

PROJECT NO. 6426

REPORT TO

DEL MANAGEMENT SOLUTIONS INC.

ON

**LIMITED PHASE II ENVIRONMENTAL SITE
ASSESSMENT**

**113-117 BAYFIELD STREET AND
6, 8 & 12 SOPHIA STREET EAST
BARRIE, ONTARIO**

CONDUCTED BY:



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TABLE OF CONTENTS

	Page No.
1.0 INTRODUCTION	1
2.0 SUBSURFACE INVESTIGATION METHODOLOGY.....	2
2.1 BOREHOLE INVESTIGATION	3
2.2 MONITORING WELL INSTALLATION	3
2.3 SITE CONDITION STANDARDS.....	4
2.4 LABORATORY ANALYSES	5
3.0 RESULTS OF THE PHASE II ESA.....	5
3.1 STRATIGRAPHY	5
3.2 GROUNDWATER.....	6
3.3 SUBSURFACE NON-AQUEOUS PHASE LIQUIDS (NAPLs).....	6
3.4 SUBSURFACE VAPOUR CONCENTRATIONS.....	6
3.5 LABORATORY ANALYTICAL RESULTS	6
4.0 CONCLUSIONS AND RECOMMENDATIONS	7
5.0 CLOSURE.....	7

TABLES

Table 1 – Water Quality Parameters for Low Flow Sampling of Groundwater

Table 2 – Soil Analytical Results for Selected VOCs

Table 3 – Soil Analytical Results for PHC Fractions F1 to F4 and BTEX

Table 4 – Soil Analytical Results for Selected PAHs

Table 5 – Soil Analytical Results for pH

Table 6 – Groundwater Analytical Results for Selected VOCs

Table 7 – Groundwater Results for PHC Fractions F1 to F4

Table 8 – Groundwater Analytical Results for Selected PAHs

APPENDICES

Appendix A - Drawing

Appendix B - Borehole Logs

Appendix C - Site Selection Criteria for determining appropriate Site Condition Standards

Appendix D - Laboratory Certificates of Analyses



1.0 INTRODUCTION

S2S Environmental Inc. (S2S) was retained by DEL Management Solution Inc. (DMS) (Client) to conduct a Limited Phase II Environmental Site Assessment (ESA) at the mixed use (commercial/residential) property located at 113-117 Bayfield Street and 6, 8 & 12 Sophia Street East in Barrie, Ontario (Subject Property). For the purposes of this report, we have referenced Sophia Street East adjacent to the Subject Property to be generally oriented in an east-west direction.

The Subject Property was occupied by five buildings (Buildings A to E, collectively the Subject Buildings). Building A (113 Bayfield Street) was a three storey single-tenant commercial building with a single level basement. Building B (115-117 Bayfield Street) was a three-storey multi-tenant commercial building with a single level basement. 115 and 117 Bayfield were originally separate structures; however, an addition was reportedly completed to join them into one building. Building C (6 Sophia Street East) was a two-storey vacant (formerly commercial) building with a single level basement. Building D (8 Sophia Street) was a single-storey vacant (formerly residential) building with a single level basement. Building E (12 Sophia Street) was a two-storey residential building with a single level basement. Buildings A and B were reportedly constructed in approximately the early 1910s, while Buildings C, D and E were reportedly constructed in approximately the early 1940s. A site plan is provided as Drawing No. 1 in Appendix A.

The purpose of this Limited Phase II ESA was to address the potential environmental concern from offsite sources as indicated by a Phase I ESA report dated September 16, 2016 by S2S. Based on the 2016 S2S Phase I ESA, the following offsite potential environmental concerns were noted:

- The property at 101-103 Bayfield Street (approximately 35 m south of the Subject Property) was occupied by Wright's Cleaners/Georgian Commercial Laundry, a large on-site active dry cleaning facility. Based on available City Directories and Fire Insurance Plans (FIP), this property was occupied by various dry cleaners from at least 1971 to the present. Based on available records from the Ministry of the Environment and Climate Change (MOECC), this dry cleaning facility was listed as a generator of halogenated solvent wastes from 1986 (first date available) to the present. Based on the EcoLog Environmental Risk Information Service (ERIS) report included in Fisher Environmental Ltd.'s (Fisher's) 2011 Phase I ESA report, a spill of 135 L of waste dry cleaning solvent to the gravel surface on the property occurred on May 3, 1995, and environmental impact was confirmed at that time.
- Based on a 1971 FIP, an underground storage tank (UST) was reportedly located approximately 55 m southwest of the Subject Property. No documentation regarding the removal of this UST or remediation of any impacted materials has been provided to S2S for review.



The scope of work for the Limited Phase II ESA was discussed with and approved by the Client on September 30, 2016. We understand that this Limited Phase II ESA was requested by the Client for due diligence purposes only, and that the Client will rely upon the contents of this report for their purposes in that regard.

It should be noted that this Phase II ESA report has generally been completed in accordance with the requirements of the Canadian Standards Association (CSA) Phase II Environmental Site Assessment document, Z769-00 (R2013), March 2000, reaffirmed in 2013 (CSA Standard).

2.0 SUBSURFACE INVESTIGATION METHODOLOGY

2.1 Borehole Investigation

The investigation methodology was conducted in general accordance with the Ontario Regulation (O.Reg.) 153/04 (including amendments up to O. Reg. 333/13) Records of Site Condition, Part XV.1 of the Environmental Protection Act (EPA) (referred to as Amended O.Reg. 153/04), the MOECC *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, December 1996 document (MOECC Sampling Guideline), and S2S standard field procedures (collectively referred to as Standard Protocols).

S2S retained Pontil Drilling (Pontil) of Mount Albert, Ontario to advance two boreholes (BH1 and BH2) at the Subject Property on October 4, 2016 to depths of approximately 6.1 m below ground surface (bgs) (in BH1) and approximately 7.6 m bgs (in BH2). It should be noted that BH1 was initially proposed to be advanced in the southwest portion of the Subject Property; however, due to site constraints (i.e. underground utilities, light poles and signage associated with the Subject Property), the borehole was relocated to south portion of the parking lot, nearer BH2. The approximate borehole locations are shown on Drawing No. 1 in Appendix A.

The boreholes were drilled using a truck-mounted CME-75 drill rig, equipped with 200 mm diameter hollow stem augers. Soil samples were obtained at regular depth intervals using 0.6 m split spoon soil sampling equipment. The split spoon samplers were washed with Alconox detergent and rinsed with water before each use. Subsurface conditions encountered in the boreholes were logged by S2S personnel at the time of drilling. Soil samples were recovered from the boreholes at regular intervals, visually classified, and collected in laboratory prepared bottles, preserved at approximately 4°C and submitted for laboratory analyses. A portion of each soil sample was placed in a disposable plastic bag and analyzed in the field for petroleum derived headspace vapour concentrations (where possible) using an RKI Model Eagle 2 portable gas monitor equipped with a dual sensor for hydrocarbons (i.e. in the parts per million (ppm) and lower explosive limit (LEL) range) and for volatile compounds (i.e. photo-ionization detector [PID] sensor in the ppm range). The hydrocarbon sensor was set to methane elimination mode and calibrated with hexane (for petroleum-derived vapours) and the PID sensor was calibrated with isobutylene (for solvent-derived vapours). Borehole logs are included in Appendix B.



2.2 Monitoring Well Installation

BH1 and BH2 were completed as monitoring wells to facilitate groundwater monitoring and sampling. The monitoring wells in BH1 and BH2 consisted of a 50 mm (2 inch) diameter polyvinyl chloride (PVC) riser pipe fitted with a 50 mm diameter threaded PVC well screen (10 slotted). The annuli of the monitoring wells were filled with silica sand around the well screen (to approximately 0.3 m above the top of the well screen), with the remainder of the well being sealed with hydrated Bentonite pellets. The wells were completed with a metal casing with cover, flush with existing grade. The two newly installed monitoring wells (in BH1 and BH2) were installed to depths of approximately 5.6 m bgs (in BH1) and approximately 7.5 m bgs (in BH2).

On October 4 and 5, 2016, the newly installed monitoring wells were monitored for groundwater levels and for the presence of Light and Dense Non Aqueous Phase Liquids (LNAPL/DNAPL) accumulations using a Solinst Model 122 Interface Probe. Furthermore, on October 5, groundwater samples were collected from the monitoring wells (in BH1 and BH2). Prior to the collection of groundwater samples, the monitoring wells were developed and purged using dedicated PVC bailers until a minimum of three well volumes was removed.

Prior to the collection of the groundwater samples from the monitoring wells in BH1 and BH2 on October 5, 2016, the monitoring wells were purged using a Geotech Geocontrol PRO bladder pump and dedicated polyethylene tubing. Groundwater was discharged through a flow-through cell equipped with Horiba U-52 multiparameter water quality meter to measure selected water quality indicator parameters: i.e., pH; oxidation-reduction potential (ORP); electrical conductivity (EC); dissolved oxygen (DO); turbidity; and water temperature. Water levels were also monitored during the development to evaluate low-flow purge rates to achieve drawdown stabilization.

Groundwater was sampled using low-flow methods with indicator field parameter stabilization from the monitoring wells in BH1 and BH2 on October 5, 2016. The inlet of the polyethylene tubing was generally set to approximately the midpoint between the observed groundwater level and the bottom of the well if the groundwater elevation intercepted the well screen, or at the middle of the well screen interval if the well screen was completely saturated.



Table 1 shows the water quality parameters that were assessed as part of the groundwater sampling program:

Table 1 – Water Quality Parameters for Low Flow Sampling of Groundwater

Parameter	Stabilization Criteria ¹
pH	± 0.1 units
Temperature	± 0.1 units
Electrical Conductivity	± 3%
Oxygen-Reduction Potential	± 10 mV
Dissolved Oxygen	± 10%
Turbidity	<50 NTU (if practicable)

Notes 1 - Stabilization criteria referenced from *Ground Water Issue: Low-flow (Minimal Drawdown) Ground-Water Sampling Procedures*, prepared by United States Environmental Protection Agency (USEPA), dated April 1996.

It should be noted that water levels were constantly monitored for stabilization (i.e. constant water level). Groundwater purging was continued until the above parameters were within their respective stabilization criteria over three consecutive readings (duration of three minutes each).

The groundwater samples were collected in accordance with Standard Protocols, placed in laboratory prepared bottles, preserved at approximately 4°C and submitted for laboratory analyses.

2.3 Site Condition Standards

The Subject Property is not considered to be an environmentally sensitive site based on the following factors: (1) the Subject Property is neither located within an area of natural significance nor adjacent to such an area, as defined in Section 1 of *O. Reg. 153/04* (including amendments up to *O. Reg. 333/13*); and (2) the subsurface soil pH is within a range of 5 to 11.

In accordance with the requirements of Amended *O.Reg.153/04*, based on the current use of the site (Commercial/Residential), the results of grain size analysis (50% coarse grained) and the laboratory results of the pH analysis in soil (pH was measured at 7.89), S2S determined that the appropriate standards for this site would be the:

- *Soil, Ground Water and Sediment Standards* for Use Under Part XV.1 of the Environmental Protection Act, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for Residential/Parkland/Institutional/Community property use and coarse textured soils – MOECC Standards).

It was determined that coarse grained textured soils standards would be used as it is more stringent than the fine and medium grained textured soil standards.



A flowchart showing the basic framework for determining the appropriate site condition standards is included as Drawing No. 2 in Appendix C.

2.4 Laboratory Analyses

Soil

Two soil samples (one from each borehole) based on headspace vapour concentrations, visual and/or olfactory considerations, and relative location to the expected shallow groundwater table were recovered and submitted for laboratory analyses for concentrations of selected volatile organic compounds (VOCs), petroleum hydrocarbons (PHCs) fractions F1 to F4 and benzene, toluene, ethylbenzene and xylenes (BTEX).

One soil sample (from BH1) based on headspace vapour concentrations, visual and/or olfactory considerations, and relative location to the expected shallow groundwater table was recovered and submitted for laboratory analysis for concentrations of selected polycyclic aromatic hydrocarbons (PAHs).

An additional soil sample from BH2 (at a depth of approximately 3.3 m bgs), based on representative soil stratigraphy and anticipated potential zone of impact, was submitted for laboratory analysis of pH.

One additional soil sample from BH1 (at a depth of approximately 3.3 m bgs), based on representative soil stratigraphy and anticipated potential zone of impact, was submitted for laboratory sieve analysis.

Groundwater

Two groundwater samples recovered from the monitoring wells in BH1 and BH2 were submitted for laboratory analyses for concentrations of selected VOCs and PHCs fractions F1 to F4. One additional groundwater sample recovered from the monitoring well in BH1 was submitted for laboratory analysis for concentrations of selected PAHs.

The above noted analyses on the soil and groundwater samples were conducted by Maxxam Analytics Inc. (Maxxam) of Mississauga, Ontario. Maxxam is accredited by the Standards Council of Canada (SCC) in co-operation with The Canadian Association for Laboratory Accreditation Inc. (CALA).

3.0 RESULTS OF THE PHASE II ESA

3.1 Stratigraphy

The stratigraphic information recorded during the investigation is presented on the borehole logs included in Appendix B. Based on conditions encountered in the boreholes, visual observations, and the results of laboratory grain size analysis, the subsoils at the site



generally consisted of sand, gravel and silt fill materials to a maximum depth of approximately 2.3 m bgs overlying native sand and silt to a maximum depth of approximately 7.6 m bgs.

3.2 Groundwater

Based on the groundwater level data obtained on October 5, 2016, the depth to groundwater ranged from approximately 2.5 m bgs in the monitoring well in BH1 to approximately 2.7 m bgs in the monitoring well in BH2. It should be noted groundwater conditions in the newly installed monitoring wells may not have yet equilibrated at that time and may be different if monitored later.

