	70 - 130
4-Methyl-2-pentanone (MIBK)	**16.4**	20.0	82	70 - 130
Styrene	**21.9**	20.0	109	70 - 130
1,1,2,2-Tetrachloroethane	**19.5**	20.0	98	70 - 130
Tetrachloroethene	**22.4**	20.0	112	70 - 130
Toluene	**21.5**	20.0	107	70 - 130
1,1,1-Trichloroethane	**21.1**	20.0	106	70 - 130
1,1,2-Trichloroethane	**18.3**	20.0	92	70 - 130
Trichloroethene	**21.4**	20.0	107	70 - 130
Vinyl Chloride	**22.9**	20.0	115	70 - 130
o-Xylene	**21.4**	20.0	107	70 - 130
m,p-Xylenes	**42.3**	40.0	106	70 - 130

Comments:

Columbia Analytical Services

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

SR #

CAS Contact Karen Burker

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: elovenduskiEnvirogroup.com
Company/Address: Enviro Group LTD 46 Lake Ave Suite 102 Saratoga Springs, NY 12866	
Phone #: 518-258-3859	FAX#: 303-790-1347
Sampler's Signature: EJL	Sampler's Printed Name: Eric Lovenduski

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: HCl | Ice | Ice | H2SO4 | Ice ☐ | H2SO4

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 _____

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	TOC	Cl	NO3	SO4	ROI	REMARKS/ ALTERNATE DESCRIPTION
TB 090209	-001	9/2/09	0800	DI	3	X													
MW-26	-002	9/2/09	0845	GW	9	X						X	X	X	X	X	X		
MW-25A	-003	9/2/09	1000	GW	9	X						X	X	X	X	X	X		
MW-25	-004	9/2/09	1030	GW	9	X						X	X	X	X	X	X		
MW-26A	-005	9/2/09	1415	GW	9	X						X	X	X	X	X	X		
DUP 09/02/09	-006	9/2/09	—	GW	9	X						X	X	X	X	X	X		

SPECIAL INSTRUCTIONS/COMMENTS
Metals
DISSOLVED Fe + Mn
* - FILTER IN LAB *

See QAPP ☐

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

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

INVOICE INFORMATION
PO# LE-0614
BILL TO: Eric Lovenduski

R0905046
Enviro Group Limited
LEICA

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 6°C CUSTODY SEALS: Y (N)

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	
Signature: EJL	Signature: Wayne DeGolier	Signature: Wayne DeGolier	Signature: Pat Bennett	Signature: Pat Bennett	Signature: Mark C. Peters
Printed Name: Eric Lovenduski	Printed Name: Wayne DeGolier	Printed Name: Wayne DeGolier	Printed Name: Pat Bennett	Printed Name: Pat Bennett	Printed Name: Mark C. Peters
Firm: Enviro Group LTD	Firm: Energy Solutions	Firm: Energy Solutions	Firm: CAS	Firm: CAS	Firm: CAS
Date/Time: 9/2/09 1500	Date/Time: 9/3/09 1500	Date/Time: 9/3/09 10:30	Date/Time: 9-3-09 1000	Date/Time: 9-3-09 1425	Date/Time: 9/3/09 1425

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

SCOC-1102-08

Cooler Receipt And Preservation Ch

R0905046
Enviro Group Limited
LEICA

Project/Client EnviroGroup LTD Submission Number_____

Cooler received on 9/3/09 by: MKP **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?	KB 9/3/09		YES	(NO)	N/A
5.	Were **Ice** or **Ice packs** present?			(YES)	NO	
6.	Where did the bottles originate?			CAS/ROC, (CLIENT) Arkema		
7.	Temperature of cooler(s) upon receipt:	6°	4°			
	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: 9/3/09 @ 1445

Thermometer ID: 161 / IR GUN#2 / (IR GUN#3) Reading From: Temp Blank / (Sample Bottle)

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

PC Secondary Review: KB 9/3/09

Cooler Breakdown: Date: 9-4-09 by: KE

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
≥12	NaOH				
≤2	HNO_3				
≤2	H_2SO_4			WC92240B	07/10
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid	
	$Na_2S_2O_3$	-	-		
	Zn Aceta	-	-		
	HCl	*	*	G45A01	08/10

