

**Confirmatory Phase II
Environmental Site Assessment**

**245 Andrews Street, 159-169 Pleasant Street
Rochester, New York 14604**

Prepared for:

D4 Discoveries, Inc.

&

City of Rochester Department of Environmental Quality

Prepared by:

Leader Professional Services, Inc.





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1.0 EXECUTIVE SUMMARY

Ravi Engineering & Land Surveying, P.C. (RE&LS) and Leader Professional Services, Inc. (Leader) performed a Confirmatory Phase II Environmental Site Assessment (ESA) at the 245 Andrews Street, 159-169 Pleasant Street property in the City of Rochester, New York (the "Site," Figure 1).

Passero Associates (Passero) completed a Phase I ESA of the Site for D4 Discovery and the City of Rochester, dated June 6, 2012 through Rochester's Brownfield Assistance Program (BAP). The ESA identified recognized environmental conditions (RECs) relative to historic Site usage as 1) a dry cleaner, and 2) a filling station. Potential releases of the dry cleaning solvent perchloroethylene (PCE) and petroleum products were identified as RECs.

An electromagnetic (EM) survey was conducted using a Geonics EM-61 on December 8, 2012; electromagnetic anomalies indicative of buried metal objects were identified beneath the parking lot east of the subject building. Several of these anomalies are suspected to be indicative of underground storage tanks (USTs) dating back to when the Site was used as a filling station.

Soil and groundwater samples collected on December 20, 2012 using Geoprobe direct push sampling tools ("Geoprobe") indicate that:

- Petroleum compounds are present in Site soils at concentrations greater than NYSDEC Part 375 Soil Cleanup Objectives (SCO) for Unrestricted Use and in groundwater at concentrations greater than Technical and Operational Guidance Series (TOGS) 1.1.1 Groundwater Standards in the location of the historic gas station at the east side of the parking lot.
- PCE is present in Site groundwater at concentrations greater than TOGS 1.1.1 Groundwater Standards in both groundwater samples collected beneath the building slab. PCE was detected in the groundwater at a concentration of 88,500 micrograms per liter (ug/L) beneath the east side of the building, and at a concentration of 7,890 ug/L beneath the west side of the building; the Groundwater Standard for PCE is 5.0 ug/L.

2.0 INTRODUCTION

2.1 Background

In their June 6, 2012 ESA, Passero identified the following recognized environmental conditions (RECs):

1. City records indicate that two 1,000 gallon gasoline USTs and one (or two) 500 gallon USTs were utilized by Mid-City Parking and subsequently Cherry Service Station; Jimmie's Service Station; Chas Gillis Jim's Service Station; and Clinton-

Franklin Parking on the subject 159-169 Pleasant Street property from 1939 to 1955. Historic Sanborn® Fire Insurance Maps indicated a filling station as early as 1935 in this location. City records indicate that some of these USTs were closed-in-place by filling them with water in September 1945; however, their inspection records indicate active USTs until 1955. Potential abandoned USTs are identified as a REC.

2. A potential petroleum release to Site soils and/or groundwater is identified as a REC.
3. *Silver Cleaners and Launderers* (Silver Cleaners) is documented to have utilized the NYSDEC-classified hazardous substance perchloroethylene (PCE) on the subject 245 Andrews Street parcel from 1950 to 2011. Potential PCE-contaminated dry cleaning equipment remains in the western side of the subject building. Floor staining indicative of a potential PCE release was noted around the base of the dry cleaning equipment.
4. Drums of unidentified chemicals or petroleum products were noted in the eastern side of the subject building. Floor staining indicative of a potential release was noted around the base of the drums.
5. A potential PCE release to Site soils and/or groundwater is identified as a REC.

2.2 Scope of Services

We understand that D4 Discovery is considering purchasing the Site. They requested that RE&LS and Leader complete a Limited Phase II ESA for confirmatory purposes to evaluate whether contaminants related to the RECs have impacted the subsurface. The Confirmatory Phase II ESA included the following scope of work:

1. To assure that the subsequent soil boring program will not puncture any orphan USTs, we conducted the investigation for USTs by EM-61 on the 159-169 Pleasant Street properties.
2. We conducted a subsurface investigation by Geoprobe to observe subsurface conditions and collect samples for laboratory analysis.

2.3 Limitations

The data and samples from any given soil boring or monitoring well will indicate conditions that apply only at that particular location, and such conditions may not necessarily apply to the general site as a whole. The findings and conclusions presented in this report are based on an evaluation of a limited number of samples collected during this study and our interpretation of these data. Conditions

between sample locations may vary, and our findings and conclusions should be considered as a professional opinion. If additional data become available in the future, it may be necessary to re-evaluate our opinions.

3.0 CONFIRMATORY PHASE II ASSESSMENT

3.1 Electromagnetic Survey

The electromagnetic survey was conducted on December 8, 2012 by AMEC Geomatrix (AMEC) to identify electromagnetic anomalies indicative of buried metal objects. AMEC identified rectangular anomalous areas in the parking lot east of the subject building. In their December 11, 2012 report (Appendix 1), AMEC identified four anomalous labeled A, B, C and D on their Figure 1. AMEC's Senior Geophysicist John Luttinger stated the following:

- Anomalies A and B are two buried metal objects located in the central portion of the survey area. Linear anomalies appear to be associated with these anomalies. Anomaly A and B may represent USTs or other buried metals.
- Anomaly C is a northeast trending linear anomaly located in the northern portion of the survey area. The geometry of this anomaly suggests that a reinforced concrete pad may be present beneath the asphalt, in this location. Alternatively, Anomaly C may represent miscellaneous buried metal.
- Anomaly D is an isolated anomaly in the southern portion of the survey area. There do not appear to be linear anomalies associated with Anomaly D as might be expected for a UST at a former retail fuel station. Anomaly D may represent a UST, a buried manhole cover, or other buried metallic object.
- The enclosed dumpster area on the western portion of the site is entirely anomalous. This area is surrounded and covered by chain link fence. It is not possible to ascertain the presence of a UST in such areas where the response is dominated by surface metals.

3.2 Test Borings & Soil Samples

We retained TREC Environmental, Inc. to install five soil borings (SB-1 to SB-5) on December 20, 2012 (Figure 2). Soil borings were installed using a direct push Geoprobe® drill rig and were installed to the depth of refusal which ranged from 2 feet beneath ground surface (BGS) to 13.8 feet BGS. Soil samples were collected continuously in the field and screened using a portable organic vapor meter equipped with a photoionization detector (PID) to detect the presence of volatile organic compounds (VOCs). Soil boring locations were installed under the

direction of a RE&LS geologist. Soil boring logs with PID readings are included in Appendix 3.

- SB-1, -2, and -3 were interior, sub-slab borings drilled in close proximity to the historic dry cleaning equipment.
- SB-4 was an interior, sub-slab boring drilled in close proximity to the leaking drums noted in Passero's Phase I ESA.
- SB-5 was drilled in close proximity to the AMEC EM-61 anomalies in the parking lot east of the subject building that are suspected to be indicative of USTs.