3.3 Subsurface Non-Aqueous Phase Liquids (NAPLs)

LNAPLs/DNAPLs were not encountered in the boreholes during drilling on October 4, 2016, or during the monitoring, purging and sampling of the monitoring wells on October 4 and 5, 2016.

3.4 Subsurface Vapour Concentrations

Headspace vapour concentrations (HSVCs) measured in the soil samples recovered during drilling are presented on the borehole logs in Appendix B. As shown, HSVCs in the soil samples recovered from the boreholes were relatively low and did not exceed 2 parts per million (ppm) as isobutylene or 110 ppm as Hexane with the following exception:

- BH2-7 (collected at approximately 4.3 m bgs): 190 ppm as hexane. It should be noted that no staining or odours were observed during collection of this sample.

There are no regulatory criteria for PHC- or solvent-derived soil vapour concentrations; however, soil vapour concentrations are often used as a field screening tool to practically identify soils impacted with combustible liquids or PHCs. Elevated soil vapour concentrations, typically in the LEL range, are generally indicative of the presence of volatile combustible products i.e. gasoline, methane, solvents, and to a lesser extent diesel and fuel oil. It should be noted that elevated soil vapour concentrations may also be associated with the presence of moisture, microbial activity, or decaying organic matter, especially in the absence of visual or olfactory evidence of impact.

3.5 Laboratory Analytical Results

Soil

The laboratory analytical results for selected VOCs, PHCs fractions F1 to F4 and BTEX, selected PAHs and pH for the submitted soil samples are presented in Tables 2 to 5 at the end of this report. As indicated, none of the measured concentrations in submitted soil samples exceeded the applicable MOECC Standards.



Groundwater

The laboratory analytical results for selected VOCs, PHCs fractions F1 to F4 and selected PAHs for the submitted groundwater samples are presented in Tables 6 to 8 at the end of this report. As indicated, none of the measured concentrations in submitted groundwater samples exceeded the applicable MOECC Standards.

Laboratory Quality Assurance/Quality Control

Maxxam did not identify any laboratory quality assurance/quality control (QA/QC) issues with respect to laboratory duplicates, matrix spikes, spiked blanks, method blanks, or surrogates.

The laboratory certificate of analyses for the soil and groundwater analytical results with the laboratory QA/QC are included in Appendix D.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The Limited Phase II ESA consisted of advancing two boreholes (BH1 and BH2) completed as monitoring wells at the Subject Property to investigate the offsite potential environmental concern identified in the 2016 S2S Phase I ESA. Representative soil and groundwater samples were collected and submitted for laboratory analyses of concentrations of selected VOCs, PHCs fractions F1 to F4, BTEX and selected PAHs.

Based on the results of the laboratory analyses, none of the measured concentrations in the submitted soil and groundwater samples exceeded the applicable MOECC Standards. Therefore, there are no further investigations recommended for the areas investigated (by this Limited Phase II ESA) at the Subject Property at this time.

5.0 CLOSURE

This report has been prepared for the sole benefit of DEL Management Solution Inc. (DMS) (Client).

The report may not be relied upon by any other person or entity without the express written consent of S2S Environmental Inc. (S2S) and the Clients. Any use that a party makes of this report, or any reliance on decisions made based on it, is the responsibility of such parties. S2S accepts no responsibility for damages, if any, suffered by any party as a result of decisions made or actions based on this report.

S2S makes no other representation whatsoever, including those concerning the legal significance of its findings or as to the other legal matters addressed incidentally in this report, including but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes



are subject to interpretation. These interpretations may change over time, thus the Clients should review such issues with appropriate legal counsel.

An environmental site characterization is a limited sampling of a site. The conclusions given herein are based on information gathered at the specific borehole locations and can only be extrapolated to an undefined limited area around these locations. The extent of the limited area depends on the soil and groundwater conditions, as well as the history of the site reflecting natural, construction, and other activities. In addition, analyses have been carried out for a limited number of chemical parameters, and it should not be inferred that other chemical species are not present. Due to the nature of the investigation and the limited data available, S2S Environmental Inc. cannot warrant against undiscovered environmental liabilities. No other warranty or representation, either expressed or implied, is included or intended in this report.

Should any conditions at the site be encountered which differ from those at the borehole locations and/or additional site information become available, S2S requests that this information be brought to its attention so that it may re-assess the conclusions presented herein. It should also be noted that current environmental Regulations, Guidelines, Policies, Standards, Protocols and Objectives are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report.

Respectfully submitted,

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Table 2
Soil Analytical Results for Selected VOCs
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(µg/g or ppm)

Sample ID	BH1-6	BH2-7	MOECC Standard ¹
Sample Date	Oct 4-16	Oct 4-16	
Sample Depth (m bgs)	3.0 to 3.6	4.0 to 4.6	
Acetone	<0.50	<0.50	16
Benzene	<0.020	<0.020	0.21
Bromodichloromethane	<0.050	<0.050	13
Bromoform	<0.050	<0.050	0.27
Bromomethane	<0.050	<0.050	0.05
Carbon Tetrachloride	<0.050	<0.050	0.05
Chlorobenzene	<0.050	<0.050	2.4
Chloroform	<0.050	<0.050	0.05
Dibromochloromethane	<0.050	<0.050	9.4
1,2-Dichlorobenzene	<0.050	<0.050	3.4
1,3-Dichlorobenzene	<0.050	<0.050	4.8
1,4-Dichlorobenzene	<0.050	<0.050	0.083
Dichlorodifluoromethane	<0.050	<0.050	16
1,1-Dichloroethane	<0.050	<0.050	3.5
1,2-Dichloroethane	<0.050	<0.050	0.05
1,1-Dichloroethylene	<0.050	<0.050	0.05
Cis-1,2-Dichloroethylene	<0.050	<0.050	3.4
Trans-1,2-Dichloroethylene	<0.050	<0.050	0.084
1,2-Dichloropropane	<0.050	<0.050	0.05
1,3-Dichloropropylene (cis + trans) ²	<0.050	<0.050	0.05
Ethylbenzene	<0.020	<0.020	2
Ethylene Dibromide	<0.050	<0.050	0.05
Hexane(n)	<0.050	<0.050	2.8
Methyl Ethyl Ketone	<0.50	<0.50	16
Methyl Isobutyl Ketone	<0.50	<0.50	1.7
Methyl-t-Butyl Ether	<0.050	<0.050	0.75
Methylene Chloride	<0.050	<0.050	0.1
Styrene	<0.050	<0.050	0.7
1,1,1,2-Tetrachloroethane	<0.050	<0.050	0.05
1,1,2,2-Tetrachloroethane	<0.050	<0.050	0.05
Tetrachloroethylene	<0.050	<0.050	0.28
Toluene	<0.020	<0.020	2.3
1,1,1-Trichloroethane	<0.050	<0.050	0.38
1,1,2-Trichloroethane	<0.050	<0.050	0.05
Trichloroethylene	<0.050	<0.050	0.061
Trichlorofluoromethane	<0.050	<0.050	4
Vinyl Chloride	<0.020	<0.020	0.02
Total Xylenes	<0.020	<0.020	3.1

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (for Residential/Parkland/Institutional Property Use, coarse textured soils).



Table 3
Soil Analytical Results for PHC Fractions F1 to F4 and BTEX
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(µg/g or ppm)

Sample ID	BH1-5	BH2-7	MOECC Standard ¹
Sample Date	Oct 4-16	Oct 4-16	
Sample Depth (m bgs)	2.3 to 2.9	4.0 to 4.6	
Benzene	<0.020	-	0.21
Ethylbenzene	<0.020	-	2
Toluene	<0.020	-	2.3
Total Xylenes	<0.040	-	3.1
PHC F1 ² (C6-C10 Hydrocarbons)	<10	<10	55
PHC F2 (C10-C16 Hydrocarbons)	<10	<10	98
PHC F3 (C16-C34 Hydrocarbons)	<50	<50	300
PHC F4 (C34-C50 Hydrocarbons)	<50	<50	2800

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for Residential/Parkland/Institutional Property Use, coarse textured soils).

2 - F1 fraction of petroleum hydrocarbons does not include BTEX.



Table 4
Soil Analytical Results for Selected PAHs
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(µg/g or ppm)

Sample ID	BH1-5	MOECC Standard ¹
Sample Date	Oct 4-16	
Sample Depth (m bgs)	2.3 to 2.9	
Acenaphthene	<0.0050	7.9
Acenaphthylene	<0.0050	0.15
Anthracene	<0.0050	0.67
Benzo(a)anthracene	<0.0050	0.5
Benzo(a)pyrene	<0.0050	0.3
Benzo(b/j)fluoranthene	<0.0050	0.78
Benzo(ghi)perylene	<0.0050	6.6
Benzo(k)fluoranthene	<0.0050	0.78
Chrysene	<0.0050	7
Dibenzo(a,h)anthracene	<0.0050	0.1
Fluoranthene	<0.0050	0.69
Fluorene	<0.0050	62
Indeno(1,2,3-cd)pyrene	<0.0050	0.38
Methylnaphthalene, 2-(1-) ²	<0.0071	0.99
Naphthalene	<0.0050	0.6
Phenanthrene	<0.0050	6.2
Pyrene	<0.0050	78

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for Residential/Parkland/Institutional Property Use, coarse textured soils).

2 – Calculated parameter from the laboratory certificate of analyses.



Table 5
Soil Analytical Results for pH
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(no units)

Sample ID	BH2-6	MOECC Standard ¹
Sample Date	Oct 4-16	
Sample Depth (m bgs)	3.0-3.6	
pH	7.89	N/A

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for Residential/Parkland/Institutional Property Use, coarse textured soils).

N/A – no Standard derived



Table 6
Groundwater Analytical Results for Selected VOCs
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(µg/L or ppb)

Sample ID	BH1	BH2	MOECC Standard ¹
Sample Date	Oct 5-16	Oct 5-16	
Acetone	<10	<10	130000
Benzene	<0.20	<0.20	44
Bromodichloromethane	<0.50	<0.50	85000
Bromoform	<1.0	<1.0	380
Bromomethane	<0.50	<0.50	5.6
Carbon Tetrachloride	<0.20	<0.20	0.79
Chlorobenzene	<0.20	<0.20	630
Chloroform	<0.20	<0.20	2.4
Dibromochloromethane	<0.50	<0.50	82000
1,2-Dichlorobenzene	<0.50	<0.50	4600
1,3-Dichlorobenzene	<0.50	<0.50	9600
1,4-Dichlorobenzene	<0.50	<0.50	8
Dichlorodifluoromethane	<1.0	<1.0	4400
1,1-Dichloroethane	<0.20	<0.20	320
1,2-Dichloroethane	<0.50	<0.50	1.6
1,1-Dichloroethylene	<0.20	<0.20	1.6
Cis-1,2-Dichloroethylene	<0.50	<0.50	1.6
Trans-1,2-Dichloroethylene	<0.50	<0.50	1.6
1,2-Dichloropropane	<0.20	<0.20	16
1,3-Dichloropropylene (cis + trans) ²	<0.50	<0.50	5.2
Ethylbenzene	<0.20	<0.20	2300
Ethylene Dibromide	<0.20	<0.20	0.25
Hexane(n)	<1.0	<1.0	51
Methyl Ethyl Ketone	<10	<10	470000
Methyl Isobutyl Ketone	<5.0	<5.0	140000
Methyl-t-Butyl Ether	<0.50	<0.50	190
Methylene Chloride	<2.0	<2.0	610
Styrene	<0.50	<0.50	1300
1,1,1,2-Tetrachloroethane	<0.50	<0.50	3.3
1,1,2,2-Tetrachloroethane	<0.50	<0.50	3.2
Tetrachloroethylene	<0.20	<0.20	1.6
Toluene	<0.20	<0.20	18000
1,1,1-Trichloroethane	<0.20	<0.20	640
1,1,2-Trichloroethane	<0.50	<0.50	4.7
Trichloroethylene	<0.20	<0.20	1.6
Trichlorofluoromethane	<0.50	<0.50	2500
Vinyl Chloride	<0.20	<0.20	0.5
Total Xylenes	<0.20	<0.20	4200

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for All Types of Property Use, coarse textured soils).

2 – Calculated parameter from the laboratory certificate of analyses.



Table 7
Groundwater Analytical Results for PHC Fractions F1 to F4
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(µg/L or ppb)

Sample ID	BH1	BH2	MOECC Standard ¹
Sample Date	Oct 5-16	Oct 5-16	
PHC F1 ² (C6-C10 Hydrocarbons)	<25	<25	750
PHC F2 (C10-C16 Hydrocarbons)	<100	<100	150
PHC F3 (C16-C34 Hydrocarbons)	<200	<200	500
PHC F4 (C34-C50 Hydrocarbons)	<200	<200	500

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for All Types of Property Use, coarse textured soils).

2 - F1 fraction of petroleum hydrocarbons does not include BTEX.



Table 8
Groundwater Analytical Results for Selected PAHs
113-117 Bayfield Street and 6, 8 and 12 Sophia Street East, Barrie, Ontario
(µg/L or ppb)

Sample ID	BH1	MOECC Standard ¹
Sample Date	Oct 5-16	
Acenaphthene	<0.050	600
Acenaphthylene	<0.050	1.8
Anthracene	<0.050	2.4
Benzo(a)anthracene	<0.050	4.7
Benzo(a)pyrene	<0.010	0.81
Benzo(b/j)fluoranthene	<0.050	0.75
Benzo(ghi)perylene	<0.050	0.2
Benzo(k)fluoranthene	<0.050	0.4
Chrysene	<0.050	1
Dibenzo(a,h)anthracene	<0.050	0.52
Fluoranthene	<0.050	130
Fluorene	<0.050	400
Indeno(1,2,3-cd)pyrene	<0.050	0.2
Methylnaphthalene, 2-(1-) ²	<0.071	1800
Naphthalene	<0.050	1400
Phenanthrene	0.037	580
Pyrene	<0.050	68

Notes: 1 – Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the EPA, published April 15, 2011, Table 3 Full Depth Generic Site Condition Standards In a Non-Potable Ground Water Condition (for All Types of Property Use, coarse textured soils).

