555 Canal Bank Street, Welland Ontario

Phase Two Environmental Site Assessment

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1. Executive Summary

EXP Services Inc. (EXP) was retained by 555 Canal Bank Developments GP Inc. ("Client") to complete a Phase Two Environmental Site Assessment (ESA) of the property with the municipal addresses 555 Canal Bank Street, in Welland, Ontario (hereinafter referred to as the 'Site').

The Site is situated on the east side of Canal Bank Street, east of the Old Welland Canal, at 555 Canal Bank Street. The Site measures approximately 75 hectares (185 acres) in size and is currently occupied by two (2) abandoned industrial buildings. The Site buildings formerly known as Building X and Y, measures approximately 16,945 m² (181,410 ft²) and the Site building formerly known as Building Z, measures approximately 8,062 m² (86,835 ft²). According to historical documents and previous reports, the Site was formerly occupied by John Deere, a farm equipment manufacturing operation, from 1911 to 2009. At the time of the Phase One ESA, the Site buildings were vacant.

It is noted that an environmental conservation area is situated at the north portion and southeast corner of the Site. Due to the presence of this feature, any lands situated within 30m would be considered environmentally sensitive per Section 41 of O.Reg. 153/04, and therefore subject to the more stringent MECP Table 1 SCS. However, for the purpose of this assignment, only the lands situated beyond 30 m from the conservation area are considered part of the Site, and would be subject to the future filing of the RSC. As such, the Site is not considered environmentally sensitive and the MECP Table 3 Site Condition Standards (SCS) has been applied to this Site.

This Phase Two ESA was conducted in accordance with the Phase Two ESA standard defined by Ontario Regulation 153/04, as amended (O.Reg.153/04); and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 7 of this report.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Phase One ESA.

The APECs identified in the Phase One ESA for each property are provided in the table below.

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)[1]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1A: Former Oily water UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1B: Former oily sludge UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1C: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater

APEC 1D: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1E: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1F: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1G: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1H: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1I: Gasoline UST	Central portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1J: Gasoline UST	Central portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1K: Diesel UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1L: Naptha UST	Southern portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1M: Quench UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, VOCs	Soil and Groundwater
APEC 1N: Waste oil UST	Southern portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, VOCs, metals	Soil and Groundwater

APEC 1O: Waste coolant UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	VOCs, metals	Soil and Groundwater
APEC 1P: Paint thinner	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	VOCs, metals	Soil and Groundwater
APEC 2A	Western half of the Site	33. Metal Treatment, Coating, Plating and Finishing	On-Site	VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2B	Western half of the Site	34. Metal Fabrication	On-Site	VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2C	Western half of the Site	52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	On-Site	PCBs, PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2D	Western half of the Site	57. Vehicles and Associated Parts Manufacturing	On-Site	PHCs, BTEX, VOCs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2E	Western half of the Site	Other – Spill Incidents	On-Site	PCBs, PHCs, BTEX, VOCs, Metals	Soil and Groundwater
APEC 3	Paved driveways and parking areas	Other – Salt Application	On-Site	EC and SAR Sodium and chloride	Soil Ground Water
APEC 4	Western portion of the Site	30. Importation of Fill Material of Unknown Quality	On-site	Metals, As, Sb, Se, Cr (VI), Hg	Soil
APEC 5	Southern portion of the Site	46. Rail Yards, Tracks and Spurs	On-site	Metals, PAH	Soil
APEC 6	Southeastern portion of the Site	58. Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste,	Off-site	Metals, PCBs, Hg, VOCs	Groundwater

		other than use of biosoils as soil conditioners			
APEC 7	Eastern portion of the Site	46. Rail Yards, Tracks and Spurs	Off-site	Metals, PAH	Soil and Groundwater

VOCs = volatile organic compounds; PHCs = petroleum hydrocarbons ; BTEX = Benzene, toluene, ethylbenzene, xylene ; HG = Mercury, PCBs = Poylchlorinated Biphenyls ; PAH = Polycyclic Aromatic Hydrocarbons ; As= Arsenic ; Sb = Antimony ; Se = Selenium ; Cr(VI) = Cromium 6 ; EC = Electrical Conductivity ; SAR = Sodium Adsorption Ratio

Based on the findings of the Phase One ESA and conclusions, a Phase Two ESA was recommended to assess the soil and groundwater conditions at the Site.

The scope of the Phase Two ESA was designed to supplement the existing on-Site analytical results to assess soil and/or groundwater quality associated with the identified APECs (1 to 7). The results and findings of the Phase Two ESA conducted at the Site are summarized as follows:

- Between June 25 and July 2, 2019, seventeen (17) boreholes (BH101 to BH117), were advanced by Drill Tech Drilling Limited (Drill Tech) and Pontil Drilling (Pontil) to a maximum depth of 6.1 metres below ground surface (m bgs).
- The general stratigraphy at the Site, as observed in the boreholes, consisted of asphalt/ concrete/ granular fill generally overlying layers of fill/till followed by silty clay.
- The monitoring well network advanced as part of this Phase Two ESA consisted of three (3) monitoring wells screened to approximate depth of 6.1 m bgs. Groundwater levels were measured from the previously installed monitoring wells, and the three (3) newly installed monitoring wells (MW101, MW102 and MW104) on July 8 and 10, 2019.
- Based on the previous environmental investigations at the Site, the groundwater on the west portion of the Site flows in a westerly direction towards the Old Welland Canal and the groundwater on the east portion of the Site flows in an easterly direction towards the New Welland Canal. The previous investigations noted that the hydraulic gradient for the Site was noted to be 0.001 m/m and the vertical gradient was noted to range from 0.24 m/n to 2.8 m/m downward.
- Based on the previous Phase II ESA completed at the Site, the following soil and groundwater parameters were above the applicable MECP (2011) Table 3 SCS.
    - Petroleum hydrocarbons (PHC) F1 (C6-C10) in soil samples MW09-28, MW09-29, and BH09-46 was above the Table 3 SCS.
    - PHC F2 (C10-C16) in soil samples BH38-10, BH41-10, BH42-10, MW09-8, MW06-27, MW09-28, MW09-29, and BH09-46 was above the Table 3 SCS.
    - PHC F3 (C16-C34) in soil samples BH41-10, MW09-8, MW09-28, and MW09-29 was above the Table 3 SCS.
    - The metal parameters (Antimony, Arsenic, Barium, Cadmium, Total Chromium, Copper, Cobalt, Lead, Molybdenum, and/or Zinc) in soil samples BH09-37, BH09-38, BH27-10, MW09-19, MW09-20, MW09-45, and B-Proceptor were above the Table 3 SCS.
    - Cyanide in soil samples MW09-01, BH33-10, and BH34-10 was above the Table 3 SCS.
    - Electrical Conductivity (EC) in soil samples MW09-01, MW09-03, MW09-04, and MW09-14 was above the Table 3 SCS.
    - Sodium Adsorption Ratio (SAR) in soil sample MW09-01 was above the Table 3 SCS.

- From the current scope of work, soil samples were submitted for the analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), and volatile organic compounds (VOCs), metals & inorganics, Electrical conductivity (EC, Sodium Adsorption Ratio (SAR) and polycyclic aromatic hydrocarbons (PAHs). The soil analytical results indicated that the following samples submitted were above the applicable Table 3 SCS:
    - PHC F3 (C16 – C24) in soil sample BH108-SS3 was found to be above the applicable MECP (2011) Table 3 SCS.
    - EC in soil samples BH103-SS2, BH104-SS4, BH105- SS5 (dup BH155- SS4), BH107-SS5, Dup BH199-SS2, BH113-SS2, BH115-SS3, BH116-SS2, and BH117-SS2 were found to be above the applicable MECP (2011) Table 3 SCS.
    - All other parameters, were either non-detected or detected below their applicable MECP (2011) Table 3 SCS.
- Groundwater samples were submitted from the newly installed monitoring wells as well as existing monitoring wells for the analysis of PHCs, VOCs, Metals and Inorganics, Na, Cl and PAHs. The groundwater analytical results indicated that the samples submitted were below the applicable Table 3 SCS.
- No evidence of free product (i.e. visible film or sheen), was observed during soil sampling, groundwater purging, or groundwater sampling activities. Slight odours were identified while developing and sampling the monitoring wells.

Based on the findings of the Phase Two ESA, a delineation program is recommended to determine the extent of impacts in soil and groundwater along with a potential remedial program to address on-Site impacts. Upon the completion of the remedial program, the Phase Two ESA must be updated for the filing of Record of Site Condition (RSC).

2 Introduction

EXP Services Inc. (EXP) was retained by 555 Canal Bank Developments GP Inc. ("Client") to complete a Phase Two Environmental Site Assessment (ESA) of the property with the municipal addresses 555 Canal Bank Street, in Welland, Ontario (hereinafter referred to as the 'Site').

The Site is situated on the east side of Canal Bank Street, east of the Old Welland Canal, at 555 Canal Bank Street. The Site measures approximately 75 hectares (185 acres) in size and is currently occupied by two (2) abandoned industrial buildings. The Site buildings formerly known as Building X and Y, measures approximately 16,945 m² (181,410 ft²) and the Site building formerly known as Building Z, measures approximately 8,062 m² (86,835 ft²). According to historical documents and previous reports, the Site was formerly occupied by John Deere, a farm equipment manufacturing operation, from 1911 to 2009. At the time of the Phase One ESA, the Site buildings were vacant.

It is noted that an environmental conservation area is situated at the north portion and southeast corner of the Site. Due to the presence of this feature, any lands situated within 30m would be considered environmentally sensitive per Section 41 of O.Reg. 153/04, and therefore subject to the more stringent MECP Table 1 SCS. However, for the purpose of this assignment, only the lands situated beyond 30 m from the conservation area are considered part of the Site, and would be subject to the future filing of the RSC. As such, the Site is not considered environmentally sensitive and the MECP Table 3 Site Condition Standards (SCS) has been applied to this Site.

This Phase Two ESA was conducted in accordance with the Phase Two ESA standard defined by Ontario Regulation 153/04, as amended (O.Reg.153/04); and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 7 of this report.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Preliminary Phase One ESA completed by EXP, dated March 29, 2019.

2.1 Site Description

The Site is situated on the east side of Canal Bank Street, east of the Old Welland Canal, at 555 Canal Bank Street, in Welland, Ontario. The Phase One Study Area consists of properties within a distance of approximately 250 metres from the Site boundaries. The Phase One Study Area predominantly consists of commercial and residential properties. The Phase One Study Area and a Surrounding Land Use Plan are shown on Figure 2.

The Site has an area of approximately 75 hectares (185 acres). Based on a review of historical aerial photographs, chain of title information, historical maps, and other records, the Site was formerly occupied by John Deere, a farm equipment manufacturing operation, from 1911 to 2009. At the time of the Phase One ESA, the Site buildings were vacant

2.2 Legal Description and Property Ownership

The Site is situated on the east side of Canal Bank Street, east of the Old Welland Canal, at 555 Canal Bank Street. The Site measures approximately 75 hectares (185 acres) in size and is currently occupied by two (2) abandoned industrial buildings. The Site building formerly known as Building X and Y, measures approximately 16,945 m² (181,410 ft²) and the Site building formerly known as Building Z, measures approximately 8,062 m² (86,835 ft²). According to historical documents and previous reports, the Site was formerly occupied by John Deere, a farm equipment manufacturing operation, from 1911 to 2009.

Details of the Site are as follows

Municipal Address	475 Canal Bank Street / 555 Canal Bank Street / 635 Canal Bank Street
Current Land Use	Industrial
Proposed Land Use	Residential
Legal Description	Parts of Lots 21, 22, & 23, Concession 5 Humberstone; Part of Road Allowance between Lots 22 and 23 Concession 5 Humberstone closed by By-Lay No. 1257, being Parts 1,2,3 on Plan 59R3608 and Part 1 on Plan 59R-3213; subject to HU20395, RO142639, RO385136; Welland
Property Identification Number (PIN)	64454-0080 (LT)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone 17, 642815E 4757185N
Accuracy Estimate of UTM	10-15 m
Measurement Method	Georeferenced aerial photograph
Site Area	75 hectares (185 acres)
Property Owners, Owner Contact and Address	555 Canal Bank Developments GP Inc.

At the time of the Phase One ESA, the Site buildings were vacant.

2.3 Current and Proposed future Uses

At the time of the Phase Two ESA, the property was zoned for industrial land use according to City of Welland zoning by-law. Reportedly, the Site is intended to be further developed for residential land use.

2.4 Applicable Site Condition Standards

Analytical results obtained for Site soil and groundwater samples were assessed against Site Condition Standards (SCS) as established under subsection 169.4(1) of the Environmental Protection Act, and presented in the document MECP "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", ("SGWS" Standards), (MECP, 2011a). Tabulated background SCS (Table 1) applicable to environmentally sensitive Sites and effects based generic SCS (Tables 2 to 9) applicable to non-environmentally sensitive Sites are provided in MECP (2011a). The effects based SCS (Tables 2 to 9) are protective of human health and the environment for different groundwater conditions (potable and non-potable), land use scenarios (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil texture (coarse or medium/fine) and restoration depth (full or stratified).

Tables 1 to 9 of MECP (2011a) are summarized as follows:

- Table 1 – applicable to sites where background concentrations must be met (full depth), such as sensitive sites where site-specific criteria have not been derived;
- Table 2 – applicable to sites with potable groundwater and full depth restoration;
- Table 3 – applicable to sites with non-potable groundwater and full depth restoration;
- Table 4 – applicable to sites with potable groundwater and stratified restoration;
- Table 5 – applicable to sites with non-potable groundwater and stratified restoration;

- Table 6 – applicable to sites with potable groundwater and shallow soils;
- Table 7 – applicable to sites with non-potable groundwater and shallow soils;
- Table 8 – applicable to sites with potable groundwater and that are within 30 m of a water body; and,
- Table 9 – applicable to sites with non-potable groundwater and that are within 30 m of a water body.

Application of the generic or background SCS to a specific site is based on a consideration of site conditions related to soil pH (i.e. surface and subsurface soil), thickness and extent of overburden material, (i.e. shallow soil conditions), and proximity to an area of environmental sensitivity or of natural significance. For some chemical constituents, consideration is also given to soil textural classification with SCS having been derived for both coarse and medium-fine textured soil conditions.

For assessment purposes, EXP selected the MECP (2011) Table 3: Full Depth Generic Site Condition Standards in a Non- Potable Ground Water Condition for Residential/Parkland/Institutional Property Use and medium/fine textured soil. The selection of this category was based on the following factors:

- The Site has an overburden thickness greater than 2 m.
- The Site is not located within 30 m of a surface water body or an area of natural significance.
- The soil at the Site has a pH value between 5 and 9 for surficial soils; and, between 5 and 11 for subsurface soils.
- The property is not located within an area of natural significance; does not include, nor is it adjacent to an area of natural significance, nor is it part of such an area; and, it does not include land that is within 30 m of an area of natural significance, nor is it part of such an area. Based on the review of available resources from the Ministry of Natural Resources and Forestry and MECP, a woodland was observed 115 m east of the Site.
    - It is noted that an environmental conservation area is situated at the north portion and southeast corner of the Site. Due to the presence of this feature, any lands situated within 30m would be considered environmentally sensitive per Section 41 of O.Reg. 153/04, and therefore subject to the more stringent MECP Table 1 SCS. However, for the purpose of this assignment, only the lands situated beyond 30 m from the conservation area are considered part of the Site, and would be subject to the future filing of the RSC. As such, the Site is not considered environmentally sensitive and the MECP Table 3 Site Condition Standards (SCS) has been applied to this Site.
- The Site is serviced by the City of Welland water distribution system; and, to the best of EXP's knowledge, all properties within 250 m of the Site are serviced by the municipal water supply (i.e. there are no potable water supply wells located within the Phase One Study Area).
- The predominant soil type on the Site is considered to be medium/fine textured (as per the soil description identified in the borehole logs in Appendix C, and the results of the 75 micron sieve result included in Appendix E).
- The Site proposed land use is residential.
- There is no intention to carry out a stratified restoration at the Site.