Three soil samples were collected for volatile organic compound (VOC) analysis by USEPA Method 8260B for Target Compound List (TCL) compounds in the three areas described above following the guidelines of NYSDEC's Soil Cleanup Guidance CP-51.

3.2.1 Results - Soils

SB-1, SB-2, and SB-3 were sub-slab soil borings that were drilled in the historic area where the dry cleaning equipment was utilized inside the southwest corner of the subject building. A maximum reading of 170 parts per million (ppm) was measured on the soil sample collected from the Geoprobe sample sleeve collected from the depth of 4 feet BGS to 8 feet BGS from SB-1. A soil sample was collected from this interval for laboratory analysis.

SB-4 was a sub-slab soil boring that was drilled in the area where drums and floor stains were noted inside the southeast corner of the subject building. A maximum reading of 165 ppm was measured on the soil sample collected from the Geoprobe sample sleeve collected from the depth of 4 feet BGS to 8 feet BGS from SB-4. A soil sample was collected from this interval for laboratory analysis:

SB-5 was a drilled in the parking lot east of the subject building where the EM-61 survey and historic Sanborn Maps indicate that USTs were historically located. At an approximate depth of 7 feet BGS, grey staining and a strong petroleum odor was noted in the samples. A maximum reading of 1240 ppm was measured on the soil samples collected from the Geoprobe sample sleeve collected from the depth of 4 feet BGS to 8 feet BGS and from 12 feet BGS to Geoprobe refusal at 13.3 feet BGS.

The analytical results are attached to this letter report and tabulated below with comparisons to the NYSDEC Part 375 SCO for Unrestricted Use:

Table 1: Soil Sampling VOCs Results					
Sample Location	SB1-7'	SB4-8'	SB5-8'	Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives	Commissioner's Policy - 51: Commercial Use
Compound	Results				
Tetrachloroethene	0.3	1.0	ND	1.3	NS
Ethylbenzene	ND	ND	1.3	1	1
o-xylene	ND	ND	2.6	0.26	0.26
m,p-Xylene	ND	ND	5.9	0.26	0.26
Methylcyclohexane	ND	ND	2.7	NS	NS

NS - No Standard
 ND - Not detected by laboratory analysis
 µg/kg - All units are measured in micrograms per kilogram or parts per billion; they are converted to parts per million for comparison.
BOLD - Indicates a concentration above the SCO for Unrestricted Use

3.3 Groundwater Sample Collection

Three groundwater samples (GW-1, -4 and -5) were collected with disposable polyethylene bailers and submitted for laboratory analysis for TCL and CP-51 VOCs.

3.3.1 Results - Groundwater

As indicated below, all three groundwater samples have contaminants in exceedance of the applicable TOS 1.1.1 Groundwater Standards. Sub-slab groundwater samples GW-1 and GW-4 are impacted with PCE, and GW-5 is impacted by petroleum compounds.

Table 2: Groundwater VOC Sampling Results				
Sample Location	GW-1	GW-4	GW-5	TOGS 1.1.1 Groundwater Standard
Compound	Results			
Tetrachloroethene	7,890	88,500	ND	5
Ethylbenzene	ND	ND	1,040	5
Methylcyclohexane	ND	ND	826	5
Toluene	ND	ND	309	5
Naphthalene	ND	ND	699	5
1,2,4-Trimethylbenzene	ND	ND	1,650	5
1,3,5-Trimethylbenzene	ND	ND	630	5
o-Xylene	ND	ND	1,250	5
m,p-Xylene	ND	ND	3,450	5
<p>µg/L - All units are measured in micrograms per Liter ND - Not Detected by laboratory analysis BOLD - Indicates a concentration above the Groundwater Standard</p>				

3.4 NYSDEC Spill Report

6NYCRR Part 613.8 of the NYSDEC Petroleum Bulk Storage (PBS) regulations requires that “anybody with knowledge of a petroleum release” report a spill to the NYSDEC within two hours of discovery. Based on the strong petroleum odor and elevated levels of organic vapors noted in SB-5, we reported a spill to the NYSDEC “Spills Hotline.” NYSDEC assigned Spill #1213777 to Project Manager Joseph Marchitell.

4.0 CONCLUSIONS

1. The EM-61 data indicate suspected orphan USTs dating back to when the Site was used as a filling station from 1939 to 1955.
2. These Phase II data indicate that historic site usage has impacted Site soils and groundwater with both PCE and petroleum compounds.



5.0 RECOMMENDATIONS

1. The EM anomalies should be investigated by test pitting to determine if USTs remain on Site. If USTs are discovered, they should properly removed in conformance with City of Rochester and NYSDEC tank regulations.
2. These data indicate that the Site is eligible to be addressed through a NYSDEC Brownfield Cleanup Program (BCP). A BCP Remedial Investigation (RI) should be performed to delineate the lateral and vertical extent of contamination. Based on the RI, a draft Remedial Action Work Plan (RAWP) should be prepared and submitted to the NYSDEC and City of Rochester for review and approval.