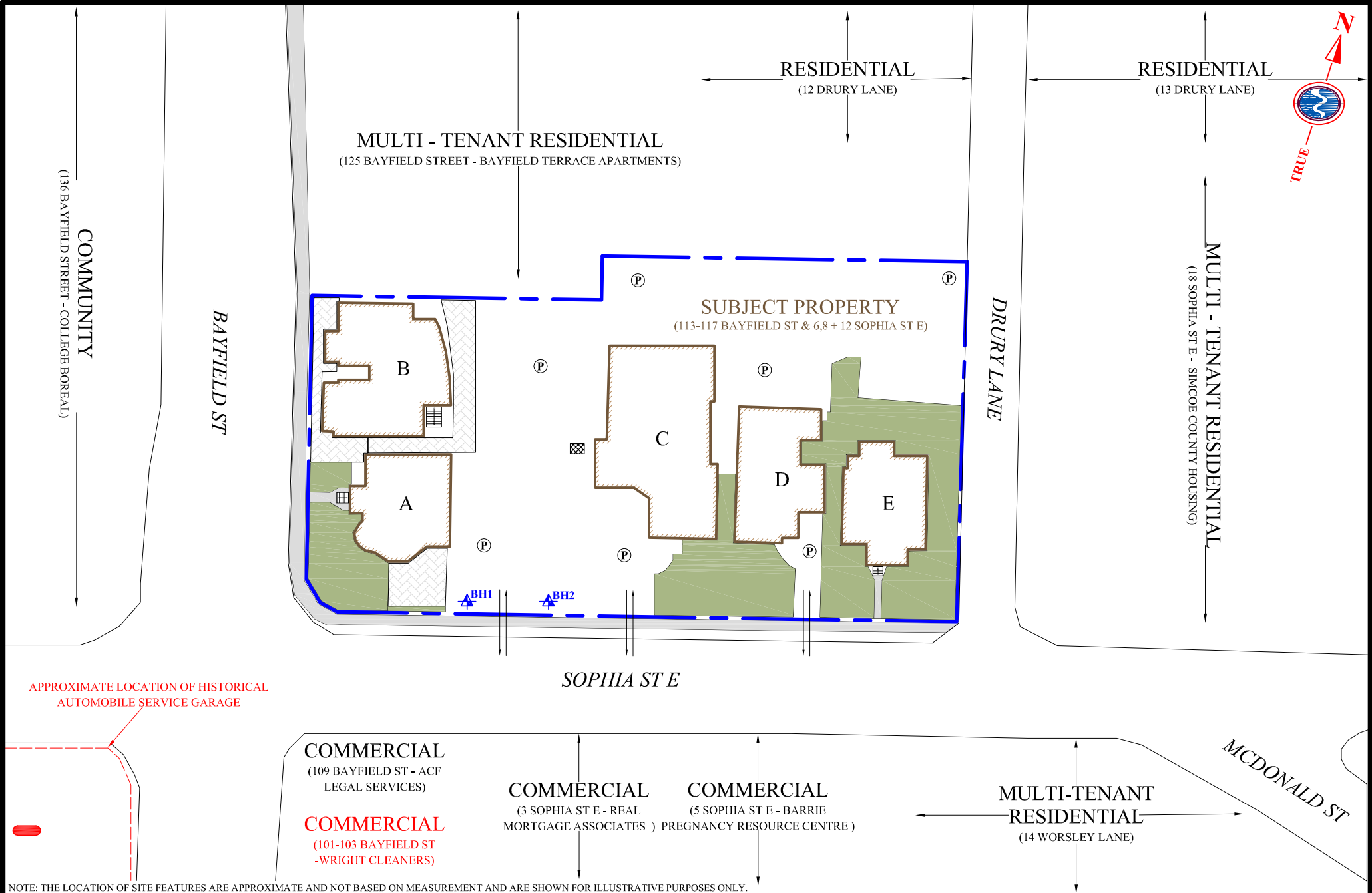
2 – Calculated parameter from the laboratory certificate of analyses.



APPENDIX A

DRAWING





LEGEND		SITE PLAN SHOWING MONITORING WELL LOCATIONS	S2S Environmental Inc.		SCALE:	
	ASSUMED PROPERTY LINE		DRAWN BY: YP	DATE: OCT 11, 2016	PROJECT NO: 6426	SITE LOCATION: 113-117 BAYFIELD STREET & 6-12 SOPHIA STREET EAST BARRIE, ONTARIO
	SITE ACCESS					
	EXTERIOR METAL STAIRS					
	ASPHALT PAVED PARKING AND DRIVEWAY					
	CATCH BASIN					
	HISTORICAL UNDERGROUND STORAGE TANK (UST)					
	APPROXIMATE LOCATION OF MONITORING WELL					
	SUBJECT BUILDING					
	CONCRETE WALKWAY/PAVED AREA					
	LANDSCAPED AREA					
	CONCRETE RETAINING WALL WITH METAL FENCE					
	INTERLOCKING BRICK					

APPENDIX B

BOREHOLE LOGS

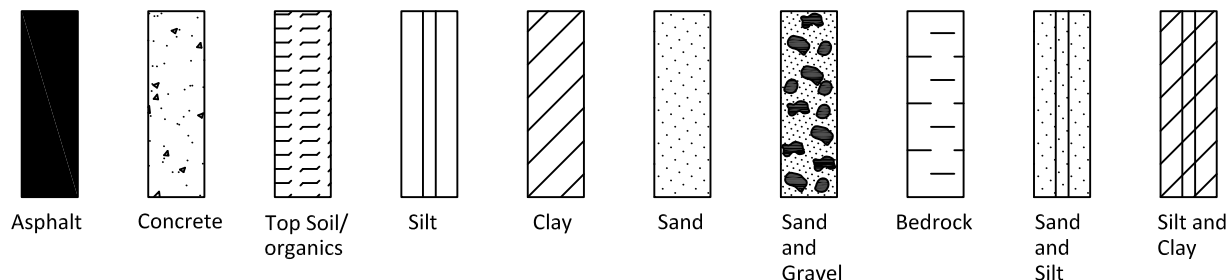




BOREHOLE LOG / TEST PIT LOG INTERPRETATION GUIDE

STRATA PLOT

Strata plot symbolize the soil or bedrock description. They are combinations of the following basic symbols:



SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT LOGS

WATER LEVEL MEASUREMENT



Water Level, Piezometer
or Standpipe

SAMPLE TYPE



SS Split spoon sample
CS Continuous Sampling
GS Grab Sample
AS Auger Sample

ABBREVIATIONS / TERMINOLOGY

Fill: Materials not identified as deposited by natural geological processes
Topsoil: Mixture of soil and humus capable supporting good vegetative growth
ppm: Parts-per-million
LEL: Lower explosive limit
HSVC: Headspace vapour concentration
SSA: Solid stem auger
HSA: Hollow stem auger

SOIL DESCRIPTION AND DEFINITIONS

Soil description and classification are based on the Unified Soil Classification System (USCS) (ASTM D-2488), which classifies soils on the basis of engineering properties. The system divides soil into three major categories: (1) coarse grained, (2) fine-grained, and (3) highly organic. The soil is then subdivided based on either gradation or plasticity characteristics. This system provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification. The classification excludes particles larger than 76 mm.

Terminology describing materials outside the USCS, (e.g. particles larger than 75 nm, visible organic matter, construction debris), is based upon the proportion of these materials present and as described below in accordance with the standard of the Ministry of Transportation of Ontario:

Trace: Less than 10%
Some: 10-20%
y: 21-35%
and: 36-50%

GPS co-ordinates are referenced in the universal transverse mercator (UTM) coordinate system, unless otherwise noted.

Northing: seven digit number
Easting: six digit number

Project No: 6426

Project: Limited Phase II Environmental Site Assessment

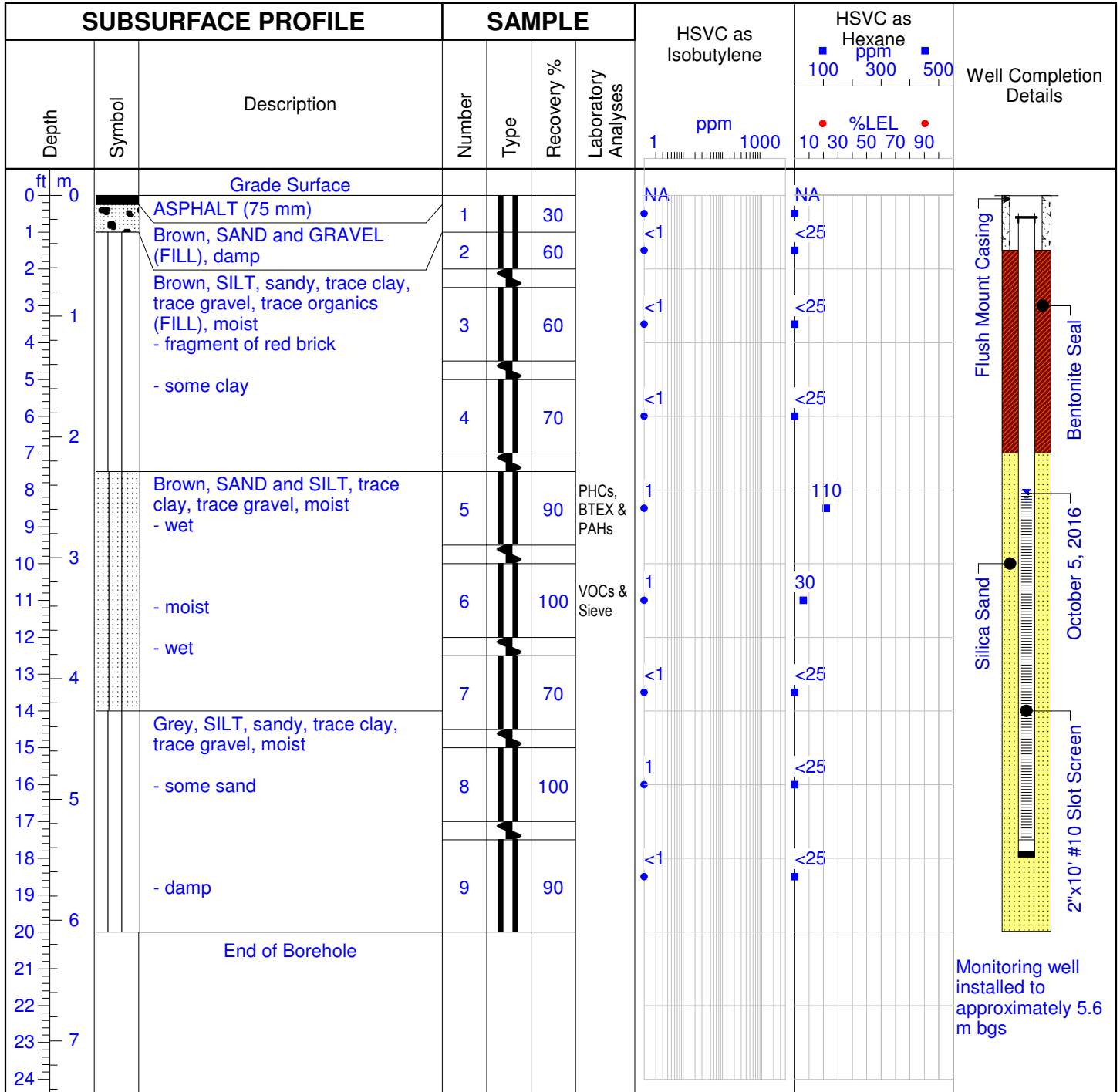
Client: DEL Management Solutions Inc.

Location: 113-117 Bayfield Street and 6, 8 & 12
Sophia Street East, Barrie, Ontario



S2S
Environmental Inc.

Log of Borehole: BH1



Drill Date: October 4, 2016

Drill Rig: Truck-mounted CME 75

Hole Size / Drill Method: 200 mm / HSA

GPS Coordinates: NA

Datum: NA

Logged by: MS

Checked by: IH

Sheet: 1 of 1

Notes:

One groundwater sample (BH1) was collected on October 5, 2016 and submitted for laboratory analyses of selected VOCs, PHCs and selected PAHs.