3 Background Information

3.1 Physical Setting

The following physiographic, geological and soil maps were reviewed on June 8, 2018:

- "Toporama"; Natural Resources Canada. Scale 1:17,500. 2008.
- Quaternary Geology of Ontario - geology_ll.shp [computer file],Ontario: Ontario Geological Survey, 2000.
- Bedrock Geology of Ontario - geology_ll.shp [computer file],Ontario: Ontario Geological Survey, 2000.
- Physiography of Southern Ontario - geology_ll.shp [computer file], Ontario: Ontario Geological Survey, 2007.

Based on the review of the above maps, the following information was obtained:

- The western and southern portion of the Site is generally flat and the east and north portion is gently undulating. The Site elevation from approximately 178 to 179 m above sea level.
- The Old Welland Canal is located approximately 45 m west of the Site and the Welland Canal is situated approximately 720 m east of the Site.
- The Site and areas surrounding the Site are expected to consist of glaciolacustrine deep water deposits consisting of clay and silt. The physiography of the Site is listed as 'Haldimand Clay Plains'.
- Based on the information provided on the topographic map, regional groundwater is expected to flow to the west toward the Old Welland Canal.
- The bedrock in the general area consists of the Salina Formation, consisting of limestone, dolostone, shale, sandstone, gypsum, and salt, limestone, dolostone, and siltstone.

3.2 Previous Environmental Investigations

The following reports were available for review at the time of this Phase One ESA.

A Record of Site Condition (RSC) for the Site was filed by Conestoga Rovers & Associates (CRA) in 2012. Several documents were available online with the filing of the RSC and were reviewed as part of the Phase One. The Phase Two Conceptual Site Model (CSM) indicated the following pertinent information:

- The Site was operated by John Deere as a manufacturing facility for rotary cutters, utility vehicles, and locaters from 1911 to 2009.
- The west portion of the Site was relatively flat, while the western portion of the Site was notably undulating due to the placement of excavated soil from previous plant expansion activities.
- During the completion of a Phase I ESA, the Site was serviced by municipal water and sanitary services. Historically a septic system and tile bed was located east of the Q1-Building.
- Storm water is noted to be directed to property boundaries or to the Old Welland Canal via three outfalls. Catch basins were present across the Site to discharge to storm sewers and two stormwater management ponds were present; one located east of the Z-Building and one south of A-Building.
- Three operational oil/water interceptors (StormCeptors™) were associated with the Site at the time of the Phase I. These separated oil and solids from the runoff prior to discharge to the Old Welland Canal.
- The Site was considered an 'environmentally sensitive' Site due to the presence of the woodlot designated to the Regional Municipality of Niagara as Environmental Conservation Areas.

- At the time of the Phase I ESA, thirty-one (31) industrial buildings occupied the Site, however, all buildings had been demolished prior to the completion of the CSM, with the exceptions of Q-2/Q-3 Building, X-Building, Y-Building, and Z-Building.
- Upon the completion of the building demolitions and remediation of the soil and groundwater, waste materials and chemical were removed from the Site. No operations have occurred on the Site since the demolition and remediation activities.
- The following table identifies the former / current Site buildings and the operations within:

Building	Area (ft^2)	Construction	Year Constructed	Use
A	15,500	Concrete beam with brick and metal cladding	1909	Machining
B	12,000	Concrete beam with brick and metal cladding	1909	Maintenance
C	9,420	Concrete beam with brick and metal cladding	1909	Fabrication
D	20,800	Pre-engineered Steel	1997	Testing
H	12,000	Concrete beam with brick and metal cladding	1909	Machining
J-2	43,400	Pre-engineered Steel	1999	Assembly
J-3	4,320	Steel Frame, Steel deck with built up roof	1944	Boiler House
L-1	27,360	Steel Frame, Wood roof	1944	Maintenance
M	48,800	Steel Frame, Precast roof deck, brick walls	1944	Fabrication
P-1	9,360	Steel Frame, Precast roof deck, brick walls	1945	Office
P-2	2,960	Wood frame	1992	Office
P-3	3,780	Wood frame	1995	Office
P-4	3,584	Steel Frame, Precast roof deck, brick walls	1999	Office
Q	40,000	Steel Frame, Steel Clad	1944	Assembly
Q-1	18,000	Steel Frame, Steel Clad	1944/2000	Assembly

Building	Area (ft²)	Construction	Year Constructed	Use
Q-2	40,000	Steel Frame, Steel Clad	1944	Assembly
Q-3	40,000	Steel Frame, Steel Clad	1944	Assembly
R	41,412	Steel Frame, Precast roof deck, brick walls	1945	Fabrication
R-1	4,000	Steel Frame, Steel deck with built up roof	1975	Office
R-2	3,400	Steel Frame, Steel deck with built up roof	1975	Maintenance
R-3	8,800	Steel Frame, Steel deck with built up roof	1994	Fabrication
S	40,000	Steel Frame, Full Span Bridge Crane & Transite Roof	1945	Storage
S-1	13,200	Steel Frame, Steel deck with built up roof	1967	Fabrication
S-2	13,200	Steel Frame, Steel deck with built up roof	1993	Fabrication
T	56,700	Steel Frame, Precast roof deck, brick walls	1945/1987	Fabrication
U	950	Steel Frame, Wooden Trusses & Steel clad	1947	Storage
X	85,280	Steel Frame, Steel deck with built up roof	1965	Fabrication
X-3	11,160	Steel Frame, Steel deck with built up roof	1993	Fabrication
X-4	12,604	Steel Frame, Steel deck with built up roof	2001	Lunchroom / Office
Y	71,600	Steel Frame, Steel deck with built up roof	1965	Shipping
Z	86,500	Steel Frame, Steel deck with	2001	Paint

Building	Area (ft^2)	Construction	Year Constructed	Use
		built up roof		

- No basement levels were associated with any of the Site buildings; however it was noted that an oil recovery system was located beneath the former R-Building. This below-grade structure was removed and backfilled with imported clean fill.
- Based on results of the Phase I ESA; the following Areas of Potential Environmental Concern (APECs) were identified:
    - **Fuel Oil USTs (Tanks 3, 4 and 5):** located south of R-Building. A removal program occurred in the late 1980s and early 1990, however little documentation was available and the analytical data that existed no longer met current regulations.
    - **Fuel Oil USTs (Tanks 6, 7, and 8):** located south of J3-Building.
    - **Gasoline USTs (Tanks 10 and 11):** located south of T-Building.
    - **Diesel USTs (Tank 14):** located south of the R-Building.
    - **Naptha UST (Tank 16):** located north of C-Building.
    - **Quench UST (Tank 15):** located north of R-Building.
    - **Oily Water and Sludge USTs (Tank 1 and 2):** located south of S-Building.
    - **Waste Oil UST (Tank 13):** located west of D-Building.
    - **Waste Coolant UST (Tank 9):** located north of L-Building.
    - **Paint Thinner Underground Storage Tank (Tank 12):** located north of S-Building.
    - **Hydraulic Press Pits:** located within the M-Building.
    - **Hydraulic Press Pits:** located within X-Building.
    - **Painting Process Concrete Sump:** used to collect over-spill pumped to the rinse tank, located within the Z-Building.
    - **Historical Chemical Use and Storage – Solvents use:** chlorinated solvents were used on Site and groundwater monitoring results from the on-Site landfill area identified elevated concentrations of tetrachloroethylene.
    - **Former Solid Waste Landfill:** southeast corner of the Site from 1931 to 1971. Discarded materials listed included furnace pots, cyanide salts, and PCB sorbent materials from a transformer spill. Elevated concentrations of PCBs, lead, copper, tetrachloroethylene and mercury were detected in groundwater during previous investigations..
    - **Construction Material Disposal Area:** northeast corner of the Site. Discarded material included concrete rubble, brick, and fill material generated from on-Site construction activities.
    - **Snow Dump Area**: portion of southeast yard in the vicinity of the former tile bed.
    - **Wastewater – Septic Tanks and Tile Bed:** seven (7) septic tanks servicing the plant and tile field located on eastern portion of the Site. Cyanide laden waste water discharged to tile bed from 1931 to 1971.
    - **Elevated on-Site Cyanide Stormwater Concentrations:** concentrations of cyanide in the samples collected from StormCeptor outfall locations were below laboratory detection limits, however; the source of the elevated on-Site cyanide concentrations was not identified.
    - **Historical Use of Polychlorinated Biphenyl (PCB) Containing Equipment:** included dock levelers, presses, trunnions, and hydraulic clamps associated with production equipment. The hydraulic oil used in production equipment had not been sampled to confirm the presence or absence of PCBs.
    - **Historical Spills and Releases:** spills documented for the Site included thirty-four (34) releases of paint, fuel oil, transmission oil, hydraulic oil, and pretreated wash sludge to on-Site storm sewers dating back to 1990. There was a potential for a significant number of releases to have been unreported prior to the existing documentation.
    - **Hydraulic Oil Release:** from associated former hydraulic presses leached below the floor slab in R-Building and a recovery trench with associated recovery wells at the end of the trench was in place to collect oil from beneath floor slab. No documents were obtained concerning remediation of recovery trench areas.

- Previous environmental investigations completed on the Site included the advancement of 47 boreholes and 40 monitoring wells. The results of the soil and groundwater analysis were included in the Phase Two CSM.
- A review of historical data from a 2009 Phase II ESA and a 2009 Supplemental Phase II ESA was completed to identify data gaps. Phase II activities conducted by CRA between 2009 and 2012 included the following:

    - *74 boreholes were advanced to facilitate the collection and field screening of soil samples to document geologic and environmental conditions at the Site.*
    - *72 soil samples were collected from 54 borehole locations and submitted to a laboratory for chemical analyses.*
    - *8 soil grab samples were collected during soil remediation activities at locations of former underground storage tanks, septic tanks and stockpiles to document environmental conditions at the noted APECs.*
    - *Five boreholes were instrumented as monitoring wells to facilitate the collection of groundwater samples and to document hydrogeologic conditions at the Site.*
    - *22 groundwater samples were collected from 18 on-Site monitoring wells and submitted to a laboratory for chemical analyses.*
    - *Completion of two rounds of water level measurements (December 2009 and February 2012) at existing and accessible monitoring wells.*

- Stratigraphy on Site consisted of concrete / asphalt top cover with interspersed granular fill and topsoil, fill mixtures of sand and gravel intermixed with sandy clay and clayey silt, underlain by native silty clay intermixed with trace gravel.
- Bedrock was not encountered on the Site, however; a review indicated the presence of shale at an approximate depth of 34 metres below ground surface (mbgs).
- 45 groundwater monitoring wells were installed on the Site (41 installed by Golder, 4 installed by CRA). Three groundwater level measuring events occurred between February 2009 and December 2009. Groundwater levels ranged between 0.32 mbgs (MW09-21) to 5.77 mbgs (JD2). A large area of drawdown centred on the R-building was likely to be associated with the oil recovery system historically in place at this location.
- Groundwater on the western portion of the Site was noted to flow in a westerly direction, towards the Old Welland Canal and groundwater on the eastern portion of the Site was noted to flow in an easterly direction, towards the New Welland Canal. Hydraulic gradient for the Site was noted to be 0.001 m/m.
- Due to the presence of the clay on Site acting as an aquitard, contaminant mobility was considered to be limited and eliminated the need to install nested wells for vertical delineation.
- Closely spaced monitoring well pairs were assessed utilizing the difference of their screen depths and the groundwater elevation data in order to determine vertical hydraulic gradients. These were estimated to range from 0.24 m/m to 2.8 m/m downward. Due to the instrumentation of the wells within the clay aquitard, hydraulic gradients were expected to vary widely.
- The estimated horizontal groundwater flow velocity was 0.0046 m/year.
- The vertical groundwater flow velocity is was estimated to range from 0.0023 m/year to 0.00046 m/year downward.
- Soil samples were analyzed for VOCs, ABN, PAHs, metals, cyanide, PHC F1 to F4, and
- PCBs and included soils at APECs identified in the Phase One ESA.
- The following was identified regarding soil quality on Site:

    - *Concentrations of select metals (antimony, arsenic, barium, cadmium, chromium, cobalt, copper, cyanide, lead, mercury, molybdenum, nickel, silver, and zinc) and/or benzene, toluene, ethylbenzene, and xylene (BTEX) parameters were detected above the MOE 2004 Table 1 Standards at various locations across the Site.*

- *There are no MOE 2004 Table 1 Standards available for PHC F1 to F4; however, these parameters were also detected in Site soils.*
- *Localized PHC exceedances of the PSSs in surface soils (0 to 1.5 meters below ground surface) between C-Building and D-Building. The reason for the discharge of these contaminants to the environment is not known but may be as a result of releases from the nearby waste oil underground storage tank. Based on surrounding soil sample results, the extent of these impacts is limited to an approximate area of 220 m², bounded by C-Building and D-Building footprints, and a depth of 1.2 metres.*
- *Localized PHC exceedances of the PSSs in surface soils beneath the building floor slab at X-Building. The reason for the discharge of these contaminants to the environment is not known. Based on surrounding soil sample results, the extent of these impacts is limited to an approximate area of 311 m² and a depth of 3 metres.*
- *An isolated cyanide exceedance of the MOE 2004 Table 1 Standard in surface soil south of S-Building. The reason for the discharge of cyanide to the environment is not known but may be related to elevated on-Site cyanide storm water concentrations. Based on surrounding soil sample results, the extent of the cyanide impacts to soil are limited to an approximate area of 16 m² and a depth of 1.5 metres.*
- *Localized metals exceedances of the PSSs in surface soils between B-Building and L-Building. The reason for the discharge of these contaminants to the environment is not known but may be a result of metal fabrication in the nearby M-Building. Based on surrounding soil sample results, the extent of metals impacted surface soil is limited to 2,200 m², bounded by A/B-Building and L-Building, and a depth of 1.2 metres.*
- *Localized PHC exceedances of the PSS in surface and subsurface (greater than 1.5 meters below ground surface) soils beneath the R-Building floor slab. The reason for the discharge or PHC to the environment in this area is a result of historical releases from the former hydraulic presses. Based on surrounding soils sample results, the extent of PHC impacted soils beneath R-Building extend over an approximate area of 4,800 m² and to a maximum depth of 4.2 metres.*

- Groundwater samples were analyzed for VOCs, ABN, PHC F1 to F4, metals, and PCBs and included investigating groundwater quality at the APECs identified in the Phase One ESA.
- The following was identified regarding ground water quality on Site:

  - *Concentrations of select metals (cadmium, cobalt, copper, lead, molybdenum, nickel, and vanadium), and fluoranthene were detected in groundwater above the Table 1 Standards.*
  - *There are no MOE Table 1 Standards available for PHC F2 to F4; however, these parameters were also detected in Site groundwater.*
  - *With the exception of PHC F2 beneath the R-Building floor slab, groundwater across the Site meets the PSS. The reason for the discharge of PHC to the environment in this area is a result of historical releases from the former hydraulic presses. Based on surrounding groundwater sample results, the extent of PHC impacted groundwater beneath R-Building extends over an approximate area of 2,000 m² to a depth of 4.3 metres. The depth of the groundwater impacts is believed to be a result of the groundwater depression created through operation of the historical oil recovery system in place beneath R-Building. No climatic or meteorological conditions are known to have influenced the distribution or migration of the contaminants. Given the presence of the silty clay aquitard across the Site, lateral and vertical migration of Contaminants beyond this area of potential environmental concern is not expected to be significant*.