Very truly yours,

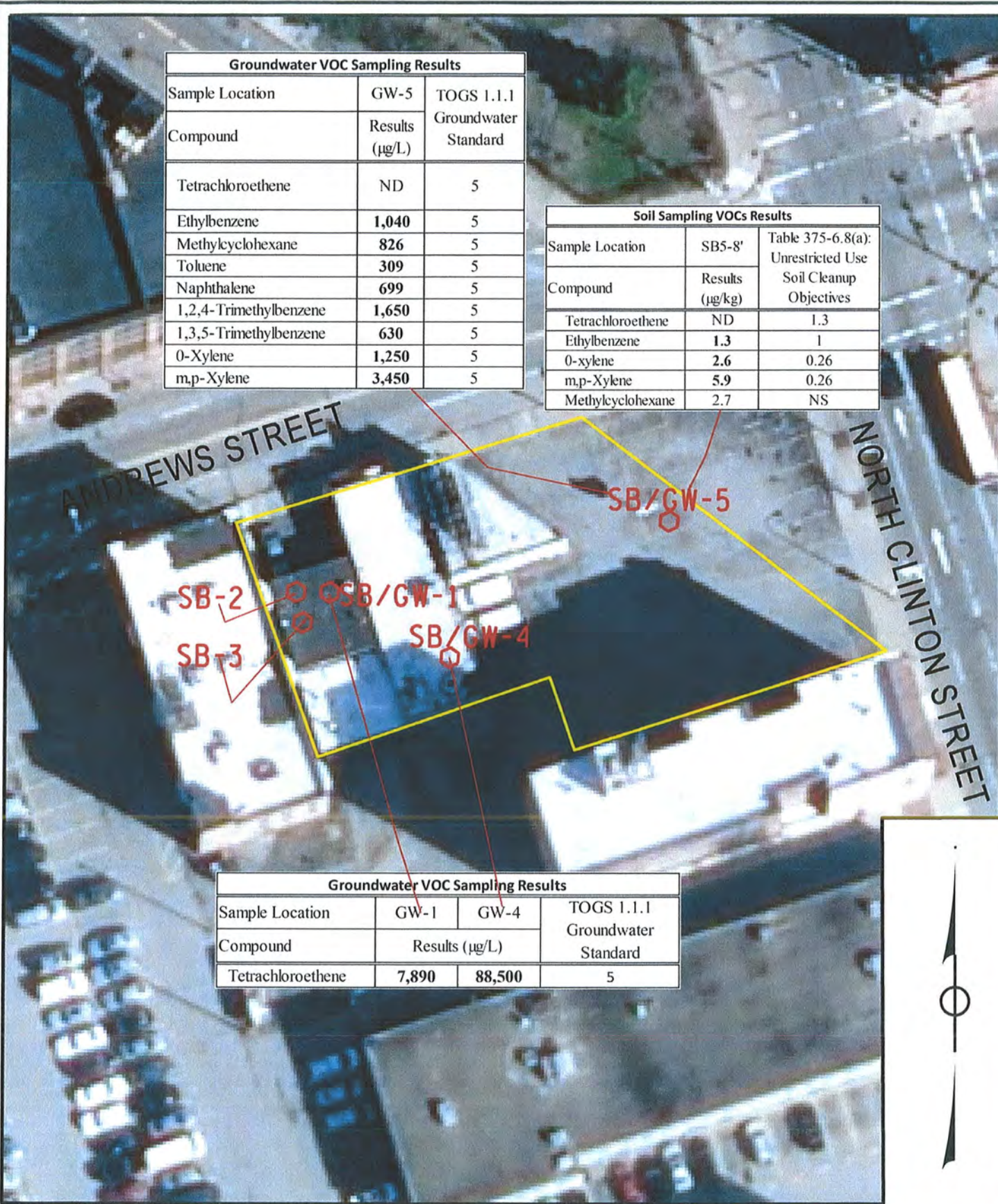
Peter S. Morton, C.P.G.
Project Manager

Peter von Schondorf, P.G.
Project Manager

FIGURES

Groundwater VOC Sampling Results		
Sample Location	GW-5	TOGS 1.1.1 Groundwater Standard
Compound	Results (µg/L)	
Tetrachloroethene	ND	5
Ethylbenzene	1,040	5
Methylcyclohexane	826	5
Toluene	309	5
Naphthalene	699	5
1,2,4-Trimethylbenzene	1,650	5
1,3,5-Trimethylbenzene	630	5
0-Xylene	1,250	5
m,p-Xylene	3,450	5

Soil Sampling VOCs Results		
Sample Location	SB5-8'	Table 375-6.8(a): Unrestricted Use Soil Cleanup Objectives
Compound	Results (µg/kg)	
Tetrachloroethene	ND	1.3
Ethylbenzene	1.3	1
0-xylene	2.6	0.26
m,p-Xylene	5.9	0.26
Methylcyclohexane	2.7	NS




Groundwater VOC Sampling Results			
Sample Location	GW-1	GW-4	TOGS 1.1.1 Groundwater Standard
Compound	Results (µg/L)		
Tetrachloroethene	7,890	88,500	5

TITLE:
FIGURE 1: SAMPLE LOCATION MAP
 245 ANDREWS STREET
 ROCHESTER, NEW YORK, 14604

PROJECT ENGINEER:
RAVI ENGINEERING & LAND SURVEYING, P.C.
 CONSULTING ENGINEERS & SURVEYORS
 2110 SOUTH CLINTON AVENUE, SUITE 1
 ROCHESTER, NEW YORK 14618
 TL: (585) 223-3660 FX: (585) 223-4250

DRAWN:
 RJB
CHKD:
 PSM
PROJECT NO.
 45-12-043-0X

DATE:
 1/3/2013
SCALE:
 NTS



APPENDIX 1

AMEC EM-61 REPORT

90 B John Muir Drive
Amherst, New York 14228
(716) 565-0624 • Fax (716) 565-0625



December 11, 2012

Peter Morton
Environmental Department Project Manager
Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Avenue, Suite 1
Rochester, New York 14618

Transmitted via email to: Pete Morton [pmorton@ravieng.com]

Dear Mr. Morton:

Subject: Geophysical Survey Results, 245 Andrews Street, Rochester, NY

1.0 INTRODUCTION

This letter report presents the results of the geophysical investigation performed for Ravi Engineering & Land Surveying, P.C. in support of their environmental investigation of a property located at 245 Andrews Street in Rochester, NY (the Site). The survey area consisted of an asphalt paved area adjacent to a former dry cleaner establishment. The eastern boundary of the site is a paper road extension of St. Paul Street.

The geophysical investigation was designed to geophysically characterize the subsurface and focus a follow-up intrusive investigation if warranted. The information provided herein is intended to assist Ravi Engineering with their assessment of potential environmental concerns at the Site. The objective for the geophysical survey was to identify potential USTs and/or historical site features that may be of environmental significance. AMEC used time domain geophysical tools (EM61) to characterize the property. Data acquisition was performed on December 8, 2012.

2.0 METHODOLOGY

A reference grid was installed in both areas to facilitate data acquisition along survey lines spaced 3 feet apart. The grids were marked with orange and white spray paint with select coordinates labeled to aid in the reoccupation of stations if necessary. Grid coordinate 0N, 0E was established at the southwest corner of the property 3 feet north of a survey pin. "Grid

North” was taken as the direction perpendicular to the north wall of the building bounding the property to the south.

The site was geophysically surveyed using the Geonics EM61. The EM61 unit is a high sensitivity, high resolution time domain electromagnetic (TDEM) metal detector that can detect both ferrous and nonferrous metallic objects. It has an approximate investigation depth of 10 feet. The processing console is contained in a backpack worn by the operator which is interfaced to a digital data logger. The transmitter and two receiver coils are located on a two-wheeled cart that is pulled by the operator.

The device’s transmitter coil generates a pulsed primary EM field at a rate of 150 pulses per second, inducing eddy currents into the subsurface. The decay rates of these eddy currents are measured by two, 3.28 foot by 1.64 foot (1 meter by ½ meter) rectangular receiver coils. By taking the measurements at a relatively long time frame after termination of the primary pulse, the response is practically independent of the survey area's terrain conductivity. Specifically, the decay rates of the eddy currents are much longer for metals than for normal soils allowing the discrimination of the two.



EM61 in use (photo not from this site)

Data are collected from the EM61’s two receiver coils. One of the receiver coils is located coincident to the transmitter coil. The other receiver coil is located 1.31 feet (0.4 meters) above the transmitter coil. Data from the top receiver coil are stored on Channel 1 of a digital data logger. Data from the bottom receiver coil are stored on Channel 2 of the data logger. Channel 1 and Channel 2 data are simultaneously recorded at each station location. The instrument responses are recorded in units of milliVolts (mV). Data were recorded digitally by a data logger along lines spaced 3 ft apart at a rate of approximately 2 measurements per foot.

3.0 RESULTS

The EM61 data for the site are shown in Figure 1. The color bar to the right of the map indicates the colors associated with the respective measured values. Areas suspected to be free of buried metals are shown as color shades of blue. All areas exhibiting a response greater than background (0 to 30 mVolts) likely contain buried metals. These areas are depicted in shades of dark blue through yellow on the figures.