Project No: 6426

Project: Limited Phase II Environmental Site Assessment

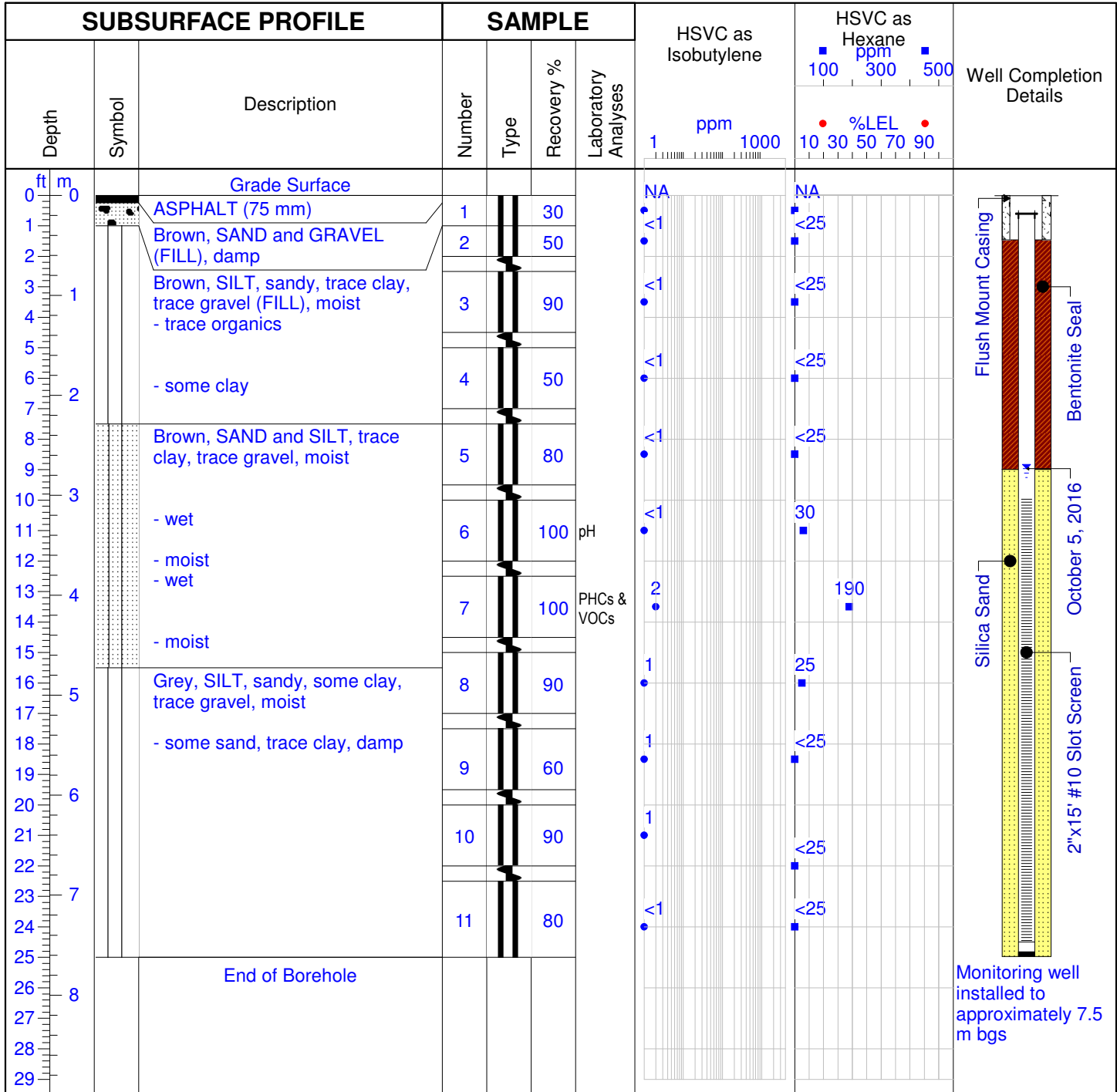
Client: DEL Management Solutions Inc.

Location: 113-117 Bayfield Street and 6, 8 & 12
Sophia Street East, Barrie, Ontario



S2S
Environmental Inc.

Log of Borehole: BH2



Drill Date: October 4, 2016

Drill Rig: Truck-mounted CME 75

Hole Size / Drill Method: 200 mm / HSA

GPS Coordinates: NA

Datum: NA

Logged by: MS

Checked by: IH

Sheet: 1 of 1

Notes:

One groundwater sample (BH2) was collected on October 5, 2016 and submitted for laboratory analyses of selected VOCs and PHCs.

APPENDIX C

SITE SELECTION CRITERIA FOR DETERMINING APPROPRIATE SITE CONDITION STANDARDS



Environmental Standards Selection

The applicable environmental Standards for the Subject Property were determined in accordance to Ontario Regulation (O. Reg.) 153/04 (including amendments up to O. Reg. 333/13). A schematic diagram showing the process for determining applicable environmental Standards is included as Drawing No. 2. The following conditions were reviewed as part of the assessment: environmentally sensitive areas, land use, soil texture, groundwater, the presence of potable water wells, and municipal drinking water supplies.

Environmentally sensitive areas are defined in Section 41 of O. Reg. 153/04 as follows:

- The Subject Property is:
 - within an area of natural significance;
 - includes or is adjacent to an area of natural significance or part of such an area, or
 - includes land that is within 30 metres of an area of natural significance or part of such an area;
- The soil at the Subject Property has a pH value as follows:
 - for surface soil, less than 5 or greater than 9;
 - for sub-surface soil, less than 5 or greater than 11; or
 - a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property;

Areas of natural significance are defined in O. Reg. 153/04 as follows:

- An area reserved or set apart as a provincial park or conservation reserve under the *Provincial Parks and Conservation Reserves Act, 2006*;
- An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources and Forestry(MNRF) as having provincial significance;
- A wetland identified by the MNRF as having provincial significance;
- An area designated by a municipality in its official plan as environmentally significant, however expressed, including designations of areas as environmentally sensitive, as being of environmental concern and as being ecologically significant;
- An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the *Niagara Escarpment Planning and Development Act*;
- An area identified by the MNRF as significant habitat of a threatened or endangered species;
- An area which is habitat of a species that is classified under section 7 of the *Endangered Species Act, 2007* as a threatened or endangered species;
- Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the *Oak Ridges Moraine Conservation Act, 2001* applies; and
- An area set apart as a wilderness area under the *Wilderness Areas Act*.

Other conditions at the Subject Property and/or adjacent/neighbouring properties that were assessed included:

- An assessment of the subsurface soil to determine if greater than 1/3 of the Subject Property has less than 2 m of overburden (i.e. shallow soil condition);
- The current land use for the Subject Property, or the most recent land use for an unused property, or multiple land uses at a property;
- A determination of soil texture was conducted based on laboratory analysis of grain size (included in Appendix D) in addition to a review of the borehole records to determine if the grain size is consistent with over 1/3 of the subsoils located at the Subject Property;
- If the Subject Property and all properties, in whole or in part, within 250 m of the boundaries of the Subject Property are serviced by the municipal drinking water system and have no potable water wells; and
- The Subject Property is not located in an area designated in a municipal official plan as a wellhead protection area or other designation identified by the municipality for the protection of groundwater.



Is the Subject Property considered environmentally sensitive per section 41(1) of the regulation (e.g. within or adjacent to an area of natural significance, or has surface soil pH less than 5 or greater than 9, or has subsurface soil pH less than 5 or greater than 11?)

Yes No

MOECC Table 1 Standards

Is the Subject Property within 30 m of a water body OR does the property have less than 2 m of soil cover above the bedrock?

Yes

No

The Subject Property is within 30 m of a water body

The Subject Property is within 30 m of a water body AND the property has less than 2m of soil cover above the bedrock

The Subject Property has less than 2m of soil cover above the bedrock

Are the Subject Property and all surrounding properties within 250 m serviced by a municipal drinking water system *and* are they without drinking water wells?

Yes No

Are the Subject Property and all surrounding properties within 250 m serviced by a municipal drinking water system *and* are they without drinking water wells?

Yes No

Are the Subject Property and all surrounding properties within 250 m serviced by a municipal drinking water system *and* are they without drinking water wells?

Yes No

Are the Subject Property and all surrounding properties within 250 m serviced by a municipal drinking water system *and* are they without drinking water wells?

Yes No

Are stratified standards being applied?

Yes No

Are stratified standards being applied?

Yes No

MOECC Table 9 Standards

MOECC Table 8 Standards

MOECC Table 7 Standards or MOECC Table 9 Standards (Whichever is More Stringent)

MOECC Table 6 Standards or MOECC Table 8 Standards (Whichever is More Stringent)

MOECC Table 7 Standards

MOECC Table 6 Standards

MOECC Table 5 Standards

MOECC Table 3 Standards

MOECC Table 6 Standards

MOECC Table 2 Standards

SITE SELECTION CRITERIA FOR MOECC STANDARDS

113-117 BAYFIELD STREET AND 6, 8 & 12
SOPHIA STREET EAST,
BARRIE, ONTARIO

PROJECT NO.: 6426

SCALE: NOT TO SCALE

PREPARED BY: MS

DATE: OCTOBER 10, 2016

DRAWING NO: 2



S2S
Environmental Inc.

APPENDIX D

LABORATORY CERTIFICATES OF ANALYSES



Your P.O. #: 6426-IH
Your Project #: 6426
Site#: 113-117 BAYFIELD STREET
Your C.O.C. #: 568316-06-01

Attention:Iain Hall

S2S Environmental Inc
1099 Kingston Rd
Suite 260
Pickering, ON
L1V 1B5

Report Date: 2016/10/07
Report #: R4194812
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B6L4762

Received: 2016/10/05, 15:27

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	1	N/A	2016/10/07	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	2	N/A	2016/10/07		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Soil (1)	2	N/A	2016/10/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (2)	2	2016/10/06	2016/10/07	CAM SOP-00316	CCME CWS m
Moisture	2	N/A	2016/10/05	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	1	N/A	2016/10/06	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	1	2016/10/06	2016/10/07	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	1	2016/10/07	2016/10/07	CAM SOP-00413	EPA 9045 D m
Sieve, 75um	1	N/A	2016/10/07	CAM SOP-00467	Carter 2nd ed m
Volatile Organic Compounds in Soil	2	N/A	2016/10/06	CAM SOP-00228	EPA 8260C m

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	1	N/A	2016/10/07	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	2	N/A	2016/10/07		EPA 8260C m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2016/10/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	2	2016/10/06	2016/10/07	CAM SOP-00316	CCME PHC-CWS m
PAH Compounds in Water by GC/MS (SIM)	1	2016/10/06	2016/10/07	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds in Water	2	N/A	2016/10/07	CAM SOP-00228	EPA 8260C m

Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

Your P.O. #: 6426-IH
Your Project #: 6426
Site#: 113-117 BAYFIELD STREET
Your C.O.C. #: 568316-06-01

Attention:Iain Hall

S2S Environmental Inc
1099 Kingston Rd
Suite 260
Pickering, ON
L1V 1B5

Report Date: 2016/10/07
Report #: R4194812
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B6L4762

Received: 2016/10/05, 15:27

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) No lab extraction date is given for F1BTX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Jolanta Goralczyk, Project Manager

Email: JGoralczyk@maxxam.ca

Phone# (905)817-5751

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

O.REG 153 PAHS (SOIL)

Maxxam ID		DES288		
Sampling Date		2016/10/04 15:00		
COC Number		568316-06-01		
	UNITS	BH1-5	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	4689179
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	<0.0050	0.0050	4692290
Acenaphthylene	ug/g	<0.0050	0.0050	4692290
Anthracene	ug/g	<0.0050	0.0050	4692290
Benzo(a)anthracene	ug/g	<0.0050	0.0050	4692290
Benzo(a)pyrene	ug/g	<0.0050	0.0050	4692290
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	4692290
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	4692290
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	4692290
Chrysene	ug/g	<0.0050	0.0050	4692290
Dibenz(a,h)anthracene	ug/g	<0.0050	0.0050	4692290
Fluoranthene	ug/g	<0.0050	0.0050	4692290
Fluorene	ug/g	<0.0050	0.0050	4692290
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	4692290
1-Methylnaphthalene	ug/g	<0.0050	0.0050	4692290
2-Methylnaphthalene	ug/g	<0.0050	0.0050	4692290
Naphthalene	ug/g	<0.0050	0.0050	4692290
Phenanthrene	ug/g	<0.0050	0.0050	4692290
Pyrene	ug/g	<0.0050	0.0050	4692290
Surrogate Recovery (%)				
D10-Anthracene	%	80		4692290
D14-Terphenyl (FS)	%	71		4692290
D8-Acenaphthylene	%	83		4692290
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				

O.REG 153 PETROLEUM HYDROCARBONS (SOIL)

Maxxam ID		DES288		DES291		
Sampling Date		2016/10/04 15:00		2016/10/04 11:15		
COC Number		568316-06-01		568316-06-01		
	UNITS	BH1-5	QC Batch	BH2-7	RDL	QC Batch
Inorganics						
Moisture	%	8.9	4691040	13	1.0	4690428
BTEX & F1 Hydrocarbons						
Benzene	ug/g	<0.020	4691008		0.020	
Toluene	ug/g	<0.020	4691008		0.020	
Ethylbenzene	ug/g	<0.020	4691008		0.020	
o-Xylene	ug/g	<0.020	4691008		0.020	
p+m-Xylene	ug/g	<0.040	4691008		0.040	
Total Xylenes	ug/g	<0.040	4691008		0.040	
F1 (C6-C10)	ug/g	<10	4691008	<10	10	4691008
F1 (C6-C10) - BTEX	ug/g	<10	4691008	<10	10	4691008
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	<10	4691554	<10	10	4691554
F3 (C16-C34 Hydrocarbons)	ug/g	<50	4691554	<50	50	4691554
F4 (C34-C50 Hydrocarbons)	ug/g	<50	4691554	<50	50	4691554
Reached Baseline at C50	ug/g	Yes	4691554	Yes		4691554
Hydrocarbon Resemblance	ug/g	NA (1)	4691554	NA (1)	N/A	4691554
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	96	4691008	96		4691008
4-Bromofluorobenzene	%	98	4691008	98		4691008
D10-Ethylbenzene	%	100	4691008	91		4691008
D4-1,2-Dichloroethane	%	103	4691008	103		4691008
o-Terphenyl	%	91	4691554	91		4691554
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable (1) NA: Not applicable.						