- The analytical results of soil and groundwater samples in the 2009 Phase II ESA were compared to applicable MECP (2011) Table 3 SCS. The following soil and groundwater samples were above the applicable Table 3 SCS.
  - PHC F1 (C6-C10) in soil samples MW09-28, MW09-29, and BH09-46 was above the Table 3 SCS.
  - PHC F2 (C10-C16) in soil samples BH38-10, BH41-10, BH42-10, MW09-8, MW06-27, MW09-28, MW09-29, and BH09-46 was above the Table 3 SCS.
  - PHC F3 (C16-C34) in soil samples BH41-10, MW09-8, MW09-28, and MW09-29 was above the Table 3 SCS.

- The laboratory detection limits of the VOCs parameters in soil MW09-27, MW09-28, MW09-29, and MW09-46 were above the Table 3 SCS.
- The metal parameters (Antimony, Arsenic, Barium, Cadmium, Total Chromium, Copper, Cobalt, Lead, Molybdenum, and/or Zinc) in soil samples BH09-37, BH09-38, BH27-10, MW09-19, MW09-20, and B-Proceptor were above the Table 3 SCS.
- Cyanide in soil samples MW09-01, BH33-10, and BH34-10 was above the Table 3 SCS.
- EC in soil samples MW09-01, MW09-03, MW09-04, and MW09-14 was above the Table 3 SCS.
- SAR in soil sample MW09-01 was above the Table 3 SCS.
- PHC F2 (C10-C16) in groundwater samples MW09-28 and MW09-29 was above the Table 3 SCS.
- PHC F3 (C16-C34) in groundwater samples MW09-28 and MW09-41 was above the Table 3 SCS.

  PHC F4 (C34-C50) in groundwater samples MW09-9, MW09-14, MW09-22, MW09-23, MW09-33, and MW09-41 was above the Table 3 SCS.

- The Human and Ecological Conceptual Site Models (CSMS) was completed and identified:
  - *Contaminant release mechanisms*
  - *Transport pathways*
  - *Human and ecological receptor locations on and off Site*
  - *Receptor exposure points*
  - *Routes of exposure*
- It was noted that the Site was to continue to be used for commercial and industrial operations, thus the human receptors that may be exposed include an industrial/commercial worker and a construction/utility worker.
- The ecological CSM included the COCs in groundwater discharging to surface water of Old Welland Canal, located approximately 30 m west of the Site.
- Terrestrial ecological receptors considered for this type of environmental setting included terrestrial vegetation, terrestrial invertebrates, terrestrial wildlife though direct contact, food web interactions, and inhalation of volatiles/particulates and the potential for exposure of deep-rooted vegetation, such as trees, to groundwater through root uptake.
- *The potential aquatic receptors considered to consist of aquatic vegetation, benthic invertebrates, fish, amphibians, and aquatic mammals and birds that may uptake constituents directly from surface water or bioaccumulate constituents from the ingestion of prey items.*

The Table of Current and Past Uses of the Phase One Property included in the filing of the 2012 RSC identified the following pertinent information

- *1873 – 1899 – B. Tucker - Agricultural Use (Lot 22 & 23, Con. 5)*
- *1899 – 1900 – J. Tucker - Agricultural Use (Lot 22 & 23, Con. 5)*
- *1900 – 1909 – B. Tucker - Agricultural Use (Lot 22 & 23, Con. 5)*
- *1909 – 1910 – Dain Manufacturing Company Ltd. – Industrial Use (Lot 22 & 23, Con. 5)*
- *1910 – 1970 – The Corp. of the Township of Humberstone – Industrial Use (Lot 22 & 23, Con. 5)*
  - *Aerial photographs indicated southwest portion occupied by industrial buildings and underwent intense expansion. Scarified lands further north indicative of on-going industrial expansion.*
- *1970 – 1985 – John Deere Ltd. – Industrial Use (Lot 22 & 23, Con. 5)*
  - *Aerial photographs indicated northwest portion underwent industrial development and additional buildings.*
- *1985 – 1996 - John Deere Financial Ltd. – Industrial Use (Lot 22 & 23, Con. 5)*

    - *Aerial photographs indicate majority of the parcel was utilized for industrial purposes (yard storage and equipment testing). Remaining areas consisted of woodlot.*
  - *1996 – 2012 – John Deere Credit Inc. - Industrial Use (Lot 22 & 23, Con. 5)*
    - *Aerial photographs indicated the addition of large industrial building on mid eastern portion of the parcel in 2002.*
  - *2012 to Present – John Deere Financial Inc. – Industrial Use (vacant - Lot 22 & 23, Con. 5)*
    - *Aerial photographs indicate majority of buildings demolished with the exception of four remaining.*
  - *1872 – 1920 – R. McClelland - Agricultural Use (Lot 21, Con. 5)*
    - *Aerial photographs indicate a farmhouse on southeast portion of parcel.*
  - *1920 – 1946 – G. McClellan - Agricultural Use (Lot 21, Con. 5)*
  - *1946 – 1948 – J&J. Lombarczki - Agricultural Use (Lot 21, Con. 5)*
  - *1948 – 1970 – J&M Frank - Agricultural Use (Lot 21, Con. 5)*
    - *Aerial photographs indicate farmhouse in south and north portion of parcel.*
  - *1970 – 1982 – The St. Lawrence Seaway Authority – Industrial Use (Lot 21, Con. 5)*
    - *Aerial photographs indicate property use no longer agricultural and farmsteads no longer visible (undeveloped).*
  - *1982 – 1985 – John Deere Ltd. - Industrial Use (Lot 21, Con. 5)*
  - *1985 – 1996 - John Deere Financial Ltd. - Industrial Use (Lot 21, Con. 5)*
    - *Aerial photographs indicate parcel consisted of fill piles from industrial expansion on west parcel.*
  - *1996 – 2012 - John Deere Credit Inc. - Industrial Use (Lot 21, Con. 5)*
    - *Aerials indicated fill piles from industrial expansion continued to 2000 and ceased in 2010.*
  - *2012 – Present - John Deere Financial Inc. (Lot 21, Con. 5)*

A Certificate of Property Use (CPU) was filed for the Site in December 2012. The CPU identified Risk Assessments that were completed for the Site, however; these documents were unavailable at the time of the Phase One. The conditions of the CPU address the Risk Management Measures set in place in the RA. The pertinent information identified in the CPU is detailed below:

- The CPU noted the intended property use will be will be Industrial/Commercial/Community.
- Three (3) RA's were accepted in September 2012 and were completed by CRA in December 2010, January 2012, and August 2012.
- The Contaminants of Concern (CoC) are noted to be above Table 1: Full Depth Background Site Condition Standards of the Soil, Ground water, and Sediment Standards (2004)
- Potable water wells were prohibited from being installed.

A Transition Notice (Section 21.1. O. Reg. 153/04) was filed for the Site which allowed the filing of the RSC utilizing the March 2004 Soil, Ground Water and Sediment Standards after July 2011 and before January 2013. In this Notice, the owner of the Site is noted to be John Deere Limited. This notice was acknowledged by the Ministry of the Environment (MOE) in December 2010. The RSC document identified the following pertinent information:

- The Site included an area of natural significance.
- Soil texture on the Site is considered to be coarse textured
- Intended property use is to be commercial.
- The Assessment / Restoration approach is noted to be 'Background'.
- Groundwater conditions were noted to be potable.
- 27,500 m^3 of soil was removed from the Site.
- 24,000 m^3 of soil was brought to the Site.

- No groundwater infiltration was observed during the excavation of soil at the time of remedial activities. As such, groundwater was remediated via excavation as part of the soil matrix.
- 2.1 million L of groundwater was estimated to be removed from the Site.
- The CPU had not been finalized but was noted have itemized Risk Management Measures (RMMs) that were accepted in the Risk Assessment (RA 0300-89AKK2)
- A Phase One ESA was completed for the Site in November 2012 by CRA.
- A Phase Two ESA was completed for the Site in November 2012 by CRA.
- Additional reports listed were as follows:
    - Phase II Environmental Site Assessment – 2009 – Golder Associates Ltd.
    - Supplemental Phase II Environmental Site Assessment – 2009 - Golder Associates Ltd.
    - Three (3) Risk Assessment Reports – 2010, Jan. 2012, and Aug. 2012 - CRA

The need for a Phase Two ESA on the Site was identified in the Preliminary Phase One ESA conducted for the Site by EXP, dated March 29, 2019. Based on the findings of the Phase One ESA, including a review of previously completed reports, numerous Potentially Contaminating Activities (PCAs) were identified within the Phase One ESA Study Area (Figure 2). Twenty-six (26) corresponding Areas of Potential Environmental Concern (APECs) were identified.

Based on the findings of the Phase One ESA and conclusions, a Phase Two ESA was recommended to assess the soil and groundwater conditions at the Site.

4 Scope of Investigation

4.1 Overview of Site Investigation

The objective of the Phase Two ESA was to assess the APECs identified in EXP's Phase One ESA to obtain soil and groundwater data to further characterize the Site to support the filing of a RSC on the MECP's Environmental Brownfield Site Registry.

4.1.1 Scope of Work

The scope of work for the Phase Two ESA was as follows:

- Request local utility locating companies (e.g. cable, telephone, gas, hydro, water, sewer and storm water) to mark any underground utilities present at the Site;
- Retain a private utility locating company to mark any underground utilities present in the vicinity of the proposed borehole locations and to clear the individual borehole locations;
- Oversee a licensed drilling company to advance a total of sixteen (16) boreholes across the Site;
- Advance eight (8) boreholes to a maximum depth of approximately 6.0 m bgs and eight (8) shallow boreholes to be completed to 3 m bgs.
- Collect representative soil samples from the boreholes for laboratory analysis Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Metals and Inorganics, Electrical Conductivity (EC) and Sodium Adsorption Ratio (SAR), Sodium and Chloride, Polycyclic Aromatic Hydrocarbons (PAHs), pH, and/or 75-micron sieve;
- Four (4) of the boreholes will be instrumented with a monitoring well installed to six (6) m bgs.
- Develop the four (4) newly installed groundwater monitoring wells and six (6) existing monitoring wells;
- Collect groundwater samples from the newly installed monitoring wells and six (6) existing monitoring wells for laboratory analysis of PHCs, VOCs, Metals, sodium and chloride and/or PAHs;
- Complete an elevation survey of all newly installed monitoring wells to determine the groundwater flow direction in the groundwater unit(s) identified beneath the Site; and,
- Analyze the data and prepare a report of the findings, in accordance with O.Reg.153/04.

4.2 Media Investigated

The Phase Two ESA included the investigation of the Site soil and/or groundwater. As there were no surface water bodies on the Site, sediment sampling was not required.

4.3 Phase One Conceptual Site Model

The Phase One Conceptual Site Model (CSM) is incorporated into the Phase Two CSM, presented in Appendix F.

4.4 Deviations from Sampling and Analysis Plan

The field investigative and sampling program was carried out following the requirements of the Site Sampling and Analysis Plan (SAAP) presented in Appendix A. No significant deviations from the SAAP were reported, that could affect the sampling and data quality objectives for the Site.

However, one (1) additional borehole was advanced at the Site, as well, one (1) monitoring well was not installed as an existing monitoring well was in the vicinity of the proposed borehole. The well development and groundwater sampling was conducted at the existing monitoring well.

4.5 Impediments

The Site was accessible at the time of the investigation, and no physical impediments were encountered during the field investigation

5. Investigation Method

5.1 General

The Site investigative activities consisted of the following:

- Borehole drilling to facilitate the collection of soil samples for geologic characterization and/or chemical analysis; and,
- Monitoring well installation for hydrogeologic characterization and the collection of groundwater samples for chemical analysis.

Boreholes were advanced in the topsoil and overburden soils by a licensed drilling company under the full-time supervision of EXP staff. The drilling equipment used to advance the boreholes is described below. No petroleum-based greases or solvents were used during drilling activities.

Monitoring wells were installed in the boreholes by a MECP licensed well contractor in accordance with Ontario Regulation 903/90, as amended (O.Reg. 903) using manufactured well components (i.e. riser pipes and screens) and materials (i.e. sand pack and grout) from documented sources.

The approximate locations of the boreholes and monitoring wells are shown on Figure 2.

5.2 Underground Utilities

Prior to the commencement of drilling activities, the locations of underground utilities including but not limited to cable, telephone, natural gas, electrical lines, water, sewer and storm water conduits were marked out by public locating companies. In addition, a private utility locating service (Bulls-Eye) was retained to clear individual borehole locations.

5.3 Borehole Drilling

The fieldwork for the soil investigative portion of the Phase Two ESA was carried out between June 25 and July 2, 2019. The boreholes were advanced under the full-time supervision of EXP staff.

Seventeen (17) boreholes (BH101 to BH117), were advanced by Drill Tech Drilling Limited (Drill Tech) and Pontil Drilling (Pontil) to a maximum depth of 6.1 metres below ground surface (m bgs). The boreholes were advanced using a Truck-Mounted CME M5T and a power probe 9580-VTR quipped with hallow and solid stem augers.

EXP continuously monitored the drilling activities to record the physical characteristics of the soil, depth of soil sample collection and total depth of boreholes. Field observations are summarized on the borehole logs provided in Appendix C. Representative soil samples were recovered from the boreholes continuously using split-spoon samplers or acetate liners.

All soil cuttings were stored in drums on the Site.

5.4 Soil: Sampling

The soil sampling conducted during the completion of this Phase Two ESA was undertaken in accordance with the SAAP presented in Appendix A, to ensure that soil quality in the APECs identified in the Phase One ESA was characterized in accordance with O.Reg.153/04.

Soil samples for geologic characterization and chemical analysis were collected on a discrete basis in the overburden materials using 5 cm diameter, 60 cm long, split spoons or acetate liners advanced into the subsurface using a track-mounted direct push drill rig or a Power Probe. The soil cores were extruded from the samplers upon retrieval by drilling personnel. Geologic details

of the recovered cores were logged by EXP field staff and samples were collected from selected cores for chemical analysis. Field observations are summarized on the borehole logs prepared from the field logs and provided in Appendix C.

Measures were taken in the field and during transport to preserve sample integrity prior to chemical analysis. Recommended volumes of soil samples selected for chemical analysis were collected from the recovered cores into pre-cleaned, laboratory-supplied glass sample jars/vials identified for the specified analytical test group. Samples intended for PHC fractions F1 and VOCs were collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined lids.

Soil samples selected for laboratory analysis were placed in clean coolers containing ice prior to and during transportation to the subcontract laboratory, (currently named as Bureau Veritas, BV Labs) of Mississauga, Ontario. The samples were transported/submitted within the acceptable holding time to BV Labs following Chain of Custody protocols for chemical analysis.

Decontamination and other protocols were followed during sample collection and handling to minimize the potential for sample cross-contamination. New disposable nitrile gloves were used for the handling and sampling of each retrieved soil core. The sampling equipment (i.e. split spoons) was decontaminated between borehole locations by the drilling contractor using a potable water/phosphate-free detergent solution followed by rinses with potable water and de-ionized water. Wash and rinse waters were collected in sealed, labeled containers. Drill cuttings were placed in labeled, sealed drums upon completion of sampling.

Soil samples submitted for specific chemical analysis were selected on the basis of visual inspection of the recovered cores, TOV readings, sample location and/or depth interval.

Soil samples were also collected and submitted for grain size analysis.

Appropriate quality assurance/quality control (QA/QC) samples were collected during soil sampling, including field duplicate samples, as presented in Section 4.14.

5.5 Soil: Field Screening Measurements

Where required for the characterization of volatile parameters, a portion of each soil core was placed in a sealed plastic bag and allowed to reach ambient temperature prior to field screening, using an RKI Eagle II (RKI) device equipped with a Photoionization Detection (PID) instrument, calibrated with isobutylene and hexane gases. The measurements were made by inserting the instrument's probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings provide a real-time indication of the relative concentration of combustible vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of volatile parameter contamination and the selection of soil samples for analysis.