Sample ID	Vol. Added	Lot Added	Final pH

*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: 9-121-001, 9-121-002, 037955, BDB26.95E,

Other Comments:

(*) ~~Frontier Sample:~~ KB 9/3/09

PC Secondary Review: KB 9/24/09 *significant air bubbles are greater than 5-6 mm

Data Validation Status Report

Validated by: EJW *Date:* 10/14/09
Approved by: _____ *Date:* _____
Entered by: _____ *Date:* _____
Proofed by: _____ *Date:* _____

Project Name/ No: LEICA LE-0614
Task Manager: E. LOVENDUSKI
Data Package #: SEPT 09 GROUNDWATER
Name of Laboratory: COLUMBIA ANALYTICAL SERVICES
Laboratory Job #'s: R0905046

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

NA Split Sample(s) Report :
Name of Laboratory: _____
Laboratory Job #: _____
NA QAP form
X COC (IN LAB REPORT)
X Field Forms
_____ Field Notes
NA Preliminary Analytical Results
X Final Analytical Report

List of Samples included in Group

MW-25		
MW-25A		
MW-26		
MW-26A		
DUP 09/02/09		
TB090209		

Data Validation Documentation

Project Name LEICA

Validator GNS

Project No. LEO614

Project/Task Mgr E. LOVENDUSKI

Task Name SEPT '09 GROUNDWATER

Date of Validation 10/14/09

Data Package No. SEPT '09 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-26A

For the selected samples:

- Were all samples received by the lab under chain of custody? X 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 X no
- Were field calculations (e.g., conductivities and water levels) accurate? X yes __ no
- Were the samples collected, preserved and shipped in accordance with project specs?[1] X yes __ no
- Were the samples analyzed within the required holding times?[1] X 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? X yes __ no

VERIFIED TIME DISCREPANCIES NOTED BELOW

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.

- CASE NARRATIVE STATES THAT SEVEN (7) GW SAMPLES WERE RECIEVED ON PAGE 2+3, BUT SAMPLE LIST + COC CONFIRM ONLY 6 (SIX) GW SAMPLES WERE SUBMITTED.
- ALL SAMPLE TIMES ON FIELD SHEETS ARE FIVE MINUTES LATER THAN SAMPLE TIMES ON C.O.C. MW-25, MW-25A, MW-26, MW-26A NOT FLAGGED, BUT SAMPLER INFORMED + REQUESTED TO ADD NOTE TO SAMPLE SHEETS
- NO CUSTODY SEAL ON COOLER, REQUESTED SAMPLER TO ORDER FROM LAB NEXT TIME.

[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? X yes __ no
Were contaminants detected in any Trip Blank? __ yes X 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).

TRIP BLANK WAS ONLY ANALYZED FOR VOCs PER PROJECT MANAGER.

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

Were a sufficient number of Field Blanks collected? __ yes __ no N/A
Were contaminants detected in any Field Blank? __ yes __ no N/A

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 n/a

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).

"MW-25A" AND "DUP 09/02/09" DETECTED THE SAME COMPOUNDS AND ALL RESULTS ARE WELL WITHIN 50% RPD. pH SHOWS THE MOST DIFFERENCE. MW-25A = 7.69 AND DUP 09/02/09 = 8.34 FIELD READING WAS 8.48. THESE VALUES ARE WITHIN THE RANGE OF ALL THE VALUES, SO NO FURTHER ACTION IS NECESSARY.

Chemical Laboratory QA Verification

Laboratory Name: COLUMBIA ANALYTICAL SERVICES Laboratory Job No. R0905046

List analytical methods included in report.
EPA SW846 8260B, EPA 300.0, SM20 5310C, SM 4500-H+B 6010B

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? ✓ 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).

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

LCS FOR PCE WAS HIGH, PCE WAS NON-DETECT IN ALL SAMPLES, NO FLAGGING REQUIRED

[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.