Anomalies A and B are two buried metal anomalies located in the central portion of the survey area. Linear anomalies appear to be associated with these anomalies. Anomaly A and B may represent UST's or other buried metals.

Anomaly C is a northeast trending linear anomaly located in the northern portion of the survey area. Although the ground surface is asphalt paved, the geometry of this anomaly suggests that a reinforced concrete pad is present beneath the asphalt. Alternatively, Anomaly C may represent miscellaneous buried metal.

Anomaly D is an isolated anomaly in the southern portion of the survey area. There do not appear to be linear anomalies associated with Anomaly D as might be expected for a UST at a former retail fuel station. Anomaly D may represent a UST, a buried manhole cover, or other buried metallic object.

The enclosed dumpster area on the western portion of the site is entirely anomalous. This area was surrounded by chain link fence, including the "roof". It is not possible to ascertain the presence or absence of a UST in such areas where the response is dominated by surface metals.

Any of the additional anomalous responses not identified may be significant from an environmental perspective however they are interpreted to represent miscellaneous buried metals or to be associated with surface metals.

4.0 LIMITATIONS


The geophysical methods used during this survey are established, indirect techniques for non-destructive subsurface reconnaissance exploration. As these instruments utilize indirect methods, they are subject to inherent limitations and ambiguities. Metallic surface features (electrical wires, scrap metal, etc.) preclude reliable non-invasive data/results beneath, and in the immediate vicinity of, the surface features. Targets such as buried drums, buried tanks, conduits, etc. are detectable only if they produce recognizable anomalies or patterns against

Peter Morton
Ravi Engineering & Land Surveying, P.C.
December 11, 2012
Page 4

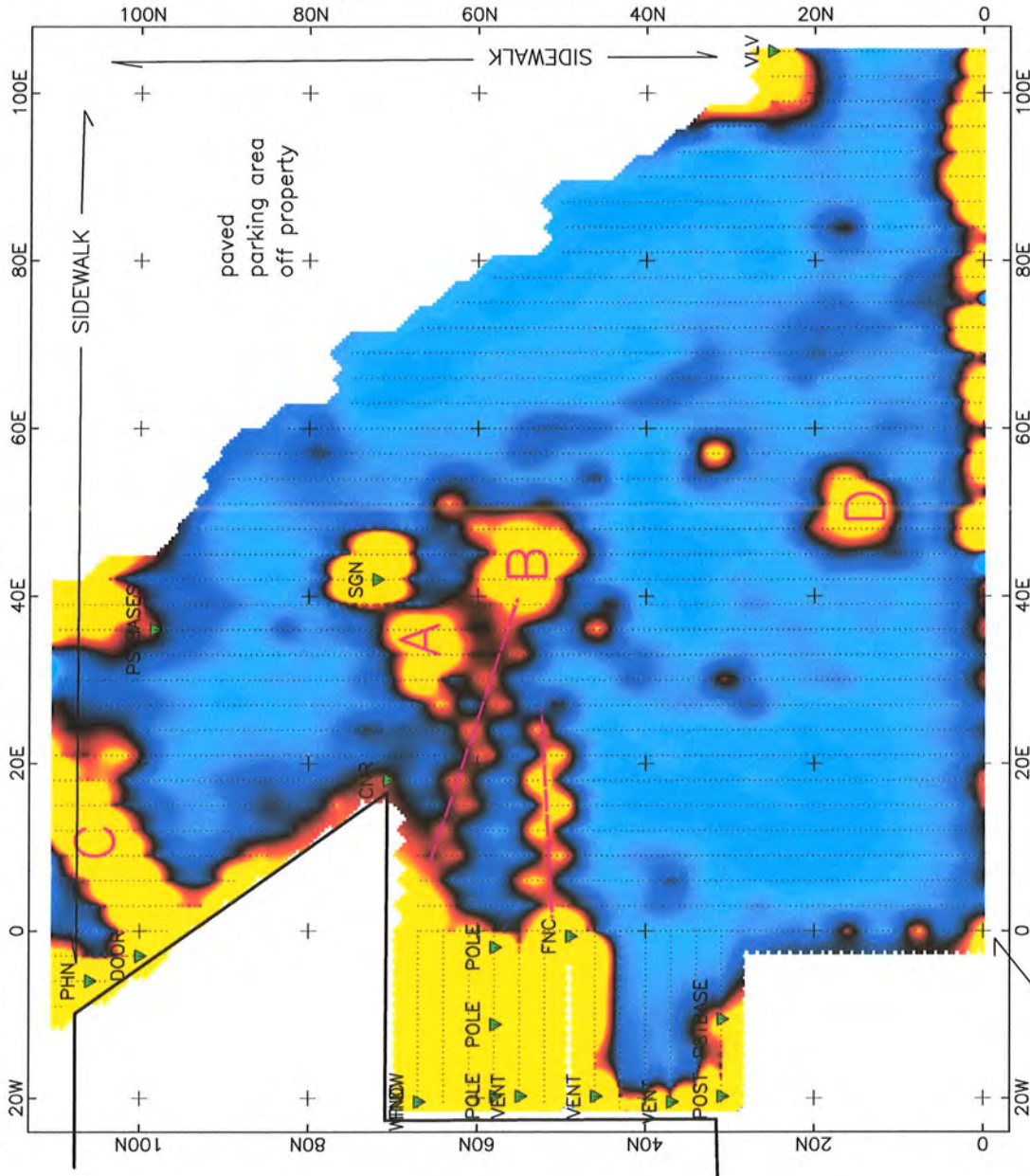
the background geophysical data collected. As with any remote sensing technique, the anomalies identified during a geophysical survey should be further investigated by other techniques such as historical aerial photography, test pit excavation and/or test boring, if warranted.

Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely yours,
AMEC


John Luttinger
Senior Geophysicist

Andrews Street



A Geophysical anomaly discussed in report

Interpreted linear anomaly

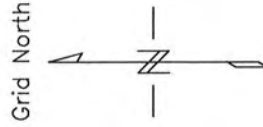


Figure 1

Geophysical Survey Results
Color Contours of EM61 Data
(mVolts)

245 Andrews Street
Rochester, NY
Ravi Engineering
Amec (716) 565-0624



Note: ON, OE established 3 ft north of Property pin

APPENDIX 2

ANALYTICAL RESULTS



Analytical Report Cover Page

Ravi Engineering & Land Surveying, P.C.

For Lab Project # 12:5262

Issued January 2, 2013

This report contains a total of 15 pages

The reported results relate only to the samples as they have been received by the laboratory.

Any noncompliant QC parameters having impact on the data are flagged or documented on the final report or are noted below.

All soil/sludge/solid samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

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The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of frequently used data flags and their meaning:

"<" = analyzed for but not detected at or above the reporting limit.

"E" = Result has been estimated, calibration limit exceeded.

"Z" = See case narrative.

"D" = Duplicate results outside QC limits. May indicate a non-homogenous matrix.

"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.