The field screening measurements, in parts per million (ppm) isobutylene and hexane equivalents, are presented on the borehole logs in Appendix C. It should be noted that field measurements are for screening purposes only and the presence/absence of contamination is determined by laboratory analysis.

Each sample was additionally examined for visual, textural and olfactory classification at the time of sampling.

5.6 Groundwater: Monitoring Well Installation

Three (3) of the seventeen (17) boreholes advanced at the Site were instrumented with monitoring wells. The monitoring wells were installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - amended to O. Reg. 128/03, and were installed by licensed well contractors (Drill Tech and Pontil).

The monitoring wells consisted of a 3 m or 1.5 m length, 51 mm diameter number 10 slot size (0.25 mm) PVC well screen and Schedule 40 PVC riser pipe. All pipe connections were factory machined threaded flush couplings. The annular space around the wells was backfilled with silica sand to an average height of 0.3 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface. The monitoring wells were completed with a stick-up well casing.

EXP continuously monitored the well installation activities. Well installation details are summarized on the borehole logs provided in Appendix C.

When the monitoring wells are no longer required, they must be decommissioned in accordance with the procedure outlined in the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - amended to O. Reg. 128/03.

Measures taken to minimize the potential for cross contamination or the introduction of contaminants during well construction included:

- The use of well pipe components (e.g. riser pipe and well screens) with factory machined threaded flush coupling joints;
- Construction of wells without the use of glues or adhesives;
- Removing the protective plastic wraps from well components at borehole insertion to prevent contact with the ground and other surfaces; and,
- Cleaning of augers between sampling locations.

5.7 Groundwater: Monitoring Well Development

Following the installation of monitoring wells, the newly installed monitoring wells, and seven (7) of the existing monitoring wells were developed, on July 8, 2019, respectively, to remove fine sediment particles from the sand pack and enhance hydraulic communication with the surrounding formation waters. The monitoring wells were developed using dedicated low-density polyethylene (LDPE) tubing, equipped with an inertial foot-valve to disturb the water column and recover groundwater containing dislodged sediment particles. The wells were developed until approximately 3 to 5 well volumes of water were removed and/or until purged dry.

5.8 Groundwater: Purging and Field Measurements of Water Quality Parameters

At least 24 hours following the monitoring well development activities, the depth to groundwater at each monitoring well was measured utilizing an electronic water level meter obtained from Spectra Scientific Inc. (Spectra) of Mississauga, ON. The water level measurements were recorded on log sheets or in a bound field book. The water level meter was decontaminated between monitoring well locations.

Prior to collecting groundwater samples, field measurements of water quality parameters were recorded from the four (4) monitoring wells utilizing low-flow purging and sampling methodologies. Groundwater was purged from each location using a peristaltic pump and dedicated LDPE tubing. Field measurements of dissolved oxygen concentration, electrical conductivity, oxidation-reduction potential, pH, temperature, turbidity and water levels were recorded at three (3) minute intervals during the purging activities using a pre-calibrated multi probe water quality meter, a turbidity meter and a water level meter. Groundwater was considered to be chemically stable when the pH measurements of three (3) successive readings agreed to within ± 1 pH units, the specific conductance within ± 10%, and the temperature within ± 10%. The multi-meter electrodes were calibrated prior to receipt of the meter by the supplier using in-house reference standards.

All development and purged water was collected and stored on Site in labeled, sealed containers, until properly managed or disposed off-Site.

Equipment used during groundwater monitoring were thoroughly cleaned and decontaminated between wells. Well purging details were recorded on log sheets or in a bound field book.

5.9 Groundwater: Sampling

The groundwater sampling conducted during the completion of this Phase Two ESA was undertaken in accordance with the SAAP presented in Appendix A, to ensure that the APECs identified in the Phase One ESA were properly characterized, in accordance with O.Reg.153/04.

Upon completion of purging activities, groundwater samples were collected from monitoring wells. Recommended groundwater sample volumes were collected into pre-cleaned laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples were placed in an insulated cooler pre-chilled with ice immediately upon collection. Samples for VOCs and/or PHC F1 analysis were collected in triplicate vials prepared with concentrated sodium bisulphate as a preservative. Each VOC/PHC vial was inverted and inspected for gas bubbles prior to being placed in the cooler to ensure that no head-space was present in the samples. Samples for Inductively Coupled Plasma Mass Spectrometry (ICPMS) metals were collected using disposable 0.45 micron field filters, supplied by Spectra, or laboratory filtered.

All groundwater samples were placed in clean coolers containing ice prior to and during transportation to the subcontract laboratory, BV Labs. The samples were transported/submitted following appropriate holding time requirements following Chain of Custody protocols for chemical analysis.

Decontamination and other protocols were followed during sample collection and handling to minimize the potential for sample cross-contamination. New disposable nitrile gloves were used at each monitoring well location.

Groundwater samples submitted for specific chemical analysis were selected on the basis of sample location and/or depth interval.

Appropriate QA/QC samples were collected during groundwater sampling, including field duplicate samples and trip blanks, where required.

5.10 Sediment Sampling

As no water body was present at the Site, sediment sampling was not part of the Phase Two ESA.

5.11 Analytical Testing

The contractual laboratory selected to perform the chemical analyses was Bureau Veritas, of Mississauga, ON. BV Labs is an accredited laboratory under the Standards Council of Canada/Canadian Association of Environmental Analytical Laboratories (Accredited Laboratory No. 97 and No. A3200, respectively) in accordance with ISO/IEC 17025:2005 – “General Requirements for the Competence of Testing and Calibration Laboratories”.

5.12 Residue Management Procedures

The residue materials produced during the borehole drilling, soil sampling programs and monitoring well sampling programs comprised of soil cuttings from drilling activities, decontamination fluids from equipment cleaning, and waters from well development and purging. All soil cuttings were stored in drums on the north central portion of the Site until the material was properly disposed of at an off-Site MECP licensed landfill facility. All development and purged water was collected and stored on-Site in labeled, sealed containers, until disposed of off-Site at a MECP licensed landfill facility.

5.13 Elevation Survey

An elevation survey was conducted during the Phase Two ESA investigative activities, with the purpose of obtaining relative vertical control of the monitoring well locations. The top of pipe and ground surface elevations of each monitoring well were surveyed relative to a geodetic benchmark. The elevation survey was underway at the time of writing this report, the elevation survey will be incorporated in the Phase Two ESA Update in the future.

5.14 Quality Assurance and Quality Control Measures

Quality Control/Quality Assurance measures, as set out in the Sampling and Analysis Plan, were implemented during sample collection, storage and transport to provide accurate data representative of conditions in the surficial fill and upper overburden soils and the water table aquifer. The QA/QC measures included decontamination procedures to minimize the potential for sample cross contamination, the execution of standard operating procedures to collect representative and unbiased samples, the collection of quality control samples to evaluate sample precision and accuracy, and the implementation of measures to preserve sample integrity.

Decontamination protocols were followed during sample collection and handling to minimize the potential for cross-contamination. During the collection of soil samples, split-spoon and duel tube samplers were scraped and decontaminated between sampling intervals by washing with a potable water/phosphate-free detergent solution followed by a rinse with potable water. New disposable nitrile gloves were used for the handling and collection of samples from each soil core and for sample collection from each borehole.

Soil samples selected for chemical analyses were collected from the retrieved soil cores and placed directly into pre-cleaned, laboratory-supplied glass jars or vials. Sample volumes were consistent with analytical test group requirements as specified by the receiving laboratory.

Groundwater samples were collected into pre-clean laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. Recommended analytical test group specific sample volumes were collected as specified by the contractual laboratory. Sample vials for analysis of PHC F1 (BTEX) and VOCs were inspected for the presence of gas bubbles and the presence of head space, where volatiles may partition into.

Measures were followed to preserve sample integrity between collection and receipt by the contractual laboratory. All samples, both soil and groundwater, immediately upon collection were placed in insulated coolers pre-chilled with ice for storage and transport to the contractual laboratory. Samples were received by the contractual laboratory within specific analytical test group holding time requirements.

Documentation procedures were followed to confirm sample identification and tracked sample movement. Each sample was assigned a unique identification ID number, which was recorded along with the date, time of sampling and requested analyses on labels affixed to the sampling containers, and in a bound field notebook. Chain of Custody protocols were followed to track sample handling and movement until receipt by the contractual laboratory. Field QA/QC samples were collected during the soil and groundwater sampling. Duplicate samples were collected to evaluate sampling precision to evaluate the potential for sample cross-contamination during handling and transport.

Five (5) duplicate soil samples, BH1011-SS2, BH1011 -SS5, BH122-SS2, BH155-SS4, and BH199- SS2, were collected from BH101-SS2, BH101 -SS5, BH102-SS2, BH105 – SS4, and BH109- SS2 respectively and submitted for analysis of PAHs, VOCs, PHCs with BTEX, metals and inorganics, and EC/SAR, for QA/QC purposes. One (1) duplicate groundwater samples (MW1011) was collected from monitoring well MW101, and submitted for analysis of PHCs with BTEX, VOCs, and ICPMS metal parameters for QA/QC purposes. In addition, one (1) trip blank sample was analyzed for VOCs

6. Review and Evaluation

6.1 Geology

The soil investigation conducted at the Site for the environmental assessment consisted of the advancement of seventeen (17) boreholes into the topsoil material and the underlying native materials to a maximum depth of 6.1 m bgs. The borehole logs describing geologic details of the soil cores recovered during the Site drilling activities are presented in Appendix C. Boundaries of soil indicated on the log sheets are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change.

The general stratigraphy at the Site, as observed in the boreholes, consisted of asphalt/ concrete/ granular fill generally overlying layers of fill/till followed by silty clay. A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections. Refer to borehole logs provided in Appendix C for details of soil stratigraphy..

6.1.1 Surface Material

Asphalt, concrete and/or granular fill with thickness of approximately 80, 150 and 1220 mm, respectively was encountered at the surface of all boreholes. In the areas of previous remediation, silty clay fill was identified.

6.1.2. Fill Material

Fill material was encountered below the asphalt/ concrete/ granular fill in majority of the boreholes extending to depths between 0.08 m bgs and 4.6 m bgs. The fill comprised generally of silty clay, with traces of wood, granular material, and brick.

6.1.3. Native Material

Silty clay material was encountered below the fill material and extended to depths of approximately 6.1 m bgs.

6.1.4 Bedrock

Bedrock was encountered during this investigation.

6.2 Groundwater: Elevations and Flow Direction

The monitoring well network advanced as part of this Phase Two ESA consisted of three (3) monitoring wells. The newly installed monitoring wells were screened between 3.06 – 6.1 m bgs. Groundwater levels were measured on July 8 and 10, 2019. The groundwater levels and corresponding elevations are summarized in Table 2, and presented in the borehole logs provided in Appendix C.

Several environmental investigations have been completed for this Site including a previous Phase Two ESA with a Phase Two CSM in support of an RSC. It is was noted that the groundwater flow on the west portion of the Site flowed west towards the Old Welland Canal and the groundwater on the east portion of the Site flowed east to the New Welland Canal.

6.2.1 Groundwater: Hydraulic Conductivity

Based on the previous environmental investigations, the horizontal groundwater flow velocity was noted as 0.0046 m/year.

6.2.2 Groundwater: Horizontal Hydraulic Gradients

The horizontal hydraulic gradient, between each monitoring well pair, is calculated using the following equation:

$$i = \Delta h / \Delta s$$

Where,

i = horizontal hydraulic gradient;

Δh (m) = groundwater elevation difference; and,

Δs (m) = separation distance.

Based on the previous environmental investigations, the hydraulic gradient as noted to be 0.001 m/m.

6.2.3 Groundwater: Vertical Hydraulic Gradients

The horizontal hydraulic gradient, between each monitoring well pair, is calculated using the following equation:

$$iv = (h2-h1)/(z2-z1)$$

Where,

i = vertical hydraulic gradient;

z (m) = bottom of well elevation minus 50; and,

h (m) = difference between the groundwater elevation bottom of well elevation plus z.

Based on the previous environmental investigations, the vertical groundwater flow velocity ranged from 0.0023 m/year to 0.00046 m / year downward.

6.3 Soil Texture

Based on the 75 micron sieve of representative soil, the soil texture at the Site was determined to be medium/fine textured soils (refer to the 75 micron sieve analysis in the Certificates of Analysis - Appendix E)

6.4 Soil: Field Screening

TOV readings from each sample interval were measured for soil sample selected for BTEX/PHC and VOC analysis from all advanced boreholes. Vapour concentrations readings collected during subsurface drilling were measured using the RKI Eagle 2 in ppm calibrated with isobutylene and hexane or equivalent. The vapour readings, in ppm, are provided on the borehole logs in Appendix C.

Soil samples submitted for chemical analysis were selected on the basis of visual inspection of the recovered cores, TOV readings, sample location and/or depth interval. Both hexane and isobutylene readings indicate that there are insignificant volatile particles in the soil vapours.

6.5 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. The selection of representative “worst case” soil samples was based on field screening, visual and/or olfactory evidence of impacts, and the presence of potential water bearing zones. Copies of the laboratory Certificates of Analysis for the analyzed soil samples are provided in Appendix E. A summary of the analytical results for the soil samples, including the locations and depths of each sample, a comparison of concentrations against applicable SCS, and the identification of the potential contaminants of concern, are provided in Appendix D.

6.5.1 Petroleum Hydrocarbons

Eight (8) soil sample, including one (1) QA/QC field duplicate (BH122-SS2) were analyzed for PHCs including BTEX. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-1 in Appendix D.

The following compounds were detected in exceedances of the MECP (2011) Table 3 SCS.

- PHC F3 (C16 – C24) in soil sample BH108-SS3.

As shown in Table D-1, the remaining PHCs were not detected above the laboratory RDLs. The laboratory RDLs were below the Table 3 SCS.

6.5.2 Volatile Organic Compounds

Two (2) soil samples, including one (1) QA/QC field duplicate (BH1011-SS5) were analyzed for VOCs. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-2 in Appendix D.

As shown in Table D-2, all VOC samples were not detected above the laboratory RDLs. The laboratory RDLs were below the Table 3 SCS.

Based on the 2009 Phase II ESA, the laboratory detection limit of the VOCs in soil samples MW09-27, MW09-28, MW09-29, and MW09-46 were above the Table 3 SCS. It is most likely that the elevated laboratory detection limit of the VOCs in these soil samples was caused by dilution during laboratory analytical process due to high concentration of PHCs in the soil samples. In addition, no other VOCs exceedance was identified at the Site.

6.5.3 Metals and Inorganics

Eight (8) soil samples, including two (2) QA/QC field duplicates (BH155-SS4 and BH126 – SS3) were analyzed for metals and inorganics. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-4 in Appendix D.

Cobalt was identified in the soil sample BH106-SS3 that is marginally above the Table 3 SCS. However, based on the analytical results of the duplicate sample of BH106-SS3 (BH126-SS3), the averaged concentration of Cobalt is within the Table 3 SCS. Therefore, no exceedances were identified at this time.

As shown in Table D-4, the remaining samples were not detected above the laboratory RDLs. The laboratory RDLs were below the Table 3 SCS.

6.5.4 Electrical Conductivity and Sodium Adsorption Ratio

Seventeen (17) soil samples, including two (2) QA/QC field duplicates (BH155-SS4 and BH199-SS2) were analyzed for EC/SAR. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-4 in Appendix D.

The following compounds were detected in exceedances of the MECP (2011) Table 3 SCS.

- EC in soil samples BH103-SS2, BH104-SS4, BH105- SS5 (dup BH155- SS4), BH107-SS5, Dup BH199-SS2, BH113-SS2, BH115-SS3, BH116-SS2, and BH117-SS2.