O.REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		DES289	DES291		
Sampling Date		2016/10/04 15:15	2016/10/04 11:15		
COC Number		568316-06-01	568316-06-01		
	UNITS	BH1-6	BH2-7	RDL	QC Batch
Inorganics					
Moisture	%	8.7		1.0	4690428
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	4689180
Volatile Organics					
Acetone (2-Propanone)	ug/g	<0.50	<0.50	0.50	4689481
Benzene	ug/g	<0.020	<0.020	0.020	4689481
Bromodichloromethane	ug/g	<0.050	<0.050	0.050	4689481
Bromoform	ug/g	<0.050	<0.050	0.050	4689481
Bromomethane	ug/g	<0.050	<0.050	0.050	4689481
Carbon Tetrachloride	ug/g	<0.050	<0.050	0.050	4689481
Chlorobenzene	ug/g	<0.050	<0.050	0.050	4689481
Chloroform	ug/g	<0.050	<0.050	0.050	4689481
Dibromochloromethane	ug/g	<0.050	<0.050	0.050	4689481
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	4689481
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	4689481
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	4689481
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	0.050	4689481
1,1-Dichloroethane	ug/g	<0.050	<0.050	0.050	4689481
1,2-Dichloroethane	ug/g	<0.050	<0.050	0.050	4689481
1,1-Dichloroethylene	ug/g	<0.050	<0.050	0.050	4689481
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	0.050	4689481
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	0.050	4689481
1,2-Dichloropropane	ug/g	<0.050	<0.050	0.050	4689481
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	4689481
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	4689481
Ethylbenzene	ug/g	<0.020	<0.020	0.020	4689481
Ethylene Dibromide	ug/g	<0.050	<0.050	0.050	4689481
Hexane	ug/g	<0.050	<0.050	0.050	4689481
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	0.050	4689481
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	0.50	4689481
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	0.50	4689481
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					

O.REG 153 VOLATILE ORGANICS (SOIL)

Maxxam ID		DES289	DES291		
Sampling Date		2016/10/04 15:15	2016/10/04 11:15		
COC Number		568316-06-01	568316-06-01		
	UNITS	BH1-6	BH2-7	RDL	QC Batch
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	0.050	4689481
Styrene	ug/g	<0.050	<0.050	0.050	4689481
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	0.050	4689481
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	0.050	4689481
Tetrachloroethylene	ug/g	<0.050	<0.050	0.050	4689481
Toluene	ug/g	<0.020	<0.020	0.020	4689481
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	0.050	4689481
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	0.050	4689481
Trichloroethylene	ug/g	<0.050	<0.050	0.050	4689481
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	0.050	4689481
Vinyl Chloride	ug/g	<0.020	<0.020	0.020	4689481
p+m-Xylene	ug/g	<0.020	<0.020	0.020	4689481
o-Xylene	ug/g	<0.020	<0.020	0.020	4689481
Total Xylenes	ug/g	<0.020	<0.020	0.020	4689481
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	95	94		4689481
D10-o-Xylene	%	93	96		4689481
D4-1,2-Dichloroethane	%	99	100		4689481
D8-Toluene	%	96	96		4689481
RDL = Reportable Detection Limit QC Batch = Quality Control Batch					

RESULTS OF ANALYSES OF SOIL

Maxxam ID		DES289	DES289		DES290	
Sampling Date		2016/10/04 15:15	2016/10/04 15:15		2016/10/04 11:00	
COC Number		568316-06-01	568316-06-01		568316-06-01	
	UNITS	BH1-6	BH1-6 Lab-Dup	RDL	BH2-6	QC Batch
Inorganics						
Available (CaCl2) pH	pH				7.89	4693060
Miscellaneous Parameters						
Grain Size	%	FINE	FINE	N/A		4692123
Sieve - #200 (<0.075mm)	%	50	51	1		4692123
Sieve - #200 (>0.075mm)	%	50	49	1		4692123
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable						

O.REG 153 PAHS (WATER)

Maxxam ID		DES292		
Sampling Date		2016/10/05 10:10		
COC Number		568316-06-01		
	UNITS	BH1	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.071	4690147
Polyaromatic Hydrocarbons				
Acenaphthene	ug/L	<0.050	0.050	4692511
Acenaphthylene	ug/L	<0.050	0.050	4692511
Anthracene	ug/L	<0.050	0.050	4692511
Benzo(a)anthracene	ug/L	<0.050	0.050	4692511
Benzo(a)pyrene	ug/L	<0.010	0.010	4692511
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	4692511
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	4692511
Benzo(k)fluoranthene	ug/L	<0.050	0.050	4692511
Chrysene	ug/L	<0.050	0.050	4692511
Dibenz(a,h)anthracene	ug/L	<0.050	0.050	4692511
Fluoranthene	ug/L	<0.050	0.050	4692511
Fluorene	ug/L	<0.050	0.050	4692511
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	4692511
1-Methylnaphthalene	ug/L	<0.050	0.050	4692511
2-Methylnaphthalene	ug/L	<0.050	0.050	4692511
Naphthalene	ug/L	<0.050	0.050	4692511
Phenanthrene	ug/L	0.037	0.030	4692511
Pyrene	ug/L	<0.050	0.050	4692511
Surrogate Recovery (%)				
D10-Anthracene	%	110		4692511
D14-Terphenyl (FS)	%	101		4692511
D8-Acenaphthylene	%	119		4692511
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				

O.REG 153 PETROLEUM HYDROCARBONS (WATER)

Maxxam ID		DES292	DES293		
Sampling Date		2016/10/05 10:10	2016/10/05 12:30		
COC Number		568316-06-01	568316-06-01		
	UNITS	BH1	BH2	RDL	QC Batch
BTEX & F1 Hydrocarbons					
F1 (C6-C10)	ug/L	<25	<25	25	4691506
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	4691506
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	4691493
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	4691493
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	4691493
Reached Baseline at C50	ug/L	Yes	Yes		4691493
Hydrocarbon Resemblance	ug/L	NA (1)	NA (1)		4691493
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	102	102		4691506
4-Bromofluorobenzene	%	98	97		4691506
D10-Ethylbenzene	%	104	104		4691506
D4-1,2-Dichloroethane	%	101	100		4691506
o-Terphenyl	%	106	106		4691493
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) NA - Not Applicable					

O.REG 153 VOLATILE ORGANICS (WATER)

Maxxam ID		DES292	DES293	DES293		
Sampling Date		2016/10/05 10:10	2016/10/05 12:30	2016/10/05 12:30		
COC Number		568316-06-01	568316-06-01	568316-06-01		
	UNITS	BH1	BH2	BH2 Lab-Dup	RDL	QC Batch
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50		0.50	4689388
Volatile Organics						
Acetone (2-Propanone)	ug/L	<10	<10	<10	10	4687325
Benzene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Bromodichloromethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Bromoform	ug/L	<1.0	<1.0	<1.0	1.0	4687325
Bromomethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Carbon Tetrachloride	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Chlorobenzene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Chloroform	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Dibromochloromethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	4687325
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	4687325
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	<1.0	1.0	4687325
1,1-Dichloroethane	ug/L	<0.20	<0.20	<0.20	0.20	4687325
1,2-Dichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
1,1-Dichloroethylene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	0.50	4687325
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	0.50	4687325
1,2-Dichloropropane	ug/L	<0.20	<0.20	<0.20	0.20	4687325
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	0.30	4687325
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	<0.40	0.40	4687325
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Ethylene Dibromide	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Hexane	ug/L	<1.0	<1.0	<1.0	1.0	4687325
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	<2.0	2.0	4687325
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	<10	10	4687325
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	<5.0	5.0	4687325
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Styrene	ug/L	<0.50	<0.50	<0.50	0.50	4687325
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Lab-Dup = Laboratory Initiated Duplicate						

O.REG 153 VOLATILE ORGANICS (WATER)

Maxxam ID		DES292	DES293	DES293		
Sampling Date		2016/10/05 10:10	2016/10/05 12:30	2016/10/05 12:30		
COC Number		568316-06-01	568316-06-01	568316-06-01		
	UNITS	BH1	BH2	BH2 Lab-Dup	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Tetrachloroethylene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Toluene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	<0.20	0.20	4687325
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Trichloroethylene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	<0.50	0.50	4687325
Vinyl Chloride	ug/L	<0.20	<0.20	<0.20	0.20	4687325
p+m-Xylene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
o-Xylene	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Total Xylenes	ug/L	<0.20	<0.20	<0.20	0.20	4687325
Surrogate Recovery (%)						
4-Bromofluorobenzene	%	97	94	96		4687325
D4-1,2-Dichloroethane	%	104	104	103		4687325
D8-Toluene	%	93	93	94		4687325
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate						

TEST SUMMARY

Maxxam ID: DES288
Sample ID: BH1-5
Matrix: Soil

Collected: 2016/10/04
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4689179	N/A	2016/10/07	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	4691008	N/A	2016/10/06	Jiaxuan (Simon) Xi
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4691554	2016/10/06	2016/10/07	Barbara Wowk
Moisture	BAL	4691040	N/A	2016/10/06	Min Yang
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	4692290	2016/10/06	2016/10/07	Mitesh Raj

Maxxam ID: DES289
Sample ID: BH1-6
Matrix: Soil

Collected: 2016/10/04
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4689180	N/A	2016/10/07	Automated Statchk
Moisture	BAL	4690428	N/A	2016/10/05	Prgya Panchal
Sieve, 75um	SIEV	4692123	N/A	2016/10/07	Chun Yan
Volatile Organic Compounds in Soil	GC/MS	4689481	N/A	2016/10/06	Rebecca Schultz

Maxxam ID: DES289 Dup
Sample ID: BH1-6
Matrix: Soil

Collected: 2016/10/04
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sieve, 75um	SIEV	4692123	N/A	2016/10/07	Chun Yan

Maxxam ID: DES290
Sample ID: BH2-6
Matrix: Soil

Collected: 2016/10/04
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	4693060	2016/10/07	2016/10/07	Neil Dassanayake

Maxxam ID: DES291
Sample ID: BH2-7
Matrix: Soil

Collected: 2016/10/04
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4689180	N/A	2016/10/07	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	4691008	N/A	2016/10/06	Jiaxuan (Simon) Xi
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	4691554	2016/10/06	2016/10/07	Barbara Wowk
Moisture	BAL	4690428	N/A	2016/10/05	Prgya Panchal
Volatile Organic Compounds in Soil	GC/MS	4689481	N/A	2016/10/06	Rebecca Schultz

TEST SUMMARY

Maxxam ID: DES292
Sample ID: BH1
Matrix: Water

Collected: 2016/10/05
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	4690147	N/A	2016/10/07	Automated Statchk
1,3-Dichloropropene Sum	CALC	4689388	N/A	2016/10/07	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	4691506	N/A	2016/10/06	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	4691493	2016/10/06	2016/10/07	Zhiyue (Frank) Zhu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	4692511	2016/10/06	2016/10/07	Mitesh Raj
Volatile Organic Compounds in Water	GC/MS	4687325	N/A	2016/10/07	Manpreet Sarao

Maxxam ID: DES293
Sample ID: BH2
Matrix: Water

Collected: 2016/10/05
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	4689388	N/A	2016/10/07	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	4691506	N/A	2016/10/06	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	4691493	2016/10/06	2016/10/07	Zhiyue (Frank) Zhu
Volatile Organic Compounds in Water	GC/MS	4687325	N/A	2016/10/07	Manpreet Sarao

Maxxam ID: DES293 Dup
Sample ID: BH2
Matrix: Water

Collected: 2016/10/05
Shipped:
Received: 2016/10/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Water	GC/MS	4687325	N/A	2016/10/07	Manpreet Sarao

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.0°C
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Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	UNITS	QC Limits
4687325	MS4	Matrix Spike [DES292-03]	4-Bromofluorobenzene	2016/10/07		100	%	70 - 130
			D4-1,2-Dichloroethane	2016/10/07		100	%	70 - 130
			D8-Toluene	2016/10/07		102	%	70 - 130
			Acetone (2-Propanone)	2016/10/07		89	%	60 - 140
			Benzene	2016/10/07		98	%	70 - 130
			Bromodichloromethane	2016/10/07		98	%	70 - 130
			Bromoform	2016/10/07		96	%	70 - 130
			Bromomethane	2016/10/07		81	%	60 - 140
			Carbon Tetrachloride	2016/10/07		96	%	70 - 130
			Chlorobenzene	2016/10/07		99	%	70 - 130
			Chloroform	2016/10/07		95	%	70 - 130
			Dibromochloromethane	2016/10/07		97	%	70 - 130
			1,2-Dichlorobenzene	2016/10/07		96	%	70 - 130
			1,3-Dichlorobenzene	2016/10/07		95	%	70 - 130
			1,4-Dichlorobenzene	2016/10/07		96	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2016/10/07		104	%	60 - 140
			1,1-Dichloroethane	2016/10/07		97	%	70 - 130
			1,2-Dichloroethane	2016/10/07		94	%	70 - 130
			1,1-Dichloroethylene	2016/10/07		100	%	70 - 130
			cis-1,2-Dichloroethylene	2016/10/07		99	%	70 - 130
			trans-1,2-Dichloroethylene	2016/10/07		96	%	70 - 130
			1,2-Dichloropropane	2016/10/07		98	%	70 - 130
			cis-1,3-Dichloropropene	2016/10/07		93	%	70 - 130
			trans-1,3-Dichloropropene	2016/10/07		89	%	70 - 130
			Ethylbenzene	2016/10/07		97	%	70 - 130
			Ethylene Dibromide	2016/10/07		97	%	70 - 130
			Hexane	2016/10/07		104	%	70 - 130
			Methylene Chloride(Dichloromethane)	2016/10/07		92	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2016/10/07		94	%	60 - 140
			Methyl Isobutyl Ketone	2016/10/07		100	%	70 - 130
			Methyl t-butyl ether (MTBE)	2016/10/07		97	%	70 - 130
			Styrene	2016/10/07		95	%	70 - 130
			1,1,1,2-Tetrachloroethane	2016/10/07		97	%	70 - 130
			1,1,2,2-Tetrachloroethane	2016/10/07		99	%	70 - 130
			Tetrachloroethylene	2016/10/07		94	%	70 - 130
			Toluene	2016/10/07		94	%	70 - 130
			1,1,1-Trichloroethane	2016/10/07		93	%	70 - 130
			1,1,2-Trichloroethane	2016/10/07		99	%	70 - 130
			Trichloroethylene	2016/10/07		94	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2016/10/07		104	%	70 - 130
			Vinyl Chloride	2016/10/07		108	%	70 - 130
			p+m-Xylene	2016/10/07		96	%	70 - 130
			o-Xylene	2016/10/07		91	%	70 - 130
4687325	MS4	Spiked Blank	4-Bromofluorobenzene	2016/10/07		99	%	70 - 130
			D4-1,2-Dichloroethane	2016/10/07		99	%	70 - 130
			D8-Toluene	2016/10/07		103	%	70 - 130
			Acetone (2-Propanone)	2016/10/07		99	%	60 - 140
			Benzene	2016/10/07		98	%	70 - 130
			Bromodichloromethane	2016/10/07		98	%	70 - 130
			Bromoform	2016/10/07		99	%	70 - 130
			Bromomethane	2016/10/07		81	%	60 - 140
			Carbon Tetrachloride	2016/10/07		97	%	70 - 130
Chlorobenzene	2016/10/07		100	%	70 - 130			