"B" = Method blank contained trace levels of analyte. Refer to included method blank report.



Volatile Analysis Report for Soils/Solids/Sludges

Client: Ravi Engineering & Land Surveying. P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-01

Client Job Number: N/A
Field Location: SB1-7'
Field ID Number: N/A
Sample Type: Soil

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/28/2012

Compound	Results in ug / Kg
Acetone	< 34.8
Benzene	< 6.96
Bromochloromethane	< 17.4
Bromodichloromethane	< 6.96
Bromoform	< 17.4
Bromomethane	< 6.96
2-Butanone	< 34.8
Carbon disulfide	< 6.96
Carbon Tetrachloride	< 6.96
Chlorobenzene	< 6.96
Chloroethane	< 6.96
Chloroform	< 6.96
Chloromethane	< 6.96
Cyclohexane	< 34.8
Dibromochloromethane	< 6.96
1,2-Dibromo-3-Chloropropane	< 34.8
1,2-Dibromoethane	< 6.96
1,2-Dichlorobenzene	< 6.96
1,3-Dichlorobenzene	< 6.96
1,4-Dichlorobenzene	< 6.96
Dichlorodifluoromethane	< 6.96
1,1-Dichloroethane	< 6.96
1,2-Dichloroethane	< 6.96
1,1-Dichloroethene	< 6.96
cis-1,2-Dichloroethene	< 6.96
trans-1,2-Dichloroethene	< 6.96

Compound	Results in ug / Kg
1,2-Dichloropropane	< 6.96
cis-1,3-Dichloropropene	< 6.96
trans-1,3-Dichloropropene	< 6.96
1,4-Dioxane	< 69.6
Ethylbenzene	< 6.96
Freon 113	< 6.96
2-Hexanone	< 17.4
Isopropylbenzene	< 6.96
Methyl acetate	< 6.96
Methyl tert-butyl Ether	< 6.96
Methylcyclohexane	< 6.96
Methylene chloride	< 17.4
4-Methyl-2-pentanone	< 17.4
Styrene	< 17.4
1,1,2,2-Tetrachloroethane	< 6.96
Tetrachloroethene	331
Toluene	< 6.96
1,2,3-Trichlorobenzene	< 17.4
1,2,4-Trichlorobenzene	< 17.4
1,1,1-Trichloroethane	< 6.96
1,1,2-Trichloroethane	< 6.96
Trichloroethene	< 6.96
Trichlorofluoromethane	< 6.96
Vinyl chloride	< 6.96
m,p-Xylene	< 6.96
o-Xylene	< 6.96

ELAP Number 10958

Analytical Method: EPA 8260B

Data File: X02707.D

Prep Method: EPA 5035A

Comments: ug / Kg = microgram per Kilogram

Signature: _____

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.



Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Ravi Engineering & Land Surveying. P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Client Job Number: N/A
Field Location: SB1-7'
Field ID Number: N/A
Sample Type: Soil

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-01

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/28/2012

Compound	Results in ug / Kg
n-Butylbenzene	< 6.96
sec-Butylbenzene	< 6.96
tert-Butylbenzene	< 6.96
p-Isopropyltoluene	< 6.96
Naphthalene	< 17.4

Compound	Results in ug / Kg
n-Propylbenzene	< 6.96
1,2,4-Trimethylbenzene	< 6.96
1,3,5-Trimethylbenzene	< 6.96

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5035A

Data File: X02707.D

Comments: ug / Kg = microgram per Kilogram

Signature: _____

Bruce Hoogesteger: Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.



Volatile Analysis Report for Soils/Solids/Sludges

Client: Ravi Engineering & Land Surveying, P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-02

Client Job Number: N/A
Field Location: SB4-8'
Field ID Number: N/A
Sample Type: Soil

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/28/2012

Compound	Results in ug / Kg
Acetone	< 889
Benzene	< 178
Bromochloromethane	< 445
Bromodichloromethane	< 178
Bromoform	< 445
Bromomethane	< 178
2-Butanone	< 889
Carbon disulfide	< 178
Carbon Tetrachloride	< 178
Chlorobenzene	< 178
Chloroethane	< 178
Chloroform	< 178
Chloromethane	< 178
Cyclohexane	< 889
Dibromochloromethane	< 178
1,2-Dibromo-3-Chloropropane	< 889
1,2-Dibromoethane	< 178
1,2-Dichlorobenzene	< 178
1,3-Dichlorobenzene	< 178
1,4-Dichlorobenzene	< 178
Dichlorodifluoromethane	< 178
1,1-Dichloroethane	< 178
1,2-Dichloroethane	< 178
1,1-Dichloroethene	< 178
cis-1,2-Dichloroethene	< 178
trans-1,2-Dichloroethene	< 178

Compound	Results in ug / Kg
1,2-Dichloropropane	< 178
cis-1,3-Dichloropropene	< 178
trans-1,3-Dichloropropene	< 178
1,4-Dioxane	< 1,780
Ethylbenzene	< 178
Freon 113	< 178
2-Hexanone	< 445
Isopropylbenzene	< 178
Methyl acetate	< 178
Methyl tert-butyl Ether	< 178
Methylcyclohexane	< 178
Methylene chloride	< 445
4-Methyl-2-pentanone	< 445
Styrene	< 445
1,1,2,2-Tetrachloroethane	< 178
Tetrachloroethene	997
Toluene	< 178
1,2,3-Trichlorobenzene	< 445
1,2,4-Trichlorobenzene	< 445
1,1,1-Trichloroethane	< 178
1,1,2-Trichloroethane	< 178
Trichloroethene	< 178
Trichlorofluoromethane	< 178
Vinyl chloride	< 178
m,p-Xylene	< 178
o-Xylene	< 178

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5035A

Data File: X02695.D

Comments: ug / Kg = microgram per Kilogram

Signature: _____

Bruce Hoogesteger, Technical Director

This report is part of a multipage document and should only be evaluated in its entirety. Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt.



Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Ravi Engineering & Land Surveying, P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-02

Client Job Number: N/A
Field Location: SB4-8'
Field ID Number: N/A
Sample Type: Soil

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/28/2012

Compound	Results in ug / Kg
n-Butylbenzene	< 178
sec-Butylbenzene	< 178
tert-Butylbenzene	< 178
p-Isopropyltoluene	< 178
Naphthalene	< 445

Compound	Results in ug / Kg
n-Propylbenzene	< 178
1,2,4-Trimethylbenzene	< 178
1,3,5-Trimethylbenzene	< 178

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5035A

Data File: X02695.D

Comments: ug / Kg = microgram per Kilogram

Signature: 
Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Soils/Solids/Sludges

Client: Ravi Engineering & Land Surveying. P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Client Job Number: N/A
Field Location: SB5-8'
Field ID Number: N/A
Sample Type: Soil