As shown in Table D-4, the remaining samples were not detected above the laboratory RDLs. The laboratory RDLs were below the Table 3 SCS.

6.5.5 Polycyclic Aromatic Hydrocarbons

Two (2) soil samples, including one (1) QA/QC field duplicate (BH1011-SS2) were analyzed for PAHs. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-5 in Appendix D.

As shown in Table D-5, the soil samples submitted were not detected above the laboratory RDLs. The laboratory RDLs were below the Table 3 SCS.

6.5.6 Soil pH

The Table 3 SCS criteria are applicable if soil pH is in the range of 5 to 9 for surface soil (less than 1.5 m below soil surface) and 5 to 11 for subsurface soil (greater than 1.5 m below soil surface). The reported surface pH value was 7.79, and subsurface ranged from 7.83 – 7.94, which is within the acceptable range to use the Table 3 SCS.

Refer to Table D-4 for a summary of the soil samples analyzed for pH.

6.5.7 Chemical Transformation and Soil Contaminant Source

The PHCs impacted soil is likely associated with the former on-site fuel oil storage tanks or former on-site industrial process. The EC and SAR impacted soil is likely associated with the salt application during the winter season.

6.5.8 Evidence of Non-Aqueous Phase Liquid

Inspection of the soil cores retrieved from the boreholes did not indicate the presence of non-aqueous phase liquid (NAPL), staining, or sheen at the time of the Phase Two ESA.

6.6 Groundwater Quality

In accordance with the scope of work, chemical analyses were performed on groundwater samples recovered from the monitoring wells. The selection of groundwater samples was based on location and/or screen depth. Copies of the laboratory Certificates of Analysis for the analyzed groundwater samples are provided in Appendix E. A summary of the analytical results for the groundwater samples, including the locations of each sample, well screen interval depth, a comparison of parameter concentrations against applicable SCS, and the identification of the COCs, are provided in Appendix D.

6.6.1 Petroleum Hydrocarbons

Based on the findings in the 2009 Phase II ESA, PHCs parameters in groundwater samples MW09-9, MW09-14, MW09-22, MW09-23, MW09-28, MW09-29, MW09-33, and MW09-41 were above the Table 3 SCS. Therefore, groundwater samples were retrieved from the existing wells MW09-9, MW09-14, MW09-22, MW09-23, MW09-33, and MW09-41 to confirm the concentration of the PHCs in groundwater.

A total of thirteen (13) groundwater samples including two (2) QA/QC field duplicate (MW09-222 and MW1011) from the newly installed wells and existing monitoring wells were analyzed for PHCs. The results of the analysis together with the applicable Table3 SCS are presented in Table D-7 in Appendix D.

As shown in Table D-7, PHCs were detected below the laboratory RDLs in the analyzed samples. The laboratory RDLs were below the Table 3 SCS.

It is noted that the historic PHCs exceedance in groundwater at the locations of MW09-9, MW09-14, MW09-33, and MW09-41 may be a result of sediment in the samples during the groundwater sampling procedures. As such, these wells were sampled utilizing low flow sampling procedures to reduce the potential for sediment interference.. A review of the 2019 analytical results indicated that the concentrations of PHCs in the groundwater samples from MW09-9, MW09-14, MW09-33, and MW09-41 are below laboratory detection limits in this Phase Two ESA, and the laboratory detection limits are below Table 3 SCS. As such, the PHCs analytical results of groundwater samples from MW09-9, MW09-14, MW09-33, and MW09-41 in 2009 Phase II ESA have been superseded.

Based on the 2009 Phase II ESA, remediation was conducted at the location of MW09-22, MW09-23, MW09-28, and MW09-29. The review of the analytical results indicated that the concentrations of PHCs in the groundwater samples MW09-22 and MW09-23 are below laboratory detection limits in this Phase Two ESA, and the laboratory detection limits are below Table 3 SCS.

In addition, the monitoring wells MW09-28 and MW09-29 were decommissioned at the time of remedial excavation. Groundwater samples were retrieved from a newly installed monitoring well (MW104) and an existing well (MW8-12), which

are in vicinity of MW09-28 and MW09-29, for PHC analysis. The review of the analytical results indicated that the concentrations of PHCs in the groundwater samples MW104 and MW8-12 are below laboratory detection limits in this Phase Two ESA, and the laboratory detection limits are below Table 3 SCS.

6.6.2 Volatile Organic Compounds

Two (2) groundwater samples, including one (1) QA/QC field duplicate (MW1011) and one (1) trip blank sample were analyzed for VOCs. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-8 in Appendix D.

As shown in Table D-8, VOCs were detected below the laboratory RDLs in the analyzed samples. The laboratory RDLs were below the Table 3 SCS.

6.6.3 Metals and Inorganics

Three (3) groundwater samples, including one (1) QA/QC field duplicate (MW1011) were analyzed for metals and inorganics. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-10 in Appendix D.

Four (4) groundwater samples, including one (1) QA/QC field duplicate (MW09-144) were analyzed for sodium and chloride. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-10 in Appendix D.

As shown in Table D-10, metals and inorganics were detected below the laboratory RDLs in the analyzed samples. The laboratory RDLs were below the Table 3 SCS.

6.6.4 Polycyclic Aromatic Hydrocarbons

Three (3) groundwater samples, including one (1) QA/QC field duplicate (BH-066), were analyzed for PAHs. The results of the analysis together with the applicable Table 3 SCS are presented in Table D-11 in Appendix D.

As shown in Table D-11, PAHs were detected below the laboratory RDLs in the analyzed samples. The laboratory RDLs were below the Table 3 SCS.

6.6.5 Chemical Transformation and Groundwater Contaminant Source

No COC was identified in groundwater on the Site in this 2019 Phase Two ESA.

6.6.6 Evidence of Non-Aqueous Phase Liquid (NAPL)

Inspection of the purged groundwater retrieved from the monitoring wells did not indicate the presence of NAPL, staining, or sheen. Slight odours were identified while developing and sampling the monitoring wells.

6.7 Sediment Quality

As no surface water body was located on-Site, the Phase Two ESA did not include sediment sampling.

6.8 Quality Assurance and Quality Control Measures

Quality assurance and quality control measures were taken during the field activities to meet the objectives of the sampling and quality assurance plan to collect unbiased and representative samples to characterize existing conditions in the overburden and bedrock materials, and water table units at the Site.

Review of field activity documentation indicated that recommended sample volumes were collected from soil and groundwater for each analytical test group into appropriate containers and preserved with proper chemical reagents in accordance with the protocols set out in the “Protocol for Analytical Methods used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” (MECP, 2004). Samples were preserved at the required temperatures in pre-chilled insulated coolers and met applicable holding time requirements, when relinquished to the receiving laboratory.

Field QA/QC samples were collected during soil and groundwater sampling. Five (5) duplicate soil samples, BH1011-SS2, BH1011 -SS5, BH122-SS2, BH155 – SS4, and BH199- SS2, were collected from BH101-SS2, BH101 -SS5, BH102-SS2, BH105 – SS4, and BH109- SS2 respectively and submitted for analysis of PAHs, VOCs, PHCs with BTEX, metals and inorganics, and EC/SAR, for QA/QC purposes. One (1) duplicate groundwater samples (MW1011) was collected from monitoring well MW101, and submitted for analysis of PHCs with BTEX, VOCs, and ICPMS metal parameters for QA/QC purposes. In addition, one (1) trip blank sample was analyzed for VOCs

The field duplicate sample results were quantitatively evaluated by calculating the relative percent difference (RPD). Assessment of the duplicate soil and groundwater sample showed that the results generally met analytical test group specific acceptance criteria. The overall assessment indicates that the soil and groundwater samples were collected with an acceptable level of precision, and the data is acceptable quality for meeting the objectives of the Phase Two ESA.

The contractual laboratory selected to perform the chemical analyses was Bureau Veritas, of Mississauga, ON. BV Labs is an accredited laboratory under the Standards Council of Canada/Canadian Association of Laboratory Accreditation (Accredited Laboratory No. 97 and No. A3200, respectively) in accordance with ISO/IEC 17025:2005 – "General Requirements for the Competence of Testing and Calibration Laboratories". Certificates of Analysis were received from BV Labs reporting the results of all the chemical analyses performed on the submitted soil and groundwater samples. Copies of the Certificates of Analysis are provided in Appendix E. Review of the Certificates of Analysis, prepared by BV Labs, indicates that they were in compliance with the requirements set out under subsection 47(3) of O. Reg. 153/04.

The analytical program conducted by BV Labs included analytical test group specific QA/QC measures to evaluate the accuracy and precision of the analytical results and the efficiency of analyte recovery during solute extraction procedures. The laboratory QA/QC program consisted of the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences and surrogate compound recoveries (VOCs only) to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificate of Analysis prepared by BV Labs. The QA/QC results are reported as percent recoveries for matrix spikes, spike blanks and QC standards, relative percent difference for laboratory duplicates and analyte concentrations for method blanks. The QA/QC results were assessed against test group control limits in the case of spiked blanks, matrix spikes and surrogate recoveries and alert criteria in the case of method blanks and laboratory duplicates. Review of the laboratory QA/QC results reported by BV Labs indicated that they were within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups. Based on the assessment of the QA/QC, the analytical results reported are of acceptable quality and data qualifications are not required.

6.9 Phase Two Conceptual Site Model

This section presents a Phase Two Conceptual Site Model (CSM) providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, the presence and distribution of potential contaminants of concern, contaminant fate and transport, and potential exposure pathways. The Phase Two CSM was completed in accordance with O. Reg.153/04 as defined by the MECP and is presented in Appendix F

7. Conclusions

The results and findings of the Phase Two ESA conducted at the Site are summarized as follows:

- Between June 25 and July 2, 2019, seventeen (17) boreholes (BH101 to BH117), were advanced by Drill Tech Drilling Limited (Drill Tech) and Pontil Drilling (Pontil) to a maximum depth of 6.1 metres below ground surface (m bgs).
- The general stratigraphy at the Site, as observed in the boreholes, consisted of asphalt/ concrete/ granular fill generally overlying layers of fill/till followed by silty clay.
- The monitoring well network advanced as part of this Phase Two ESA consisted of three (3) monitoring wells screened to approximate depth of 6.1 m bgs . Groundwater levels were measured from the previously installed monitoring wells, and the three (3) newly installed monitoring wells (MW101, MW102 and MW104) on July 8 and 10, 2019.
- Based on the previous environmental investigations at the Site, the groundwater on the west portion of the Site flows in a westerly direction towards the Old Welland Canal and the groundwater on the east portion of the Site flows in an easterly direction towards the New Welland Canal. The previous investigations noted that the hydraulic gradient for the Site was noted to be 0.001 m/m and the vertical gradient was noted to range from 0.24 m/n to 2.8 m/m downward.
- Based on the previous Phase II ESA completed at the Site, the following soil and groundwater parameters were above the applicable MECP (2011) Table 3 SCS.
    - PHC F1 (C6-C10) in soil samples MW09-28, MW09-29, and BH09-46 was above the Table 3 SCS.
    - PHC F2 (C10-C16) in soil samples BH38-10, BH41-10, BH42-10, MW09-8, MW06-27, MW09-28, MW09-29, and BH09-46 was above the Table 3 SCS.
    - PHC F3 (C16-C34) in soil samples BH41-10, MW09-8, MW09-28, and MW09-29 was above the Table 3 SCS.
    - The metal parameters (Antimony, Arsenic, Barium, Cadmium, Total Chromium, Copper, Cobalt, Lead, Molybdenum, and/or Zinc) in soil samples BH09-37, BH09-38, BH27-10, MW09-19, MW09-20, MW09-45, and B-Proceptor were above the Table 3 SCS.
    - Cyanide in soil samples MW09-01, BH33-10, and BH34-10 was above the Table 3 SCS.
    - EC in soil samples MW09-01, MW09-03, MW09-04, and MW09-14 was above the Table 3 SCS.
    - SAR in soil sample MW09-01 was above the Table 3 SCS.
- From the current scope of work, soil samples were submitted for the analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), and volatile organic compounds (VOCs), metals & inorganics, Electrical conductivity (EC, Sodium Adsorption Ratio (SAR) and polycyclic aromatic hydrocarbons (PAHs). The following soil analytical results indicated that the samples submitted were above the applicable Table 3 SCS:
    - PHC F3 (C16 – C24) in soil sample BH108-SS3 was found to be above the applicable MECP (2011) Table 3 SCS.
    - EC in soil samples BH103-SS2, BH104-SS4, BH105- SS5 (dup BH155- SS4), BH107-SS5, Dup BH199-SS2, BH113-SS2, BH115-SS3, BH116-SS2, and BH117-SS2 were found to be above the applicable MECP (2011) Table 3 SCS.
    - All other parameters, were either non-detected or detected below their applicable MECP (2011) Table 3 SCS.
- Groundwater samples were submitted from the newly installed monitoring wells as well as the existing monitoring wells for the analysis of PHCs, VOCs, Metals and Inorganics, Na, Cl and PAHs. The groundwater analytical results indicated that the samples submitted were below the applicable Table 3 SCS.
- No evidence of free product (i.e. visible film or sheen), was observed during soil sampling, groundwater purging, or groundwater sampling activities. Slight odours were identified while developing and sampling the monitoring wells.

Based on the findings of the Phase Two ESA, a delineation program is recommended to determine the extent of impacts in soil and groundwater along with a potential remedial program to address on-Site impacts. Upon the completion of the remedial program, the Phase Two ESA must be updated for the filing of Record of Site Condition (RSC).

8. General Limitations

The information presented in this report is based on a limited investigation designed to provide information to support an assessment of the current environmental conditions within the subject property. The conclusions and recommendations presented in this report reflect Site conditions existing at the time of the investigation.

More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during any such excavation operations. Consequently, during the future development of the property, conditions not observed during this investigation may become apparent. Should this occur, EXP Services Inc. should be contacted to assess the situation, and the need for additional testing and reporting. EXP has qualified personnel to provide assistance in regards to any future geotechnical and environmental issues related to this property.

The environmental investigation was carried out to address the intent of applicable provincial Regulations, Guidelines, Policies, Standards, Protocols and Objectives administered by the Ministry of the Environment and Climate Change. 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. Achieving the study objectives stated in this report has required us to arrive at conclusions based upon the best information presently known to us. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Professional judgment was exercised in gathering and analyzing information obtained and in the formulation of the conclusions. Like all professional persons rendering advice, we do not act as absolute insurers of the conclusions we reach, but we commit ourselves to care and competence in reaching those conclusions.

Our undertaking at EXP, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the engineering profession. It is intended that the outcome of this investigation assist in reducing the client's risk associated with environmental impairment. Our work should not be considered 'risk mitigation'. No other warranty or representation, either expressed or implied, is included or intended in this report.

This report was prepared for the exclusive use of 555 Canal Bank Developments GP Inc. and may not be reproduced in whole or in part, without the prior written consent of EXP, or used or relied upon in whole or in part by other parties for any purposes whatsoever. Any use which a third party makes of this report, or any part thereof, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. EXP Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

9 Closure

We trust this report is satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

EXP Services Inc.