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC			Date		Value	Recovery	UNITS	QC Limits
Batch	Init	QC Type	Parameter	Analyzed				
4687325	MS4	Method Blank	Chloroform	2016/10/07		94	%	70 - 130
			Dibromochloromethane	2016/10/07		100	%	70 - 130
			1,2-Dichlorobenzene	2016/10/07		98	%	70 - 130
			1,3-Dichlorobenzene	2016/10/07		96	%	70 - 130
			1,4-Dichlorobenzene	2016/10/07		96	%	70 - 130
			Dichlorodifluoromethane (FREON 12)	2016/10/07		104	%	60 - 140
			1,1-Dichloroethane	2016/10/07		97	%	70 - 130
			1,2-Dichloroethane	2016/10/07		93	%	70 - 130
			1,1-Dichloroethylene	2016/10/07		100	%	70 - 130
			cis-1,2-Dichloroethylene	2016/10/07		98	%	70 - 130
			trans-1,2-Dichloroethylene	2016/10/07		94	%	70 - 130
			1,2-Dichloropropane	2016/10/07		97	%	70 - 130
			cis-1,3-Dichloropropene	2016/10/07		88	%	70 - 130
			trans-1,3-Dichloropropene	2016/10/07		87	%	70 - 130
			Ethylbenzene	2016/10/07		100	%	70 - 130
			Ethylene Dibromide	2016/10/07		99	%	70 - 130
			Hexane	2016/10/07		105	%	70 - 130
			Methylene Chloride(Dichloromethane)	2016/10/07		91	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2016/10/07		101	%	60 - 140
			Methyl Isobutyl Ketone	2016/10/07		104	%	70 - 130
			Methyl t-butyl ether (MTBE)	2016/10/07		99	%	70 - 130
			Styrene	2016/10/07		100	%	70 - 130
			1,1,1,2-Tetrachloroethane	2016/10/07		100	%	70 - 130
			1,1,2,2-Tetrachloroethane	2016/10/07		102	%	70 - 130
			Tetrachloroethylene	2016/10/07		95	%	70 - 130
			Toluene	2016/10/07		95	%	70 - 130
			1,1,1-Trichloroethane	2016/10/07		94	%	70 - 130
			1,1,2-Trichloroethane	2016/10/07		100	%	70 - 130
			Trichloroethylene	2016/10/07		93	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2016/10/07		105	%	70 - 130
			Vinyl Chloride	2016/10/07		106	%	70 - 130
			p+m-Xylene	2016/10/07		99	%	70 - 130
			o-Xylene	2016/10/07		96	%	70 - 130
			4-Bromofluorobenzene	2016/10/07		96	%	70 - 130
			D4-1,2-Dichloroethane	2016/10/07		100	%	70 - 130
			D8-Toluene	2016/10/07		97	%	70 - 130
			Acetone (2-Propanone)	2016/10/07	<10		ug/L	
			Benzene	2016/10/07	<0.20		ug/L	
			Bromodichloromethane	2016/10/07	<0.50		ug/L	
			Bromoform	2016/10/07	<1.0		ug/L	
			Bromomethane	2016/10/07	<0.50		ug/L	
			Carbon Tetrachloride	2016/10/07	<0.20		ug/L	
			Chlorobenzene	2016/10/07	<0.20		ug/L	
			Chloroform	2016/10/07	<0.20		ug/L	
			Dibromochloromethane	2016/10/07	<0.50		ug/L	
			1,2-Dichlorobenzene	2016/10/07	<0.50		ug/L	
			1,3-Dichlorobenzene	2016/10/07	<0.50		ug/L	
			1,4-Dichlorobenzene	2016/10/07	<0.50		ug/L	
			Dichlorodifluoromethane (FREON 12)	2016/10/07	<1.0		ug/L	
			1,1-Dichloroethane	2016/10/07	<0.20		ug/L	
			1,2-Dichloroethane	2016/10/07	<0.50		ug/L	
			1,1-Dichloroethylene	2016/10/07	<0.20		ug/L	
			cis-1,2-Dichloroethylene	2016/10/07	<0.50		ug/L	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC			Date		Value	Recovery	UNITS	QC Limits
Batch	Init	QC Type	Parameter	Analyzed				
4687325	MS4	RPD [DES293-03]	trans-1,2-Dichloroethylene	2016/10/07	<0.50		ug/L	
			1,2-Dichloropropane	2016/10/07	<0.20		ug/L	
			cis-1,3-Dichloropropene	2016/10/07	<0.30		ug/L	
			trans-1,3-Dichloropropene	2016/10/07	<0.40		ug/L	
			Ethylbenzene	2016/10/07	<0.20		ug/L	
			Ethylene Dibromide	2016/10/07	<0.20		ug/L	
			Hexane	2016/10/07	<1.0		ug/L	
			Methylene Chloride(Dichloromethane)	2016/10/07	<2.0		ug/L	
			Methyl Ethyl Ketone (2-Butanone)	2016/10/07	<10		ug/L	
			Methyl Isobutyl Ketone	2016/10/07	<5.0		ug/L	
			Methyl t-butyl ether (MTBE)	2016/10/07	<0.50		ug/L	
			Styrene	2016/10/07	<0.50		ug/L	
			1,1,1,2-Tetrachloroethane	2016/10/07	<0.50		ug/L	
			1,1,2,2-Tetrachloroethane	2016/10/07	<0.50		ug/L	
			Tetrachloroethylene	2016/10/07	<0.20		ug/L	
			Toluene	2016/10/07	<0.20		ug/L	
			1,1,1-Trichloroethane	2016/10/07	<0.20		ug/L	
			1,1,2-Trichloroethane	2016/10/07	<0.50		ug/L	
			Trichloroethylene	2016/10/07	<0.20		ug/L	
			Trichlorofluoromethane (FREON 11)	2016/10/07	<0.50		ug/L	
			Vinyl Chloride	2016/10/07	<0.20		ug/L	
			p+m-Xylene	2016/10/07	<0.20		ug/L	
			o-Xylene	2016/10/07	<0.20		ug/L	
			Total Xylenes	2016/10/07	<0.20		ug/L	
			Acetone (2-Propanone)	2016/10/07	NC		%	30
			Benzene	2016/10/07	NC		%	30
			Bromodichloromethane	2016/10/07	NC		%	30
			Bromoform	2016/10/07	NC		%	30
			Bromomethane	2016/10/07	NC		%	30
			Carbon Tetrachloride	2016/10/07	NC		%	30
			Chlorobenzene	2016/10/07	NC		%	30
			Chloroform	2016/10/07	NC		%	30
			Dibromochloromethane	2016/10/07	NC		%	30
			1,2-Dichlorobenzene	2016/10/07	NC		%	30
			1,3-Dichlorobenzene	2016/10/07	NC		%	30
			1,4-Dichlorobenzene	2016/10/07	NC		%	30
			Dichlorodifluoromethane (FREON 12)	2016/10/07	NC		%	30
			1,1-Dichloroethane	2016/10/07	NC		%	30
			1,2-Dichloroethane	2016/10/07	NC		%	30
			1,1-Dichloroethylene	2016/10/07	NC		%	30
			cis-1,2-Dichloroethylene	2016/10/07	NC		%	30
			trans-1,2-Dichloroethylene	2016/10/07	NC		%	30
			1,2-Dichloropropane	2016/10/07	NC		%	30
			cis-1,3-Dichloropropene	2016/10/07	NC		%	30
			trans-1,3-Dichloropropene	2016/10/07	NC		%	30
			Ethylbenzene	2016/10/07	NC		%	30
			Ethylene Dibromide	2016/10/07	NC		%	30
			Hexane	2016/10/07	NC		%	30
			Methylene Chloride(Dichloromethane)	2016/10/07	NC		%	30
			Methyl Ethyl Ketone (2-Butanone)	2016/10/07	NC		%	30
			Methyl Isobutyl Ketone	2016/10/07	NC		%	30
			Methyl t-butyl ether (MTBE)	2016/10/07	NC		%	30
			Styrene	2016/10/07	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				1,1,1,2-Tetrachloroethane	2016/10/07	NC		%	30
				1,1,2,2-Tetrachloroethane	2016/10/07	NC		%	30
				Tetrachloroethylene	2016/10/07	NC		%	30
				Toluene	2016/10/07	NC		%	30
				1,1,1-Trichloroethane	2016/10/07	NC		%	30
				1,1,2-Trichloroethane	2016/10/07	NC		%	30
				Trichloroethylene	2016/10/07	NC		%	30
				Trichlorofluoromethane (FREON 11)	2016/10/07	NC		%	30
				Vinyl Chloride	2016/10/07	NC		%	30
				p+m-Xylene	2016/10/07	NC		%	30
				o-Xylene	2016/10/07	NC		%	30
				Total Xylenes	2016/10/07	NC		%	30
4689481	RSC		Matrix Spike	4-Bromofluorobenzene	2016/10/06		101	%	60 - 140
				D10-o-Xylene	2016/10/06		105	%	60 - 130
				D4-1,2-Dichloroethane	2016/10/06		99	%	60 - 140
				D8-Toluene	2016/10/06		105	%	60 - 140
				Acetone (2-Propanone)	2016/10/06		122	%	60 - 140
				Benzene	2016/10/06		92	%	60 - 140
				Bromodichloromethane	2016/10/06		93	%	60 - 140
				Bromoform	2016/10/06		92	%	60 - 140
				Bromomethane	2016/10/06		80	%	60 - 140
				Carbon Tetrachloride	2016/10/06		93	%	60 - 140
				Chlorobenzene	2016/10/06		96	%	60 - 140
				Chloroform	2016/10/06		91	%	60 - 140
				Dibromochloromethane	2016/10/06		94	%	60 - 140
				1,2-Dichlorobenzene	2016/10/06		93	%	60 - 140
				1,3-Dichlorobenzene	2016/10/06		95	%	60 - 140
				1,4-Dichlorobenzene	2016/10/06		97	%	60 - 140
				Dichlorodifluoromethane (FREON 12)	2016/10/06		80	%	60 - 140
				1,1-Dichloroethane	2016/10/06		92	%	60 - 140
				1,2-Dichloroethane	2016/10/06		89	%	60 - 140
				1,1-Dichloroethylene	2016/10/06		95	%	60 - 140
				cis-1,2-Dichloroethylene	2016/10/06		96	%	60 - 140
				trans-1,2-Dichloroethylene	2016/10/06		95	%	60 - 140
				1,2-Dichloropropane	2016/10/06		92	%	60 - 140
				cis-1,3-Dichloropropene	2016/10/06		88	%	60 - 140
				trans-1,3-Dichloropropene	2016/10/06		90	%	60 - 140
				Ethylbenzene	2016/10/06		95	%	60 - 140
				Ethylene Dibromide	2016/10/06		94	%	60 - 140
				Hexane	2016/10/06		98	%	60 - 140
				Methylene Chloride(Dichloromethane)	2016/10/06		97	%	60 - 140
				Methyl Ethyl Ketone (2-Butanone)	2016/10/06		104	%	60 - 140
				Methyl Isobutyl Ketone	2016/10/06		96	%	60 - 140
				Methyl t-butyl ether (MTBE)	2016/10/06		92	%	60 - 140
				Styrene	2016/10/06		98	%	60 - 140
				1,1,1,2-Tetrachloroethane	2016/10/06		95	%	60 - 140
				1,1,2,2-Tetrachloroethane	2016/10/06		91	%	60 - 140
				Tetrachloroethylene	2016/10/06		96	%	60 - 140
				Toluene	2016/10/06		93	%	60 - 140
				1,1,1-Trichloroethane	2016/10/06		91	%	60 - 140
				1,1,2-Trichloroethane	2016/10/06		94	%	60 - 140
				Trichloroethylene	2016/10/06		92	%	60 - 140
				Trichlorofluoromethane (FREON 11)	2016/10/06		100	%	60 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	UNITS	QC Limits
4689481	RSC	Spiked Blank	Vinyl Chloride	2016/10/06		98	%	60 - 140
			p+m-Xylene	2016/10/06		96	%	60 - 140
			o-Xylene	2016/10/06		93	%	60 - 140
			4-Bromofluorobenzene	2016/10/06		101	%	60 - 140
			D10-o-Xylene	2016/10/06		100	%	60 - 130
			D4-1,2-Dichloroethane	2016/10/06		101	%	60 - 140
			D8-Toluene	2016/10/06		102	%	60 - 140
			Acetone (2-Propanone)	2016/10/06		117	%	60 - 140
			Benzene	2016/10/06		93	%	60 - 130
			Bromodichloromethane	2016/10/06		97	%	60 - 130
			Bromoform	2016/10/06		100	%	60 - 130
			Bromomethane	2016/10/06		83	%	60 - 140
			Carbon Tetrachloride	2016/10/06		95	%	60 - 130
			Chlorobenzene	2016/10/06		98	%	60 - 130
			Chloroform	2016/10/06		93	%	60 - 130
			Dibromochloromethane	2016/10/06		99	%	60 - 130
			1,2-Dichlorobenzene	2016/10/06		96	%	60 - 130
			1,3-Dichlorobenzene	2016/10/06		95	%	60 - 130
			1,4-Dichlorobenzene	2016/10/06		98	%	60 - 130
			Dichlorodifluoromethane (FREON 12)	2016/10/06		95	%	60 - 140
			1,1-Dichloroethane	2016/10/06		93	%	60 - 130
			1,2-Dichloroethane	2016/10/06		92	%	60 - 130
			1,1-Dichloroethylene	2016/10/06		96	%	60 - 130
			cis-1,2-Dichloroethylene	2016/10/06		98	%	60 - 130
			trans-1,2-Dichloroethylene	2016/10/06		96	%	60 - 130
			1,2-Dichloropropane	2016/10/06		94	%	60 - 130
			cis-1,3-Dichloropropene	2016/10/06		94	%	60 - 130
			trans-1,3-Dichloropropene	2016/10/06		96	%	60 - 130
			Ethylbenzene	2016/10/06		95	%	60 - 130
			Ethylene Dibromide	2016/10/06		99	%	60 - 130
			Hexane	2016/10/06		99	%	60 - 130
			Methylene Chloride(Dichloromethane)	2016/10/06		99	%	60 - 130
			Methyl Ethyl Ketone (2-Butanone)	2016/10/06		108	%	60 - 140
			Methyl Isobutyl Ketone	2016/10/06		108	%	60 - 130
			Methyl t-butyl ether (MTBE)	2016/10/06		94	%	60 - 130
			Styrene	2016/10/06		101	%	60 - 130
			1,1,1,2-Tetrachloroethane	2016/10/06		96	%	60 - 130
			1,1,2,2-Tetrachloroethane	2016/10/06		100	%	60 - 130
			Tetrachloroethylene	2016/10/06		94	%	60 - 130
			Toluene	2016/10/06		92	%	60 - 130
			1,1,1-Trichloroethane	2016/10/06		92	%	60 - 130
			1,1,2-Trichloroethane	2016/10/06		96	%	60 - 130
			Trichloroethylene	2016/10/06		93	%	60 - 130
			Trichlorofluoromethane (FREON 11)	2016/10/06		104	%	60 - 130
			Vinyl Chloride	2016/10/06		104	%	60 - 130
			p+m-Xylene	2016/10/06		96	%	60 - 130
			o-Xylene	2016/10/06		94	%	60 - 130
4689481	RSC	Method Blank	4-Bromofluorobenzene	2016/10/06		98	%	60 - 140
			D10-o-Xylene	2016/10/06		98	%	60 - 130
			D4-1,2-Dichloroethane	2016/10/06		106	%	60 - 140
			D8-Toluene	2016/10/06		93	%	60 - 140
			Acetone (2-Propanone)	2016/10/06	<0.50		ug/g	
			Benzene	2016/10/06	<0.020		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC		Date		Value	Recovery	UNITS	QC Limits
Batch	Init QC Type	Parameter	Analyzed				
		Bromodichloromethane	2016/10/06	<0.050		ug/g	
		Bromoform	2016/10/06	<0.050		ug/g	
		Bromomethane	2016/10/06	<0.050		ug/g	
		Carbon Tetrachloride	2016/10/06	<0.050		ug/g	
		Chlorobenzene	2016/10/06	<0.050		ug/g	
		Chloroform	2016/10/06	<0.050		ug/g	
		Dibromochloromethane	2016/10/06	<0.050		ug/g	
		1,2-Dichlorobenzene	2016/10/06	<0.050		ug/g	
		1,3-Dichlorobenzene	2016/10/06	<0.050		ug/g	
		1,4-Dichlorobenzene	2016/10/06	<0.050		ug/g	
		Dichlorodifluoromethane (FREON 12)	2016/10/06	<0.050		ug/g	
		1,1-Dichloroethane	2016/10/06	<0.050		ug/g	
		1,2-Dichloroethane	2016/10/06	<0.050		ug/g	
		1,1-Dichloroethylene	2016/10/06	<0.050		ug/g	
		cis-1,2-Dichloroethylene	2016/10/06	<0.050		ug/g	
		trans-1,2-Dichloroethylene	2016/10/06	<0.050		ug/g	
		1,2-Dichloropropane	2016/10/06	<0.050		ug/g	
		cis-1,3-Dichloropropene	2016/10/06	<0.030		ug/g	
		trans-1,3-Dichloropropene	2016/10/06	<0.040		ug/g	
		Ethylbenzene	2016/10/06	<0.020		ug/g	
		Ethylene Dibromide	2016/10/06	<0.050		ug/g	
		Hexane	2016/10/06	<0.050		ug/g	
		Methylene Chloride(Dichloromethane)	2016/10/06	<0.050		ug/g	
		Methyl Ethyl Ketone (2-Butanone)	2016/10/06	<0.50		ug/g	
		Methyl Isobutyl Ketone	2016/10/06	<0.50		ug/g	
		Methyl t-butyl ether (MTBE)	2016/10/06	<0.050		ug/g	
		Styrene	2016/10/06	<0.050		ug/g	
		1,1,1,2-Tetrachloroethane	2016/10/06	<0.050		ug/g	
		1,1,2,2-Tetrachloroethane	2016/10/06	<0.050		ug/g	
		Tetrachloroethylene	2016/10/06	<0.050		ug/g	
		Toluene	2016/10/06	<0.020		ug/g	
		1,1,1-Trichloroethane	2016/10/06	<0.050		ug/g	
		1,1,2-Trichloroethane	2016/10/06	<0.050		ug/g	
		Trichloroethylene	2016/10/06	<0.050		ug/g	
		Trichlorofluoromethane (FREON 11)	2016/10/06	<0.050		ug/g	
		Vinyl Chloride	2016/10/06	<0.020		ug/g	
		p+m-Xylene	2016/10/06	<0.020		ug/g	
		o-Xylene	2016/10/06	<0.020		ug/g	
		Total Xylenes	2016/10/06	<0.020		ug/g	
4689481	RSC RPD	Acetone (2-Propanone)	2016/10/06	NC		%	50
		Benzene	2016/10/06	NC		%	50
		Bromodichloromethane	2016/10/06	NC		%	50
		Bromoform	2016/10/06	NC		%	50
		Bromomethane	2016/10/06	NC		%	50
		Carbon Tetrachloride	2016/10/06	NC		%	50
		Chlorobenzene	2016/10/06	NC		%	50
		Chloroform	2016/10/06	NC		%	50
		Dibromochloromethane	2016/10/06	NC		%	50
		1,2-Dichlorobenzene	2016/10/06	NC		%	50
		1,3-Dichlorobenzene	2016/10/06	NC		%	50
		1,4-Dichlorobenzene	2016/10/06	NC		%	50
		Dichlorodifluoromethane (FREON 12)	2016/10/06	NC		%	50
		1,1-Dichloroethane	2016/10/06	NC		%	50