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-03

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/28/2012

Compound	Results in ug / Kg
Acetone	< 1,310
Benzene	< 262
Bromochloromethane	< 655
Bromodichloromethane	< 262
Bromoform	< 655
Bromomethane	< 262
2-Butanone	< 1,310
Carbon disulfide	< 262
Carbon Tetrachloride	< 262
Chlorobenzene	< 262
Chloroethane	< 262
Chloroform	< 262
Chloromethane	< 262
Cyclohexane	< 1,310
Dibromochloromethane	< 262
1,2-Dibromo-3-Chloropropane	< 1,310
1,2-Dibromoethane	< 262
1,2-Dichlorobenzene	< 262
1,3-Dichlorobenzene	< 262
1,4-Dichlorobenzene	< 262
Dichlorodifluoromethane	< 262
1,1-Dichloroethane	< 262
1,2-Dichloroethane	< 262
1,1-Dichloroethene	< 262
cis-1,2-Dichloroethene	< 262
trans-1,2-Dichloroethene	< 262

Compound	Results in ug / Kg
1,2-Dichloropropane	< 262
cis-1,3-Dichloropropene	< 262
trans-1,3-Dichloropropene	< 262
1,4-Dioxane	< 2,620
Ethylbenzene	1,330
Freon 113	< 262
2-Hexanone	< 655
Isopropylbenzene	878
Methyl acetate	< 262
Methyl tert-butyl Ether	< 262
Methylcyclohexane	2,710
Methylene chloride	< 655
4-Methyl-2-pentanone	< 655
Styrene	< 655
1,1,2,2-Tetrachloroethane	< 262
Tetrachloroethene	< 262
Toluene	< 262
1,2,3-Trichlorobenzene	< 655
1,2,4-Trichlorobenzene	< 655
1,1,1-Trichloroethane	< 262
1,1,2-Trichloroethane	< 262
Trichloroethene	< 262
Trichlorofluoromethane	< 262
Vinyl chloride	< 262
m,p-Xylene	5,850
o-Xylene	2,600

ELAP Number 10958

Analytical Method: EPA 8260B

Data File: X02696.D

Prep Method: EPA 5035A

Comments: ug / Kg = microgram per Kilogram

Signature: 
Bruce Hoogesteger, Technical Director

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Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Ravi Engineering & Land Surveying. P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Client Job Number: N/A
Field Location: SB5-8'
Field ID Number: N/A
Sample Type: Soil

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-03

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/28/2012

Compound	Results in ug / Kg
n-Butylbenzene	< 262
sec-Butylbenzene	717
tert-Butylbenzene	< 262
p-Isopropyltoluene	2,260
Naphthalene	7,000

Compound	Results in ug / Kg
n-Propylbenzene	1,780
1,2,4-Trimethylbenzene	19,600
1,3,5-Trimethylbenzene	8,970

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5035A

Data File: X02696.D

Comments: ug / Kg = microgram per Kilogram

Signature: _____

Bruce Hoogesteger: Technical Director

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125262V3



Volatile Analysis Report for Non-potable Water

Client: Ravi Engineering & Land Surveying. P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-04

Client Job Number: N/A
Field Location: GW-1
Field ID Number: N/A
Sample Type: Water

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/27/2012

Compound	Results in ug / L
Acetone	< 2,500
Benzene	< 175
Bromochloromethane	< 1,250
Bromodichloromethane	< 500
Bromoform	< 1,250
Bromomethane	< 500
2-Butanone	< 2,500
Carbon disulfide	< 500
Carbon Tetrachloride	< 500
Chlorobenzene	< 500
Chloroethane	< 500
Chloroform	< 500
Chloromethane	< 500
Cyclohexane	< 2,500
Dibromochloromethane	< 500
1,2-Dibromo-3-Chloropropane	< 2,500
1,2-Dibromoethane	< 500
1,2-Dichlorobenzene	< 500
1,3-Dichlorobenzene	< 500
1,4-Dichlorobenzene	< 500
Dichlorodifluoromethane	< 500
1,1-Dichloroethane	< 500
1,2-Dichloroethane	< 500
1,1-Dichloroethene	< 500
cis-1,2-Dichloroethene	< 500
trans-1,2-Dichloroethene	< 500

Compound	Results in ug / L
1,2-Dichloropropane	< 500
cis-1,3-Dichloropropene	< 500
trans-1,3-Dichloropropene	< 500
1,4-Dioxane	< 5,000
Ethylbenzene	< 500
Freon 113	< 500
2-Hexanone	< 1,250
Isopropylbenzene	< 500
Methyl acetate	< 500
Methyl tert-butyl Ether	< 500
Methylcyclohexane	< 500
Methylene chloride	< 1,250
4-Methyl-2-pentanone	< 1,250
Styrene	< 1,250
1,1,2,2-Tetrachloroethane	< 500
Tetrachloroethene	7,890
Toluene	< 500
1,2,3-Trichlorobenzene	< 1,250
1,2,4-Trichlorobenzene	< 1,250
1,1,1-Trichloroethane	< 500
1,1,2-Trichloroethane	< 500
Trichloroethene	< 500
Trichlorofluoromethane	< 500
Vinyl chloride	< 500
m,p-Xylene	< 500
o-Xylene	< 500

ELAP Number 10958

Analytical Method: EPA 8260B

Data File: X02657.D

Prep Method: EPA 5030

Comments: ug / L = microgram per Liter

Signature: _____

Bruce Hoogesteger, Technical Director

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Volatile Analysis Report for Non-potable Water (Additional STARS Compounds)

Client: Ravi Engineering & Land Surveying, P.C.

Client Job Site: 245 Andrews St.
Rochester BAP
Client Job Number: N/A
Field Location: GW-1
Field ID Number: N/A
Sample Type: Water

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-04
Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/27/2012

Compound	Results in ug / L
n-Butylbenzene	< 500
sec-Butylbenzene	< 500
tert-Butylbenzene	< 500
p-Isopropyltoluene	< 500
Naphthalene	< 1,250

Compound	Results in ug / L
n-Propylbenzene	< 500
1,2,4-Trimethylbenzene	< 500
1,3,5-Trimethylbenzene	< 500

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5030

Data File: X02657.D

Comments: ug / L = microgram per Liter

Signature: _____

Bruce Hoogesteger, Technical Director

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Volatile Analysis Report for Non-potable Water

Client: Ravi Engineering & Land Surveying, P.C.