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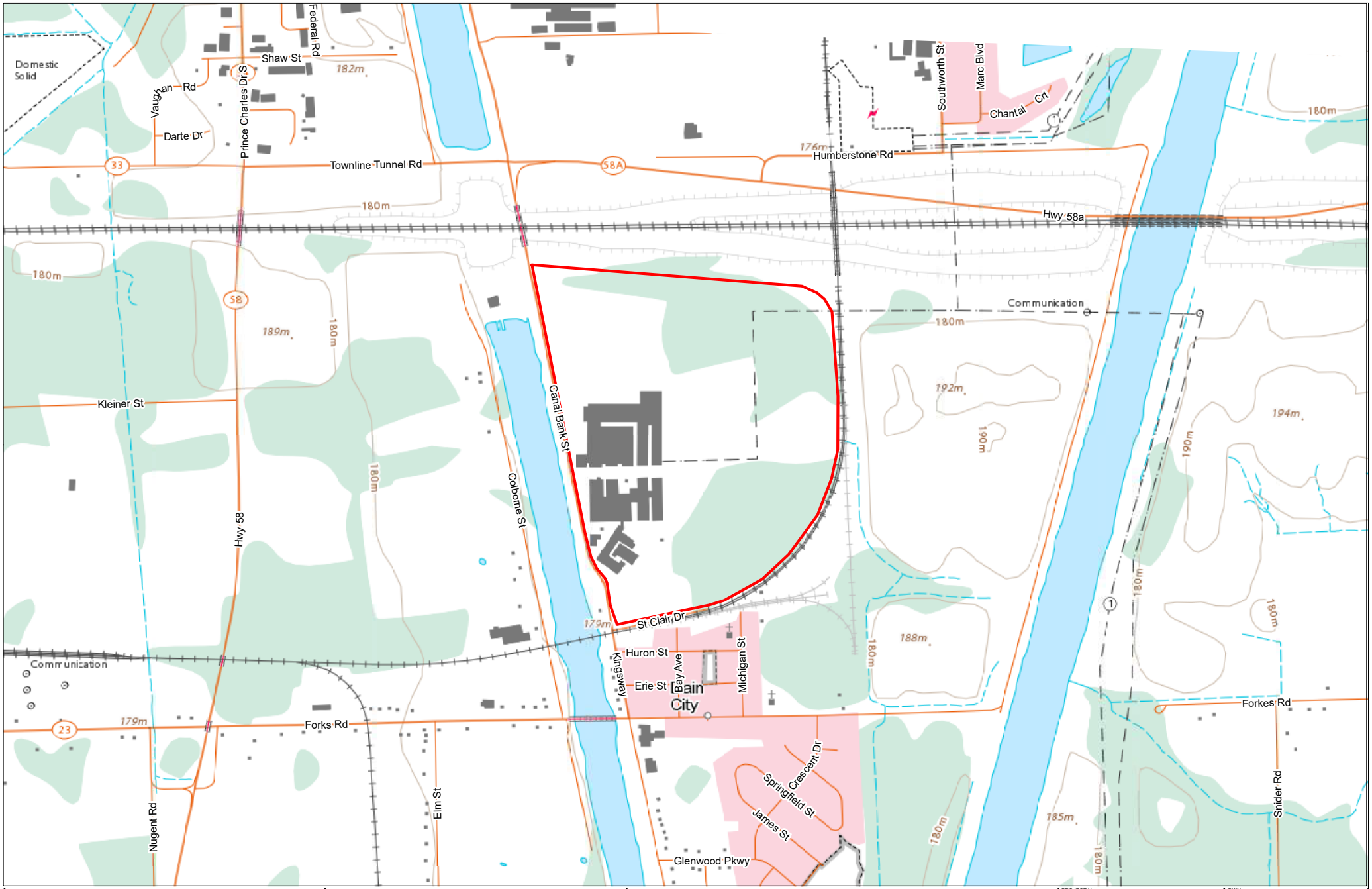
10 References

This study was conducted in general accordance with the applicable Regulations, Guidelines, Policies, Standards, Protocols and Objectives administered by the Ministry of the Environment. Specific reference is made to the following:

- Canadian Standards Association [CSA] (2000) Z769-00, Phase II Environmental Site Assessment. Canadian Standards Association, March 2000.
- Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended, September 2004.
- Ministry of the Environment [MECP] (1996) Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario. Ontario Ministry of the Environment, December 1996.
- MECP (2011a) Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, March 2004, amended as of July 1, 2011.
- MECP (2011) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, April 15, 20101.
- Occupational Health and Safety Act - Ministry of Labour (MOL).
- Ontario Regulation 153/04, made under the Environmental Protection Act, May 2004, amended.
- Ontario Water Resources Act – R.R.O. 1990, Regulation 903, amended.
- Ontario Geological Survey (2010a) Physiography of Southern Ontario (Scale 1:22,000).
- Topographic Map available at the Natural Resources Canada (NRC) website http://atlas.nrcan.gc.ca/site/english/maps/topo/map
- Ontario Geological Survey (2010b) Surficial geology of Southern Ontario (Scale 1:22,000).
- Ontario Geological Survey (2011) Bedrock geology of Ontario (Scale 1:22,000).

Figures



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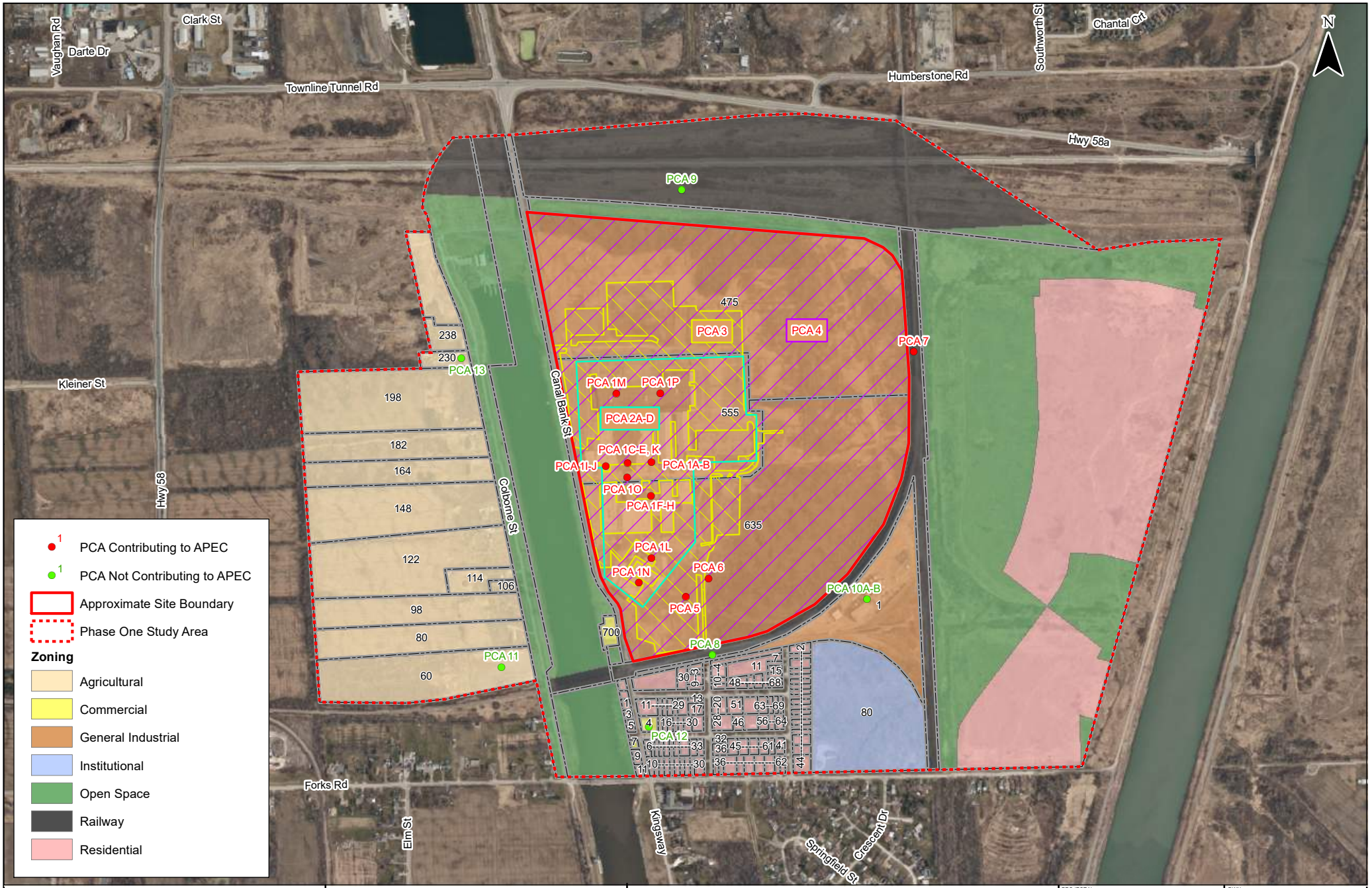
Approximate Site Boundary

0 150 300 450 600 750 m

TITLE AND LOCATION:

SITE LOCATION PLAN
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 1



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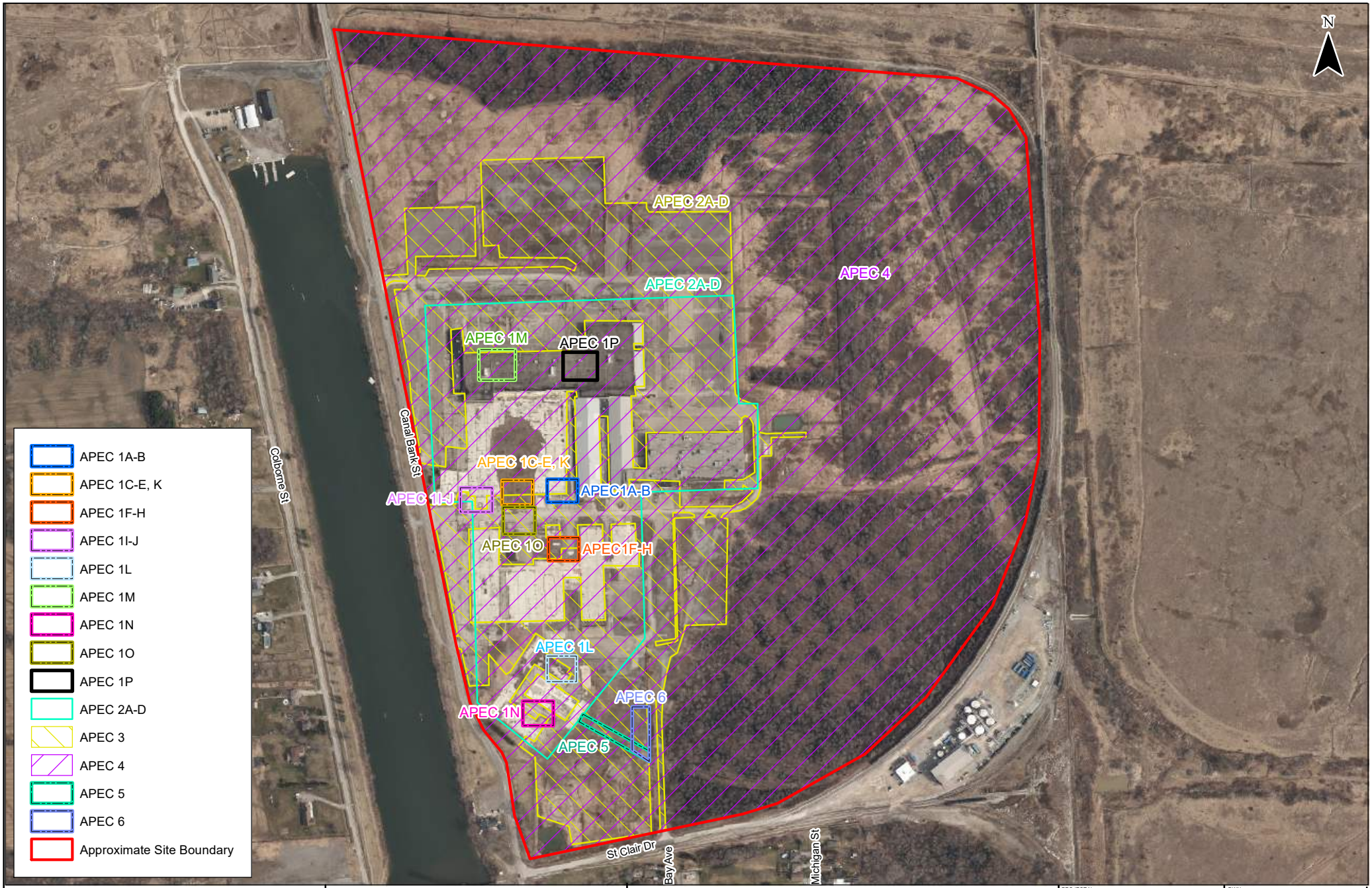
Data Source: Zoning By-Law 2017-117, as amended. City of Welland, 2017.

TITLE AND LOCATION:

PHASE ONE STUDY AREA, SURROUNDING LAND USE, AND POTENTIALLY CONTAMINATING ACTIVITIES

Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 2



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0 50 100 150 200 250 m

TITLE AND LOCATION:

AREAS OF POTENTIAL
ENVIRONMENTAL CONCERN (APECs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 3

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TITLE AND LOCATION:

BOREHOLE / MONITORING WELL LOCATION PLAN
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 4A

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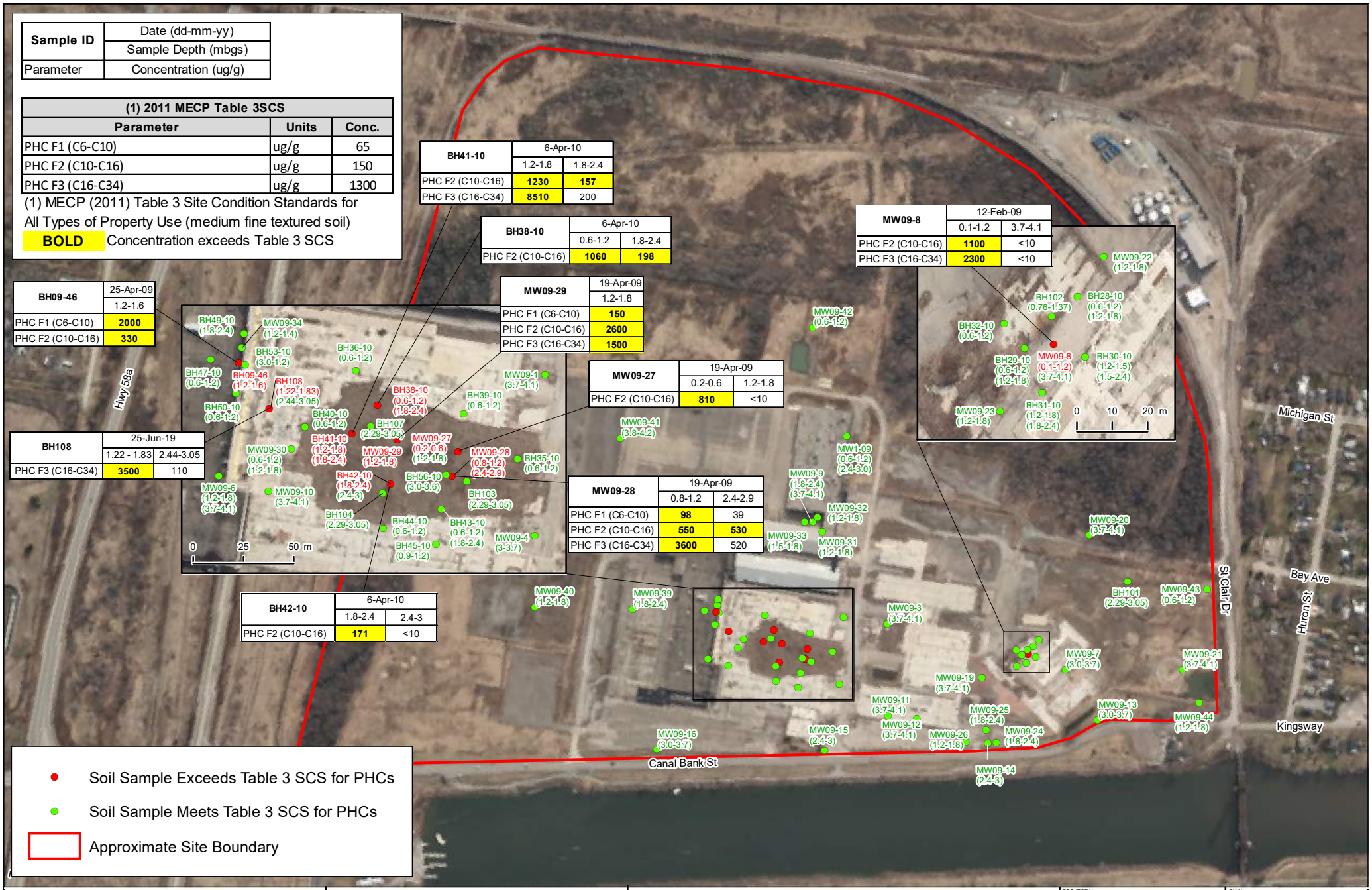
TITLE AND LOCATION:

BOREHOLE / MONITORING WELL LOCATION PLAN with APECs
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 4B



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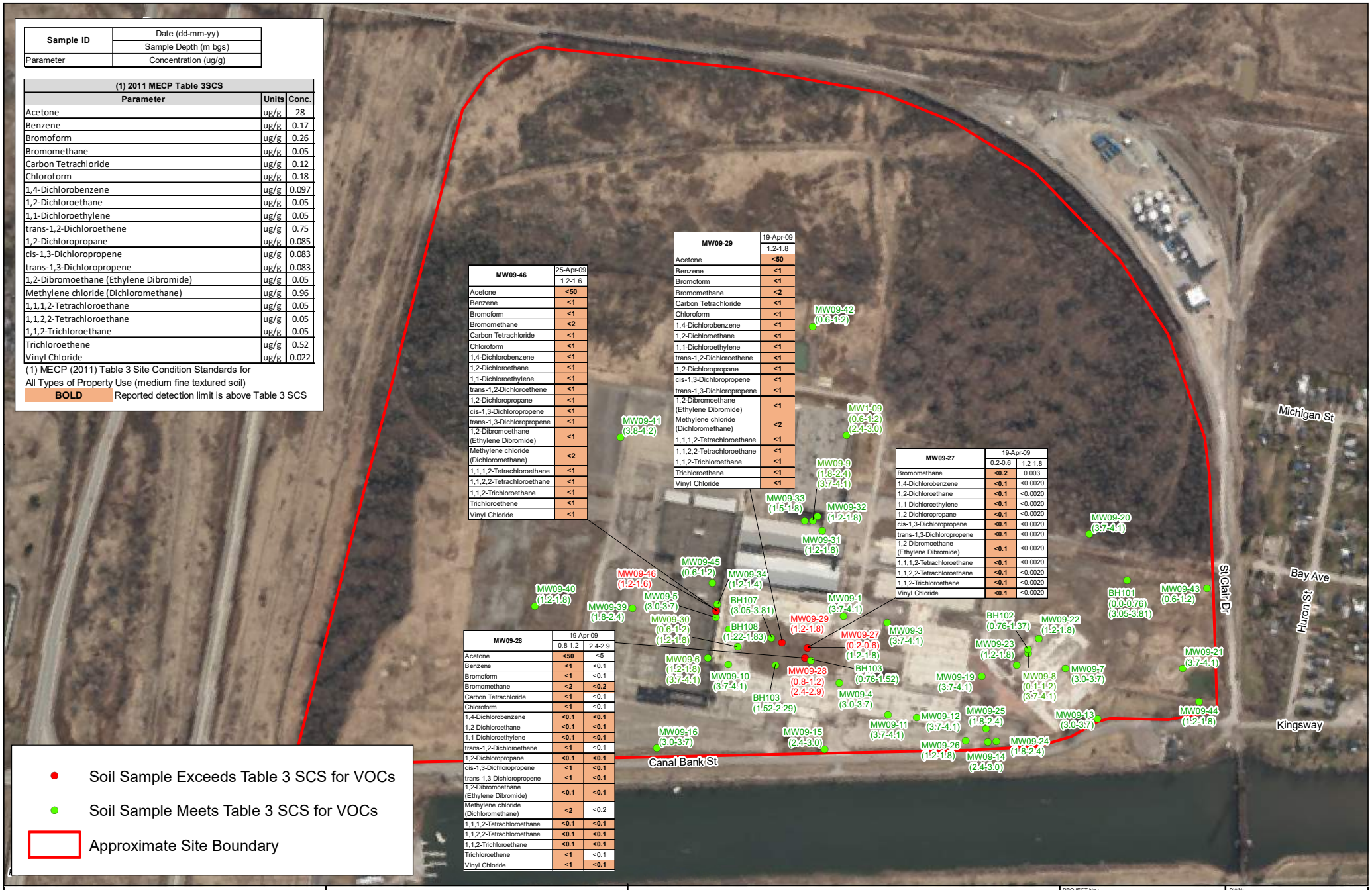
TRUE N PROJECT

0 50 100 150 200 250 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS- PETROLEUM HYDROCARBONS (PHCs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 5



Sample ID	Date (dd-mm-yy)
	Sample Depth (m bgs)
Parameter	Concentration (ug/g)

(1) 2011 MECP Table 3SCS		
Parameter	**Units**	**Conc.**
Acetone	ug/g	28
Benzene	ug/g	0.17
Bromoform	ug/g	0.26
Bromomethane	ug/g	0.05
Carbon Tetrachloride	ug/g	0.12
Chloroform	ug/g	0.18
1,4-Dichlorobenzene	ug/g	0.097
1,2-Dichloroethane	ug/g	0.05
1,1-Dichloroethylene	ug/g	0.05
trans-1,2-Dichloroethene	ug/g	0.75
1,2-Dichloropropane	ug/g	0.085
cis-1,3-Dichloropropene	ug/g	0.083
trans-1,3-Dichloropropene	ug/g	0.083
1,2-Dibromoethane (Ethylene Dibromide)	ug/g	0.05
Methylene chloride (Dichloromethane)	ug/g	0.96
1,1,1,2-Tetrachloroethane	ug/g	0.05
1,1,2,2-Tetrachloroethane	ug/g	0.05
1,1,2-Trichloroethane	ug/g	0.05
Trichloroethene	ug/g	0.52
Vinyl Chloride	ug/g	0.022

(1) MECP (2011) Table 3 Site Condition Standards for All Types of Property Use (medium fine textured soil)

BOLD Reported detection limit is above Table 3 SCS

MW09-46	25-Apr-09
	1.2-1.6
Acetone	**<50**
Benzene	**<1**
Bromoform	**<1**
Bromomethane	**<2**
Carbon Tetrachloride	**<1**
Chloroform	**<1**
1,4-Dichlorobenzene	**<1**
1,2-Dichloroethane	**<1**
1,1-Dichloroethylene	**<1**
trans-1,2-Dichloroethene	**<1**
1,2-Dichloropropane	**<1**
cis-1,3-Dichloropropene	**<1**
trans-1,3-Dichloropropene	**<1**
1,2-Dibromoethane (Ethylene Dibromide)	**<1**
Methylene chloride (Dichloromethane)	**<2**
1,1,1,2-Tetrachloroethane	**<1**
1,1,2,2-Tetrachloroethane	**<1**
1,1,2-Trichloroethane	**<1**
Trichloroethene	**<1**
Vinyl Chloride	**<1**

MW09-29	19-Apr-09
	1.2-1.8
Acetone	**<50**
Benzene	**<1**
Bromoform	**<1**
Bromomethane	**<2**
Carbon Tetrachloride	**<1**
Chloroform	**<1**
1,4-Dichlorobenzene	**<1**
1,2-Dichloroethane	**<1**
1,1-Dichloroethylene	**<1**
trans-1,2-Dichloroethene	**<1**
1,2-Dichloropropane	**<1**
cis-1,3-Dichloropropene	**<1**
trans-1,3-Dichloropropene	**<1**
1,2-Dibromoethane (Ethylene Dibromide)	**<1**
Methylene chloride (Dichloromethane)	**<2**
1,1,1,2-Tetrachloroethane	**<1**
1,1,2,2-Tetrachloroethane	**<1**
1,1,2-Trichloroethane	**<1**
Trichloroethene	**<1**
Vinyl Chloride	**<1**

MW09-27	19-Apr-09	
	0.2-0.6	1.2-1.8
Bromomethane	**<0.2**	0.003
1,4-Dichlorobenzene	**<0.1**	<0.0020
1,2-Dichloroethane	**<0.1**	<0.0020
1,1-Dichloroethylene	**<0.1**	<0.0020
1,2-Dichloropropane	**<0.1**	<0.0020
cis-1,3-Dichloropropene	**<0.1**	<0.0020
trans-1,3-Dichloropropene	**<0.1**	<0.0020
1,2-Dibromoethane (Ethylene Dibromide)	**<0.1**	<0.0020
1,1,1,2-Tetrachloroethane	**<0.1**	<0.0020
1,1,2,2-Tetrachloroethane	**<0.1**	<0.0020
1,1,2-Trichloroethane	**<0.1**	<0.0020
Vinyl Chloride	**<0.1**	<0.0020

MW09-28	19-Apr-09	
	0.8-1.2	2.4-2.9
Acetone	**<50**	<5
Benzene	**<1**	<0.1
Bromoform	**<1**	<0.1
Bromomethane	**<2**	**<0.2**
Carbon Tetrachloride	**<1**	<0.1
Chloroform	**<1**	<0.1
1,4-Dichlorobenzene	**<0.1**	**<0.1**
1,2-Dichloroethane	**<0.1**	**<0.1**
1,1-Dichloroethylene	**<0.1**	**<0.1**
trans-1,2-Dichloroethene	**<1**	<0.1
1,2-Dichloropropane	**<0.1**	**<0.1**
cis-1,3-Dichloropropene	**<1**	**<0.1**
trans-1,3-Dichloropropene	**<1**	**<0.1**
1,2-Dibromoethane (Ethylene Dibromide)	**<0.1**	**<0.1**
Methylene chloride (Dichloromethane)	**<2**	<0.2
1,1,1,2-Tetrachloroethane	**<0.1**	**<0.1**
1,1,2,2-Tetrachloroethane	**<0.1**	**<0.1**
1,1,2-Trichloroethane	**<0.1**	**<0.1**
Trichloroethene	**<1**	<0.1
Vinyl Chloride	**<1**	**<0.1**

Soil Sample Exceeds Table 3 SCS for VOCs

Soil Sample Meets Table 3 SCS for VOCs

Approximate Site Boundary

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PROJECT
TRUE
N

0 50 100 150 200 250 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.:	DWN:
HAM-00801631-A0	AC
SCALE:	CHKD:
AS NOTED	SH
DATE:	FIG. No.:
JULY 2019	6

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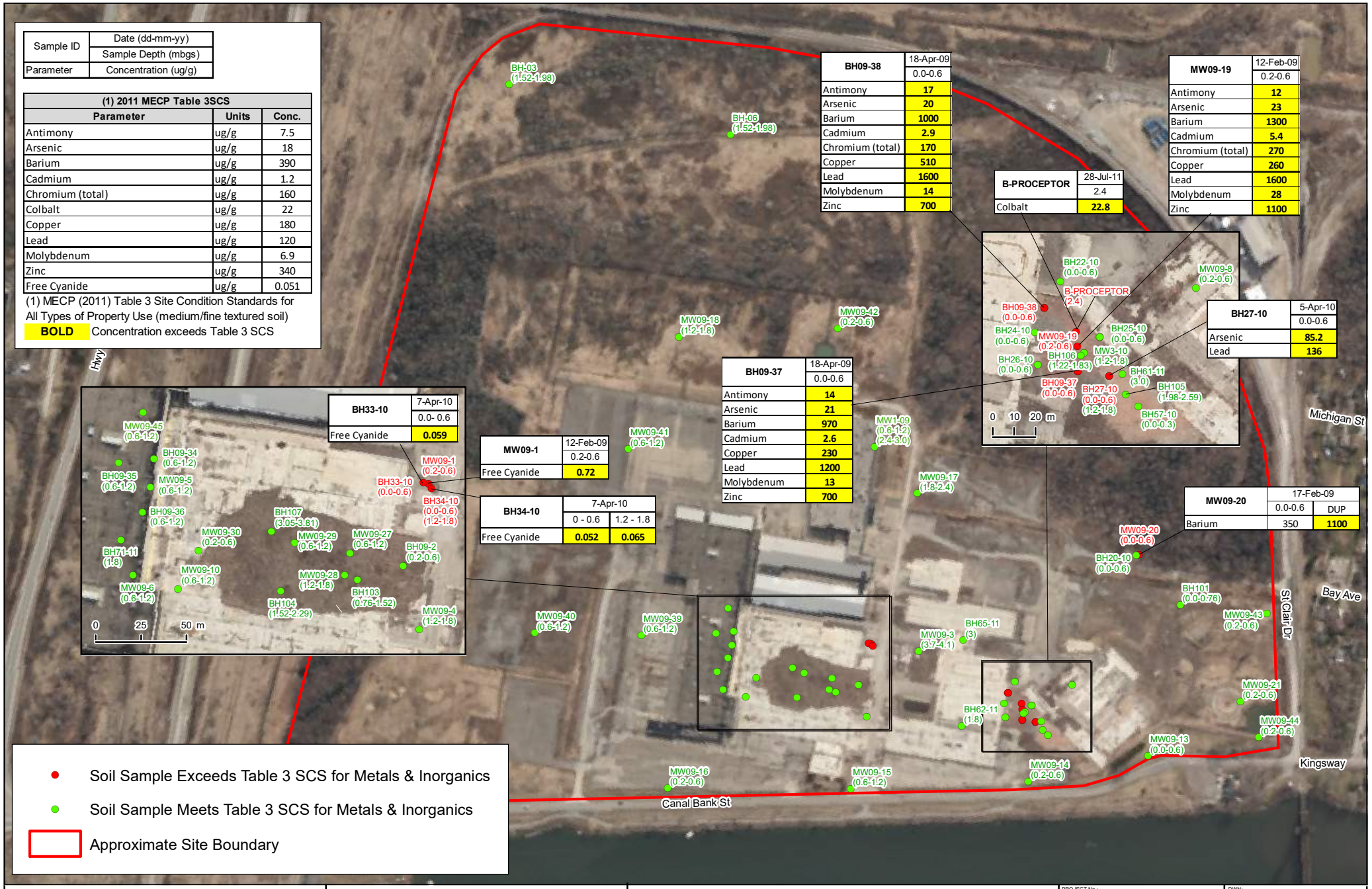
0 50 100 150 200 250 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS -
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