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				1,2-Dichloroethane	2016/10/06	NC		%	50
				1,1-Dichloroethylene	2016/10/06	NC		%	50
				cis-1,2-Dichloroethylene	2016/10/06	NC		%	50
				trans-1,2-Dichloroethylene	2016/10/06	NC		%	50
				1,2-Dichloropropane	2016/10/06	NC		%	50
				cis-1,3-Dichloropropene	2016/10/06	NC		%	50
				trans-1,3-Dichloropropene	2016/10/06	NC		%	50
				Ethylbenzene	2016/10/06	NC		%	50
				Ethylene Dibromide	2016/10/06	NC		%	50
				Hexane	2016/10/06	NC		%	50
				Methylene Chloride(Dichloromethane)	2016/10/06	NC		%	50
				Methyl Ethyl Ketone (2-Butanone)	2016/10/06	NC		%	50
				Methyl Isobutyl Ketone	2016/10/06	NC		%	50
				Methyl t-butyl ether (MTBE)	2016/10/06	NC		%	50
				Styrene	2016/10/06	NC		%	50
				1,1,1,2-Tetrachloroethane	2016/10/06	NC		%	50
				1,1,2,2-Tetrachloroethane	2016/10/06	NC		%	50
				Tetrachloroethylene	2016/10/06	NC		%	50
				Toluene	2016/10/06	NC		%	50
				1,1,1-Trichloroethane	2016/10/06	NC		%	50
				1,1,2-Trichloroethane	2016/10/06	NC		%	50
				Trichloroethylene	2016/10/06	NC		%	50
				Trichlorofluoromethane (FREON 11)	2016/10/06	NC		%	50
				Vinyl Chloride	2016/10/06	NC		%	50
				p+m-Xylene	2016/10/06	NC		%	50
				o-Xylene	2016/10/06	NC		%	50
				Total Xylenes	2016/10/06	NC		%	50
4690428	NS3	RPD		Moisture	2016/10/05	NC		%	20
4691008	JXI	Matrix Spike		1,4-Difluorobenzene	2016/10/06		96	%	60 - 140
				4-Bromofluorobenzene	2016/10/06		102	%	60 - 140
				D10-Ethylbenzene	2016/10/06		103	%	60 - 140
				D4-1,2-Dichloroethane	2016/10/06		103	%	60 - 140
				Benzene	2016/10/06		94	%	60 - 140
				Toluene	2016/10/06		95	%	60 - 140
				Ethylbenzene	2016/10/06		117	%	60 - 140
				o-Xylene	2016/10/06		105	%	60 - 140
				p+m-Xylene	2016/10/06		97	%	60 - 140
				F1 (C6-C10)	2016/10/06		86	%	60 - 140
4691008	JXI	Spiked Blank		1,4-Difluorobenzene	2016/10/06		95	%	60 - 140
				4-Bromofluorobenzene	2016/10/06		101	%	60 - 140
				D10-Ethylbenzene	2016/10/06		95	%	60 - 140
				D4-1,2-Dichloroethane	2016/10/06		103	%	60 - 140
				Benzene	2016/10/06		99	%	60 - 140
				Toluene	2016/10/06		101	%	60 - 140
				Ethylbenzene	2016/10/06		107	%	60 - 140
				o-Xylene	2016/10/06		111	%	60 - 140
				p+m-Xylene	2016/10/06		103	%	60 - 140
				F1 (C6-C10)	2016/10/06		85	%	80 - 120
4691008	JXI	Method Blank		1,4-Difluorobenzene	2016/10/06		96	%	60 - 140
				4-Bromofluorobenzene	2016/10/06		100	%	60 - 140
				D10-Ethylbenzene	2016/10/06		95	%	60 - 140
				D4-1,2-Dichloroethane	2016/10/06		104	%	60 - 140
				Benzene	2016/10/06	<0.020		ug/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4691008	JXI	RPD		Toluene	2016/10/06	<0.020		ug/g	
				Ethylbenzene	2016/10/06	<0.020		ug/g	
				o-Xylene	2016/10/06	<0.020		ug/g	
				p+m-Xylene	2016/10/06	<0.040		ug/g	
				Total Xylenes	2016/10/06	<0.040		ug/g	
				F1 (C6-C10)	2016/10/06	<10		ug/g	
				F1 (C6-C10) - BTEX	2016/10/06	<10		ug/g	
				Benzene	2016/10/06	NC		%	50
				Toluene	2016/10/06	NC		%	50
				Ethylbenzene	2016/10/06	1.8		%	50
				o-Xylene	2016/10/06	NC		%	50
				p+m-Xylene	2016/10/06	NC		%	50
				Total Xylenes	2016/10/06	NC		%	50
				F1 (C6-C10)	2016/10/06	NC		%	30
4691040	GYA	RPD		F1 (C6-C10) - BTEX	2016/10/06	NC		%	30
				Moisture	2016/10/06	2.5		%	20
4691493	ZZ	Matrix Spike		o-Terphenyl	2016/10/07		118	%	60 - 130
				F2 (C10-C16 Hydrocarbons)	2016/10/07		110	%	50 - 130
				F3 (C16-C34 Hydrocarbons)	2016/10/07		112	%	50 - 130
				F4 (C34-C50 Hydrocarbons)	2016/10/07		114	%	50 - 130
4691493	ZZ	Spiked Blank		o-Terphenyl	2016/10/07		110	%	60 - 130
				F2 (C10-C16 Hydrocarbons)	2016/10/07		102	%	60 - 130
				F3 (C16-C34 Hydrocarbons)	2016/10/07		106	%	60 - 130
				F4 (C34-C50 Hydrocarbons)	2016/10/07		106	%	60 - 130
4691493	ZZ	Method Blank		o-Terphenyl	2016/10/06		105	%	60 - 130
				F2 (C10-C16 Hydrocarbons)	2016/10/06	<100		ug/L	
				F3 (C16-C34 Hydrocarbons)	2016/10/06	<200		ug/L	
				F4 (C34-C50 Hydrocarbons)	2016/10/06	<200		ug/L	
4691493	ZZ	RPD		F2 (C10-C16 Hydrocarbons)	2016/10/07	2.0		%	30
				F3 (C16-C34 Hydrocarbons)	2016/10/07	NC		%	30
				F4 (C34-C50 Hydrocarbons)	2016/10/07	NC		%	30
4691506	H_W	Matrix Spike		1,4-Difluorobenzene	2016/10/06		104	%	70 - 130
				4-Bromofluorobenzene	2016/10/06		99	%	70 - 130
				D10-Ethylbenzene	2016/10/06		102	%	70 - 130
				D4-1,2-Dichloroethane	2016/10/06		99	%	70 - 130
				F1 (C6-C10)	2016/10/06		81	%	70 - 130
4691506	H_W	Spiked Blank		1,4-Difluorobenzene	2016/10/06		102	%	70 - 130
				4-Bromofluorobenzene	2016/10/06		99	%	70 - 130
				D10-Ethylbenzene	2016/10/06		99	%	70 - 130
				D4-1,2-Dichloroethane	2016/10/06		100	%	70 - 130
				F1 (C6-C10)	2016/10/06		92	%	70 - 130
4691506	H_W	Method Blank		1,4-Difluorobenzene	2016/10/06		100	%	70 - 130
				4-Bromofluorobenzene	2016/10/06		98	%	70 - 130
				D10-Ethylbenzene	2016/10/06		101	%	70 - 130
				D4-1,2-Dichloroethane	2016/10/06		99	%	70 - 130
				F1 (C6-C10)	2016/10/06	<25		ug/L	
4691506	H_W	RPD		F1 (C6-C10) - BTEX	2016/10/06	<25		ug/L	
				F1 (C6-C10)	2016/10/06	NC		%	30
				F1 (C6-C10) - BTEX	2016/10/06	NC		%	30
4691554	BWW	Matrix Spike		o-Terphenyl	2016/10/07		90	%	60 - 130
				F2 (C10-C16 Hydrocarbons)	2016/10/07		86	%	50 - 130
				F3 (C16-C34 Hydrocarbons)	2016/10/07		91	%	50 - 130
				F4 (C34-C50 Hydrocarbons)	2016/10/07		93	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4691554	BWW	Spiked Blank		o-Terphenyl	2016/10/06		88	%	60 - 130
				F2 (C10-C16 Hydrocarbons)	2016/10/06		85	%	80 - 120
				F3 (C16-C34 Hydrocarbons)	2016/10/06		88	%	80 - 120
				F4 (C34-C50 Hydrocarbons)	2016/10/06		88	%	80 - 120
4691554	BWW	Method Blank		o-Terphenyl	2016/10/06		98	%	60 - 130
				F2 (C10-C16 Hydrocarbons)	2016/10/06	<10		ug/g	
				F3 (C16-C34 Hydrocarbons)	2016/10/06	<50		ug/g	
				F4 (C34-C50 Hydrocarbons)	2016/10/06	<50		ug/g	
4691554	BWW	RPD		F2 (C10-C16 Hydrocarbons)	2016/10/07	NC		%	30
				F3 (C16-C34 Hydrocarbons)	2016/10/07	NC		%	30
				F4 (C34-C50 Hydrocarbons)	2016/10/07	NC		%	30
4692123	NS3	QC Standard		Sieve - #200 (<0.075mm)	2016/10/07		55	%	53 - 58
				Sieve - #200 (>0.075mm)	2016/10/07		45	%	42 - 47
4692123	NS3	RPD [DES289-02]		Sieve - #200 (<0.075mm)	2016/10/07	0.99		%	20
				Sieve - #200 (>0.075mm)	2016/10/07	1.0		%	20
4692290	RAJ	Matrix Spike		D10-Anthracene	2016/10/07		96	%	50 - 130
				D14-Terphenyl (FS)	2016/10/07		90	%	50 - 130
				D8-Acenaphthylene	2016/10/07		110	%	50 - 130
				Acenaphthene	2016/10/07		92	%	50 - 130
				Acenaphthylene	2016/10/07		106	%	50 - 130
				Anthracene	2016/10/07		91	%	50 - 130
				Benzo(a)anthracene	2016/10/07		106	%	50 - 130
				Benzo(a)pyrene	2016/10/07		90	%	50 - 130
				Benzo(b,j)fluoranthene	2016/10/07		76	%	50 - 130
				Benzo(g,h,i)perylene	2016/10/07		77	%	50 - 130
				Benzo(k)fluoranthene	2016/10/07		94	%	50 - 130
				Chrysene	2016/10/07		98	%	50 - 130
				Dibenz(a,h)anthracene	2016/10/07		82	%	50 - 130
				Fluoranthene	2016/10/07		97	%	50 - 130
				Fluorene	2016/10/07		96	%	50 - 130
				Indeno(1,2,3-cd)pyrene	2016/10/07		85	%	50 - 130
				1-Methylnaphthalene	2016/10/07		93	%	50 - 130
				2-Methylnaphthalene	2016/10/07		96	%	50 - 130