Client Job Site: 245 Andrews St.
Rochester BAP
Client Job Number: N/A
Field Location: GW-4
Field ID Number: N/A
Sample Type: Water

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-05
Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/27/2012

Compound	Results in ug / L
Acetone	< 50,000
Benzene	< 3,500
Bromochloromethane	< 25,000
Bromodichloromethane	< 10,000
Bromoform	< 25,000
Bromomethane	< 10,000
2-Butanone	< 50,000
Carbon disulfide	< 10,000
Carbon Tetrachloride	< 10,000
Chlorobenzene	< 10,000
Chloroethane	< 10,000
Chloroform	< 10,000
Chloromethane	< 10,000
Cyclohexane	< 50,000
Dibromochloromethane	< 10,000
1,2-Dibromo-3-Chloropropane	< 50,000
1,2-Dibromoethane	< 10,000
1,2-Dichlorobenzene	< 10,000
1,3-Dichlorobenzene	< 10,000
1,4-Dichlorobenzene	< 10,000
Dichlorodifluoromethane	< 10,000
1,1-Dichloroethane	< 10,000
1,2-Dichloroethane	< 10,000
1,1-Dichloroethene	< 10,000
cis-1,2-Dichloroethene	< 10,000
trans-1,2-Dichloroethene	< 10,000

Compound	Results in ug / L
1,2-Dichloropropane	< 10,000
cis-1,3-Dichloropropene	< 10,000
trans-1,3-Dichloropropene	< 10,000
1,4-Dioxane	< 100,000
Ethylbenzene	< 10,000
Freon 113	< 10,000
2-Hexanone	< 25,000
Isopropylbenzene	< 10,000
Methyl acetate	< 10,000
Methyl tert-butyl Ether	< 10,000
Methylcyclohexane	< 10,000
Methylene chloride	< 25,000
4-Methyl-2-pentanone	< 25,000
Styrene	< 25,000
1,1,2,2-Tetrachloroethane	< 10,000
Tetrachloroethene	88,500
Toluene	< 10,000
1,2,3-Trichlorobenzene	< 25,000
1,2,4-Trichlorobenzene	< 25,000
1,1,1-Trichloroethane	< 10,000
1,1,2-Trichloroethane	< 10,000
Trichloroethene	< 10,000
Trichlorofluoromethane	< 10,000
Vinyl chloride	< 10,000
m,p-Xylene	< 10,000
o-Xylene	< 10,000

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5030

Data File: X02658.D

Comments: ug / L = microgram per Liter

Signature: _____

Bruce Hoogesteger, Technical Director

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Volatile Analysis Report for Non-potable Water (Additional STARS Compounds)

Client: Ravi Engineering & Land Surveying, P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-05

Client Job Number: N/A
Field Location: GW-4
Field ID Number: N/A
Sample Type: Water

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/27/2012

Compound	Results in ug / L
n-Butylbenzene	< 10,000
sec-Butylbenzene	< 10,000
tert-Butylbenzene	< 10,000
p-Isopropyltoluene	< 10,000
Naphthalene	< 25,000

Compound	Results in ug / L
n-Propylbenzene	< 10,000
1,2,4-Trimethylbenzene	< 10,000
1,3,5-Trimethylbenzene	< 10,000

ELAP Number 10958

Analytical Method: EPA 8260B
Prep Method: EPA 5030

Data File: X02658.D

Comments: ug / L = microgram per Liter

Signature: _____

Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Non-potable Water

Client: Ravi Engineering & Land Surveying. P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-06

Client Job Number: N/A
Field Location: GW-5
Field ID Number: N/A
Sample Type: Water

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/27/2012

Compound	Results in ug / L
Acetone	< 1,000
Benzene	< 70.0
Bromochloromethane	< 500
Bromodichloromethane	< 200
Bromoform	< 500
Bromomethane	< 200
2-Butanone	< 1,000
Carbon disulfide	< 200
Carbon Tetrachloride	< 200
Chlorobenzene	< 200
Chloroethane	< 200
Chloroform	< 200
Chloromethane	< 200
Cyclohexane	< 1,000
Dibromochloromethane	< 200
1,2-Dibromo-3-Chloropropane	< 1,000
1,2-Dibromoethane	< 200
1,2-Dichlorobenzene	< 200
1,3-Dichlorobenzene	< 200
1,4-Dichlorobenzene	< 200
Dichlorodifluoromethane	< 200
1,1-Dichloroethane	< 200
1,2-Dichloroethane	< 200
1,1-Dichloroethene	< 200
cis-1,2-Dichloroethene	< 200
trans-1,2-Dichloroethene	< 200

Compound	Results in ug / L
1,2-Dichloropropane	< 200
cis-1,3-Dichloropropene	< 200
trans-1,3-Dichloropropene	< 200
1,4-Dioxane	< 2,000
Ethylbenzene	1,040
Freon 113	< 200
2-Hexanone	< 500
Isopropylbenzene	< 200
Methyl acetate	< 200
Methyl tert-butyl Ether	< 200
Methylcyclohexane	826
Methylene chloride	< 500
4-Methyl-2-pentanone	< 500
Styrene	< 500
1,1,2,2-Tetrachloroethane	< 200
Tetrachloroethene	< 200
Toluene	309
1,2,3-Trichlorobenzene	< 500
1,2,4-Trichlorobenzene	< 500
1,1,1-Trichloroethane	< 200
1,1,2-Trichloroethane	< 200
Trichloroethene	< 200
Trichlorofluoromethane	< 200
Vinyl chloride	< 200
m,p-Xylene	3,450
o-Xylene	1,250

ELAP Number 10958

Analytical Method: EPA 8260B

Data File: X02656.D

Prep Method: EPA 5030

Comments: ug / L = microgram per Liter

Signature: _____

Bruce Hoogesteger: Technical Director

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Volatile Analysis Report for Non-potable Water (Additional STARS Compounds)

Client: Ravi Engineering & Land Surveying, P.C.

Client Job Site: 245 Andrews St.
Rochester BAP

Lab Project Number: 12:5262
Lab Sample Number: 12:5262-06

Client Job Number: N/A
Field Location: GW-5
Field ID Number: N/A
Sample Type: Water

Date Sampled: 12/20/2012
Date Received: 12/20/2012
Date Analyzed: 12/27/2012

Compound	Results in ug / L
n-Butylbenzene	< 200
sec-Butylbenzene	< 200
tert-Butylbenzene	< 200
p-Isopropyltoluene	< 200
Naphthalene	699

Compound	Results in ug / L
n-Propylbenzene	< 200
1,2,4-Trimethylbenzene	1,650
1,3,5-Trimethylbenzene	630

ELAP Number 10958

Analytical Method: EPA 8260B

Data File: X02656.D

Prep Method: EPA 5030

Comments: ug / L = microgram per Liter

Signature: _____

Bruce Hoogesteger, Technical Director

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10/2

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



CHAIN OF CUSTODY

14

REPORT TO: CLIENT: Same LAB PROJECT ID: 1215262
INVOICE TO: ADDRESS: 110 S. Clinton Ave. Ste. 1 Quotation #: Marshall
 CITY: Rochester NY 14618 STATE: ZIP: Email: pmorton@ravieng.com
 PHONE: 645-8295 ATTN: Rek Morton

Matrix Codes: WA - Water DW - Drinking Water SO - Soil WP - Wipe OL - Oil
 AQ - Aqueous Liquid WW - Wastewater SL - Sludge PT - Paint CK - Caulk AR - Air
 NQ - Non-Aqueous Liquid

DATE COLLECTED	TIME COLLECTED	COMPOSITE	GRA B	SAMPLE IDENTIFIER	M C A O T D R E I S X	C N O U N T M I B A E I N E R S O R S	REQUESTED ANALYSIS	REMARKS	PARADIGM LAB SAMPLE NUMBER
1/2-20-12			X	SB1-71	SO	1	TCL 8260	VOCs: TCL &	01
2	↓		X	SB4-81	SO	1	CP-51 8260	CP-51 List	02
3	↓		X	SB5-81	SO	1			03
4									
5/2-20				GW-1	WG	2			04
6	↓			GW-4	WG	2			05
7	↓			GW-5	WG	2			06
8									
9									
10									

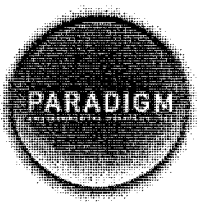
14°C

Turnaround Time
 Availability contingent upon lab approval; additional fees may apply.