				Naphthalene	2016/10/07		79	%	50 - 130
				Phenanthrene	2016/10/07		87	%	50 - 130
				Pyrene	2016/10/07		99	%	50 - 130
				D10-Anthracene	2016/10/07		83	%	50 - 130
				D14-Terphenyl (FS)	2016/10/07		76	%	50 - 130
				D8-Acenaphthylene	2016/10/07		92	%	50 - 130
				Acenaphthene	2016/10/07		81	%	50 - 130
				Acenaphthylene	2016/10/07		93	%	50 - 130
				Anthracene	2016/10/07		80	%	50 - 130
				Benzo(a)anthracene	2016/10/07		95	%	50 - 130
				Benzo(a)pyrene	2016/10/07		81	%	50 - 130
				Benzo(b,j)fluoranthene	2016/10/07		71	%	50 - 130
				Benzo(g,h,i)perylene	2016/10/07		71	%	50 - 130
				Benzo(k)fluoranthene	2016/10/07		84	%	50 - 130
				Chrysene	2016/10/07		90	%	50 - 130
				Dibenz(a,h)anthracene	2016/10/07		75	%	50 - 130
				Fluoranthene	2016/10/07		87	%	50 - 130
				Fluorene	2016/10/07		85	%	50 - 130
				Indeno(1,2,3-cd)pyrene	2016/10/07		73	%	50 - 130
				1-Methylnaphthalene	2016/10/07		86	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	UNITS	QC Limits
4692290	RAJ	Method Blank	2-Methylnaphthalene	2016/10/07		86	%	50 - 130
			Naphthalene	2016/10/07		73	%	50 - 130
			Phenanthrene	2016/10/07		80	%	50 - 130
			Pyrene	2016/10/07		89	%	50 - 130
			D10-Anthracene	2016/10/07		85	%	50 - 130
			D14-Terphenyl (FS)	2016/10/07		80	%	50 - 130
			D8-Acenaphthylene	2016/10/07		95	%	50 - 130
			Acenaphthene	2016/10/07	<0.0050		ug/g	
			Acenaphthylene	2016/10/07	<0.0050		ug/g	
			Anthracene	2016/10/07	<0.0050		ug/g	
			Benzo(a)anthracene	2016/10/07	<0.0050		ug/g	
			Benzo(a)pyrene	2016/10/07	<0.0050		ug/g	
			Benzo(b/j)fluoranthene	2016/10/07	<0.0050		ug/g	
			Benzo(g,h,i)perylene	2016/10/07	<0.0050		ug/g	
			Benzo(k)fluoranthene	2016/10/07	<0.0050		ug/g	
			Chrysene	2016/10/07	<0.0050		ug/g	
			Dibenz(a,h)anthracene	2016/10/07	<0.0050		ug/g	
			Fluoranthene	2016/10/07	<0.0050		ug/g	
			Fluorene	2016/10/07	<0.0050		ug/g	
			Indeno(1,2,3-cd)pyrene	2016/10/07	<0.0050		ug/g	
			1-Methylnaphthalene	2016/10/07	<0.0050		ug/g	
			2-Methylnaphthalene	2016/10/07	<0.0050		ug/g	
			Naphthalene	2016/10/07	<0.0050		ug/g	
			Phenanthrene	2016/10/07	<0.0050		ug/g	
			Pyrene	2016/10/07	<0.0050		ug/g	
4692290	RAJ	RPD	Acenaphthene	2016/10/07	NC		%	40
			Acenaphthylene	2016/10/07	NC		%	40
			Anthracene	2016/10/07	NC		%	40
			Benzo(a)anthracene	2016/10/07	NC		%	40
			Benzo(a)pyrene	2016/10/07	NC		%	40
			Benzo(b/j)fluoranthene	2016/10/07	NC		%	40
			Benzo(g,h,i)perylene	2016/10/07	NC		%	40
			Benzo(k)fluoranthene	2016/10/07	NC		%	40
			Chrysene	2016/10/07	NC		%	40
			Dibenz(a,h)anthracene	2016/10/07	NC		%	40
			Fluoranthene	2016/10/07	NC		%	40
			Fluorene	2016/10/07	NC		%	40
			Indeno(1,2,3-cd)pyrene	2016/10/07	NC		%	40
			1-Methylnaphthalene	2016/10/07	NC		%	40
			2-Methylnaphthalene	2016/10/07	NC		%	40
			Naphthalene	2016/10/07	NC		%	40
			Phenanthrene	2016/10/07	NC		%	40
			Pyrene	2016/10/07	NC		%	40
4692511	RAJ	Matrix Spike [DES292-02]	D10-Anthracene	2016/10/07		115	%	50 - 130
			D14-Terphenyl (FS)	2016/10/07		104	%	50 - 130
			D8-Acenaphthylene	2016/10/07		121	%	50 - 130
			Acenaphthene	2016/10/07		88	%	50 - 130
			Acenaphthylene	2016/10/07		109	%	50 - 130
			Anthracene	2016/10/07		97	%	50 - 130
			Benzo(a)anthracene	2016/10/07		98	%	50 - 130
			Benzo(a)pyrene	2016/10/07		93	%	50 - 130
			Benzo(b/j)fluoranthene	2016/10/07		99	%	50 - 130
			Benzo(g,h,i)perylene	2016/10/07		84	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC			Date		Value	Recovery	UNITS	QC Limits
Batch	Init	QC Type	Parameter	Analyzed				
4692511	RAJ	Spiked Blank	Benzo(k)fluoranthene	2016/10/07		94	%	50 - 130
			Chrysene	2016/10/07		99	%	50 - 130
			Dibenz(a,h)anthracene	2016/10/07		81	%	50 - 130
			Fluoranthene	2016/10/07		108	%	50 - 130
			Fluorene	2016/10/07		101	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2016/10/07		86	%	50 - 130
			1-Methylnaphthalene	2016/10/07		80	%	50 - 130
			2-Methylnaphthalene	2016/10/07		75	%	50 - 130
			Naphthalene	2016/10/07		77	%	50 - 130
			Phenanthrene	2016/10/07		96	%	50 - 130
			Pyrene	2016/10/07		111	%	50 - 130
			D10-Anthracene	2016/10/06		112	%	50 - 130
			D14-Terphenyl (FS)	2016/10/06		98	%	50 - 130
			D8-Acenaphthylene	2016/10/06		116	%	50 - 130
			Acenaphthene	2016/10/06		94	%	50 - 130
			Acenaphthylene	2016/10/06		94	%	50 - 130
			Anthracene	2016/10/06		105	%	50 - 130
			Benzo(a)anthracene	2016/10/06		96	%	50 - 130
			Benzo(a)pyrene	2016/10/06		87	%	50 - 130
			Benzo(b/j)fluoranthene	2016/10/06		95	%	50 - 130
			Benzo(g,h,i)perylene	2016/10/06		78	%	50 - 130
			Benzo(k)fluoranthene	2016/10/06		89	%	50 - 130
			Chrysene	2016/10/06		94	%	50 - 130
			Dibenz(a,h)anthracene	2016/10/06		73	%	50 - 130
			Fluoranthene	2016/10/06		112	%	50 - 130
			Fluorene	2016/10/06		99	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2016/10/06		79	%	50 - 130
			1-Methylnaphthalene	2016/10/06		88	%	50 - 130
			2-Methylnaphthalene	2016/10/06		84	%	50 - 130
			Naphthalene	2016/10/06		84	%	50 - 130
			Phenanthrene	2016/10/06		97	%	50 - 130
			Pyrene	2016/10/06		115	%	50 - 130
4692511	RAJ	Method Blank	D10-Anthracene	2016/10/06		109	%	50 - 130
			D14-Terphenyl (FS)	2016/10/06		100	%	50 - 130
			D8-Acenaphthylene	2016/10/06		117	%	50 - 130
			Acenaphthene	2016/10/06	<0.050		ug/L	
			Acenaphthylene	2016/10/06	<0.050		ug/L	
			Anthracene	2016/10/06	<0.050		ug/L	
			Benzo(a)anthracene	2016/10/06	<0.050		ug/L	
			Benzo(a)pyrene	2016/10/06	<0.010		ug/L	
			Benzo(b/j)fluoranthene	2016/10/06	<0.050		ug/L	
			Benzo(g,h,i)perylene	2016/10/06	<0.050		ug/L	
			Benzo(k)fluoranthene	2016/10/06	<0.050		ug/L	
			Chrysene	2016/10/06	<0.050		ug/L	
			Dibenz(a,h)anthracene	2016/10/06	<0.050		ug/L	
			Fluoranthene	2016/10/06	<0.050		ug/L	
			Fluorene	2016/10/06	<0.050		ug/L	
			Indeno(1,2,3-cd)pyrene	2016/10/06	<0.050		ug/L	
			1-Methylnaphthalene	2016/10/06	<0.050		ug/L	
			2-Methylnaphthalene	2016/10/06	<0.050		ug/L	
			Naphthalene	2016/10/06	<0.050		ug/L	
			Phenanthrene	2016/10/06	<0.030		ug/L	
			Pyrene	2016/10/06	<0.050		ug/L	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	UNITS	QC Limits
4692511	RAJ	RPD	Acenaphthene	2016/10/07	NC		%	30
			Acenaphthylene	2016/10/07	NC		%	30
			Anthracene	2016/10/07	NC		%	30
			Benzo(a)anthracene	2016/10/07	NC		%	30
			Benzo(a)pyrene	2016/10/07	NC		%	30
			Benzo(b/j)fluoranthene	2016/10/07	NC		%	30
			Benzo(g,h,i)perylene	2016/10/07	NC		%	30
			Benzo(k)fluoranthene	2016/10/07	NC		%	30
			Chrysene	2016/10/07	NC		%	30
			Dibenz(a,h)anthracene	2016/10/07	NC		%	30
			Fluoranthene	2016/10/07	NC		%	30
			Fluorene	2016/10/07	NC		%	30
			Indeno(1,2,3-cd)pyrene	2016/10/07	NC		%	30
			1-Methylnaphthalene	2016/10/07	0.13		%	30
			2-Methylnaphthalene	2016/10/07	1.8		%	30
			Naphthalene	2016/10/07	0.36		%	30
			Phenanthrene	2016/10/07	NC		%	30
			Pyrene	2016/10/07	NC		%	30
4693060	NYS	Spiked Blank	Available (CaCl ₂) pH	2016/10/07		98	%	97 - 103
4693060	NYS	RPD	Available (CaCl ₂) pH	2016/10/07	1.1		%	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere

Cristina Carriere, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.