Standard 5 day Batch QC Basic EDD
 Rush 3 day Category A NYSDEC EDD
 Rush 2 day Category B
 Rush 1 day
 Other please indicate: Other EDD please indicate: _____

Report Supplements

Sampled By: PS Mnt Date/Time: 12-20-12 930-1215 Total Cost: _____
 Relinquished By: PS Mnt Date/Time: 12-20-12 13:05
 Received By: Elizabeth A Honch Date/Time: 12/20/12 1305 P.I.F. _____
 Received @ Lab By: Morton Date/Time: 12/20/12 1546



Chain of Custody Supplement

Client: Ravi Completed by: EAH
 Lab Project ID: 12:5262 Date: 12/20

Sample Condition Requirements
 Per NELAC/ELAP 210/241/242/243/244

Condition	NELAC compliance with the sample condition requirements upon receipt		
	Yes	No	N/A
Container Type	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Soils SOBS	<input type="checkbox"/>
Comments	_____		
Transferred to method-compliant container	<input checked="" type="checkbox"/> Soils SOBS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Headspace (<1 mL)	<input checked="" type="checkbox"/> Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	_____		
Preservation	<input checked="" type="checkbox"/> Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	_____		
Chlorine Absent (<0.10 ppm per test strip)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comments	_____		
Holding Time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	_____		
Temperature	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comments	14°C		
Sufficient Sample Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments	_____		

APPENDIX 3

SOIL BORING LOGS

GEOLOGIC BORING LOG				Date: 12/20/2012	Temperature: 30 °F
Site Location: 245 Andrews Street				Soil Boring Number: SB -1	
Client: City BAP				Driller Contractor: TREC	
Ravi Project Number: 45-12-043-OX				Driller: Chad Britton	
Logged by: PSM				Drill Rig Type: Truck-Mounted	
Boring depth (ft): Approximately 7.5				Drilling Method: Geoprobe	
				Sampling Method: Grab	
Drilling Start Time: 800				Drilling End Time: 840	
Depth (feet)	Sample Recovery (%)	Analytical Sample	PID (PPM)	Soil Description (color, primary grain size, secondary grain size, moisture, sorting, sphericity, angularity, sedimentary structure, density, cohesiveness, other)	
1	8"	N/A	0.3	Concrete gravel brick fill. F-M-C gravel	
2					
3					
4					
5	N/A	SB1-7 VOC's	170.0	Brick pieces, fine SAND w/ trace silt	
6					
7					
8	N/A	N/A	N/A	Refusal at 7.5'	
9					
10					
11					
12					

S.A.A.= Same as above

MSL=Above mean sea level elevation

GEOLOGIC BORING LOG				Date: 12/20/2012	Temperature: 30 °F
Site Location: 245 Andrews Street				Soil Boring Number: SB-3	
Client: City BAP				Driller Contractor: TREC	
Ravi Project Number: 45-12-043-OX				Driller: Chad Britton	
Logged by: PSM				Drill Rig Type: Truck-Mounted	
Boring depth (ft): Approximately 13.8				Drilling Method: Geoprobe	
				Sampling Method: Grab	
Drilling Start Time: 850				Drilling End Time: 930	
Depth (feet)	Sample Recovery (%)	Analytical Sample	PID (PPM)	Soil Description (color, primary grain size, secondary grain size, moisture, sorting, sphericity, angularity, sedimentary structure, density, cohesiveness, other)	
1 2 3 4	18"	N/A	10.0	Concrete/gravel, fine SAND w/ trace silt	
5 6 7 8	36"	N/A	8.0	Fine SAND w/ trace silt, gravel	
9 10 11 12	44"	N/A	32.0	Fine SAND w/ trace silt, gravel	
13 14 15 16	N/A	N/A	28.0	Fine SAND w/ trace silt, gravel. Wet at +/-12', Refusal at 13.8'	

S.A.A. = Same as above

MSL = Above mean sea level elevation

GEOLOGIC BORING LOG				Date: 12/20/2012	Temperature: 30°F
Site Location: 245 Andrews Street				Soil Boring Number: SB-4	
Client: City BAP				Driller Contractor: TREC	
Ravi Project Number: 45-12-043-OX				Driller: Chad Britton	
Logged by: PSM				Drill Rig Type: Truck-Mounted	
Boring depth (ft): Approximately 13.2				Drilling Method: Geoprobe	
				Sampling Method: Grab	
Drilling Start Time: 940				Drilling End Time: 950	
Depth (feet)	Sample Recovery (%)	Analytical Sample	PID (PPM)	Soil Description (color, primary grain size, secondary grain size, moisture, sorting, sphericity, angularity, sedimentary structure, density, cohesiveness, other)	
1	24"	N/A	90.0	Concrete/brick. M-C SAND w/ trace gravel	
2					
3					
4					
5	30"	SB4-8' VOC's	165.0	Fine SAND w/ trace silt, gravel	
6					
7					
8					
9	N/A	N/A	80.0	Wet fine SAND w/ trace silt	
10					
11					
12					
13	N/A	GW-4 VOC's	N/A	refusal at 13.2'	
14					
15					
16					

S.A.A. = Same as above

MSL = Above mean sea level elevation

GEOLOGIC BORING LOG				Date: 12/20/2012	Temperature: 30 °F
Site Location: 245 Andrews Street				Soil Boring Number: SB-5	
Client: City BAP				Driller Contractor: TREC	
Ravi Project Number: 45-12-043-OX				Driller: Chad Britton	
Logged by: PSM				Drill Rig Type: Truck-Mounted	
Boring depth (ft): Approximately 13.3				Drilling Method: Geoprobe	
				Sampling Method: Grab	
Drilling Start Time: 1000				Drilling End Time: 1040	
Depth (feet)	Sample Recovery (%)	Analytical Sample	PID (PPM)	Soil Description (color, primary grain size, secondary grain size, moisture, sorting, sphericity, angularity, sedimentary structure, density, cohesiveness, other)	
1	18"	N/A	0.0	6" gravel, Silt with trace fine SAND	
2					
3					
4					
5	30"	SB5-8' VOC's	1240.0	Fine SAND w/ trace silt gravel. Grey staining at 7' w/ strong petroleum odor.	
6					
7					
8	24"	N/A	950.0	Fine SAND w/ trace silt gravel. Grey staining at 7' w/ strong petroleum odor.	
9					
10					
11					
12	N/A	GW-5	1240.0	Fine wet SAND w/ trace silt, gravel. Refusal at 13.3'. Strong petroleum odor.	
13					
14					
15					
16					

S.A.A.= Same as above

MSL=Above mean sea level elevation