HAM-00801631-A0	AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 7



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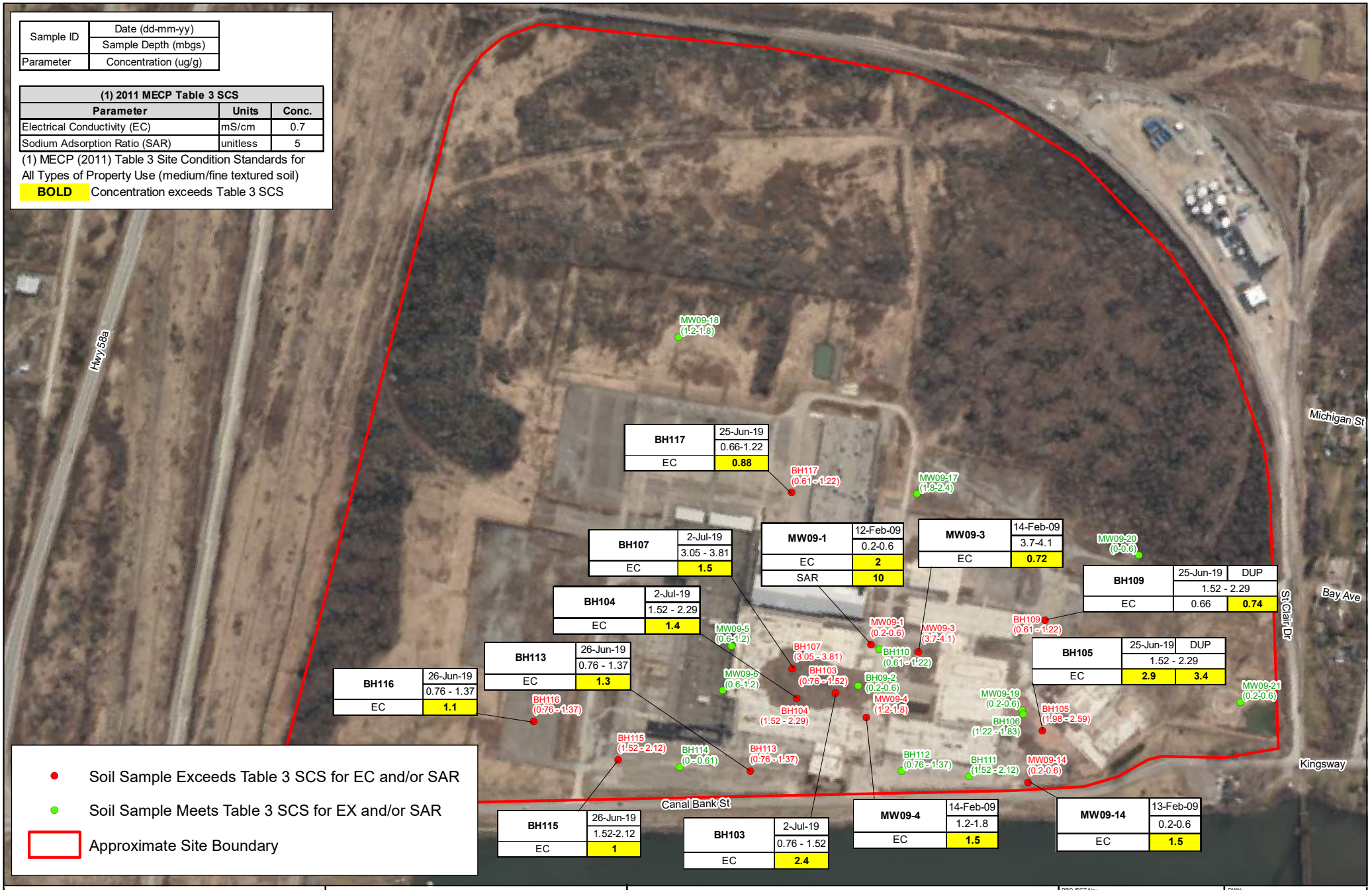
PROJECT N
TRUE N
0 50 100 150 200 250 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS - METALS & INORGANICS
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 8



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TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS -
ELECTRICAL CONDUCTIVITY (EC) &
SODIUM ADSORPTION RATIO (SAR)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 9

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PROJECT
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TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS - POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 10

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PROJECT
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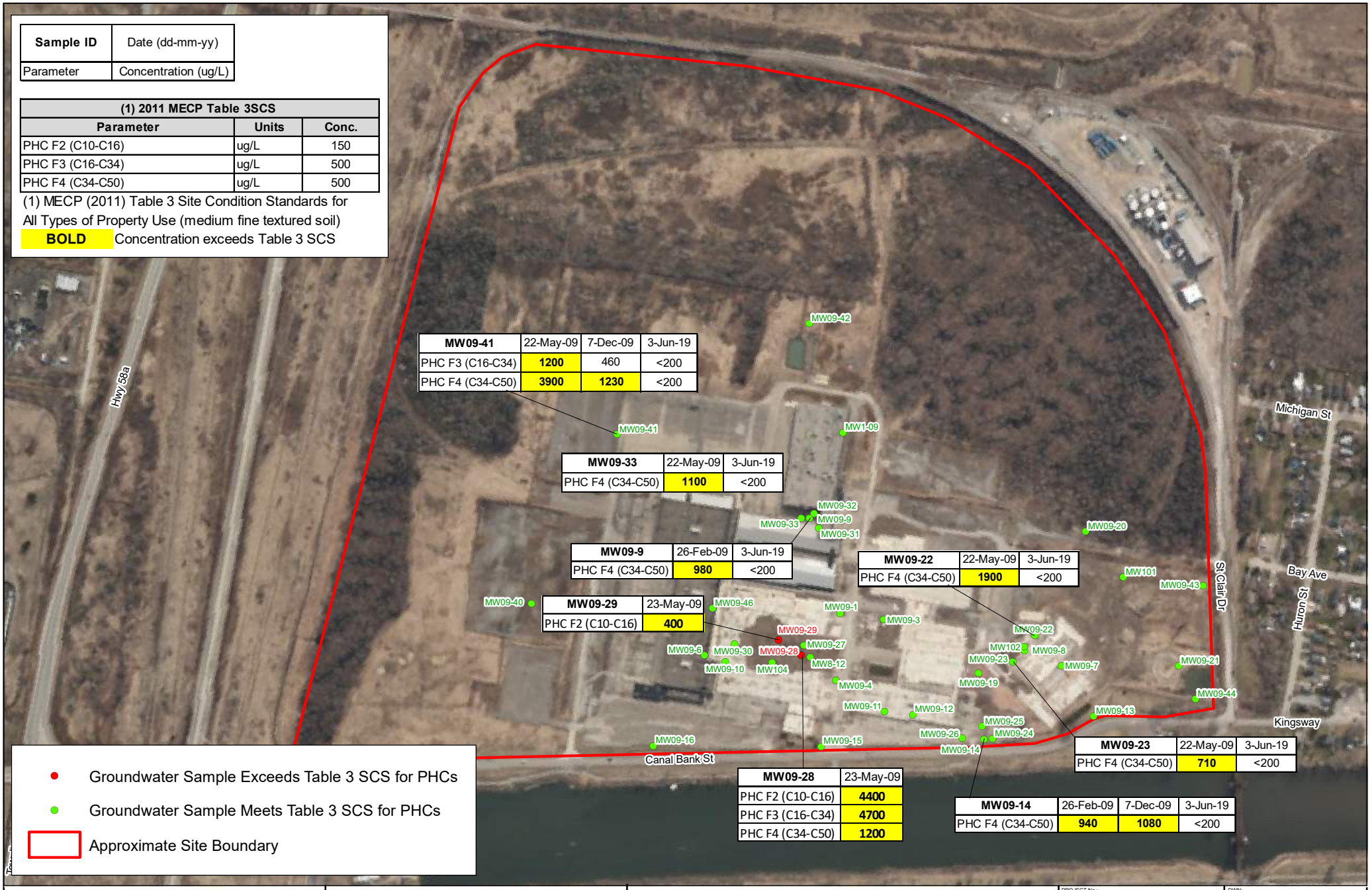
0 50 100 150 200 250 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 11



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TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS (PHCs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 12

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PROJECT
TRUE N

0 50 100 150 200 250 m

TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.:	DWN:
HAM-00801631-A0	AC
SCALE:	CHKD:
AS NOTED	SH
DATE:	FIG. No.:
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PROJECT
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0 50 100 150 200 250 m

TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS -
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 14

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PROJECT
TRUE N

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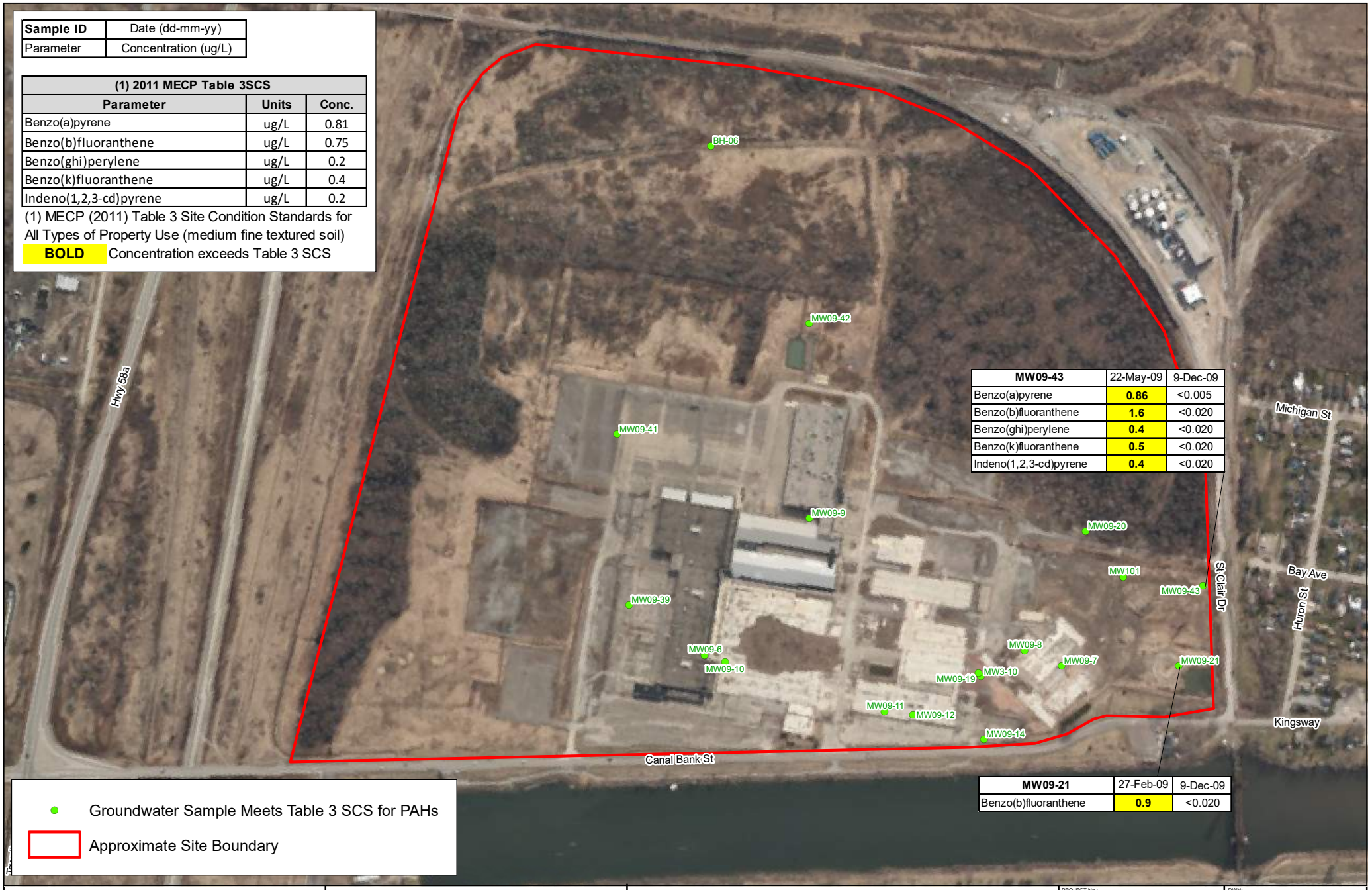
TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS - METALS & INORGANICS
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 15



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PROJECT
TRUE N

0 50 100 150 200 250 m

TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS - POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 16

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PROJECT
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0 50 100 150 200 250 m

TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS - POLYCHLORINATED BIPHENYLS (PCBs)
Phase Two Environmental Site Assessment
555 Canal Bank Street
Welland, Ontario

PROJECT No.: HAM-00801631-A0	DWN: AC
SCALE: AS NOTED	CHKD: SH
DATE: JULY 2019	FIG. No.: 17

Tables

TABLE 1
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APECs)
(Refer to clause 16(2)(a), Schedule D, O.Reg. 153/04)
555 Canal Bank Street, Welland, Ontario
(On-Site and within 250 m)

Area of Potential Environmental Concern (APEC)[1]	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1A: Former Oily water UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1B: Former oily sludge UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1C: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1D: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1E: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1F: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1G: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1H: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1I: Gasoline UST	Central portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1J: Gasoline UST	Central portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1K: Diesel UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1L: Naptha UST	Southern portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1M: Quench UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, VOCs	Soil and Groundwater
APEC 1N: Waste oil UST	Southern portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, VOCs, metals	Soil and Groundwater
APEC 1O: Waste coolant UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	VOCs, metals	Soil and Groundwater
APEC 1P: Paint thinner	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	VOCs, metals	Soil and Groundwater
APEC 2A	Western half of the Site	33. Metal Treatment, Coating, Plating and Finishing	On-Site	VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2B	Western half of the Site	34. Metal Fabrication	On-Site	VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2C	Western half of the Site	52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	On-Site	PCBs, PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2D	Western half of the Site	57. Vehicles and Associated Parts Manufacturing	On-Site	PHCs, BTEX, VOCs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2E	Western half of the Site	Other – Spill Incidents	On-Site	PCBs, PHCs, BTEX, VOCs, Metals	Soil and Groundwater
APEC 3	Paved driveways and parking areas	Other – Salt Application	On-Site	EC and SAR Sodium and chloride	Soil Ground Water
APEC 4	Western portion of the Site	30. Importation of Fill Material of Unknown Quality	On-site	Metals, As, Sb, Se, Cr (VI), Hg	Soil
APEC 5	Southern portion of the Site	46. Rail Yards, Tracks and Spurs	On-site	Metals, PAH	Soil
APEC 6	Southeastern portion of the Site	58. Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	Off-site	Metals, PCBs, Hg, VOCs	Groundwater
APEC 7	Eastern portion of the Site	46. Rail Yards, Tracks and Spurs	Off-site	Metals, PAH	Soil and Groundwater

1. Area of Potential Environmental Concern means the area on, in or under a phase one study area where one or more contaminants are potentially present, as determined through the PI ESA, including through,
(a) identification of post or present uses on, in or under the phase one property, and
(b) identification of potentially contaminating activities.

2. Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a phase one study area

3. When completing this column, identify all contaminants of potential concern using the Method Groups as identified in the "Protocol for in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011, as specified below:

ABNs	PCBs	Metals	EC	SAR
CPs	PAHs	As, Sb, Se	Cr (VI)	
1,4- Dioxane	THMs	Na	Hg	
Dioxins/Furans, PCDDs/PCDFs	VOCs	B-HWS	Methyl Mercury	
Ocs	BTEX	Cl-	high pH	
PHCs	Ca, Mg	CN-	low pH	

4. When submitting a record of site condition for filing, a copy of this table must be attached
Cette publication hautement spécialisée n'est disponible qu'en anglais en vertu du règlement 671/92, qui en

TABLE 2 - Water Level Depths and Elevations

HAM-00801631-A0 - Phase Two Environmental Site Assessment

555 Canal Bank, Welland, Ontario

Location ID	Stickdown/ Stickup (m)	Water Level Depth (TOP)	Water Level Depth m bgs)	Date
MW09-9	0.083	0.905	0.988	3-Jun-19
MW09-14	0.122	1.479	1.601	3-Jun-19
MW09-22	0.099	1.479	1.578	3-Jun-19
MW09-23	0.096	1.722	1.818	3-Jun-19
MW09-32	0.129	1.008	1.137	3-Jun-19
MW09-33	0.109	1.379	1.488	3-Jun-19
MW09-41	0.123	1.101	1.224	3-Jun-19
BH06	0.775	3.691	2.916	3-Jun-19
MW8-12	1.190	2.897	1.707	10-Jul-19
MW101	1.015	6.191	5.176	10-Jul-19
MW102	1.072	6.321	5.249	10-Jul-19
MW104	0.990	2.837	1.847	10-Jul-19

Appendix A – SAAP

Appendix A- Sampling and Analysis Plan (SAAP)

1. Introduction

This Appendix presents the Sampling and Analysis Plan (SAAP) that was developed in support of the Phase Two Environmental Assessment Work (ESA) for the property located at, 555 Canal Bank Street in Welland, Ontario (hereinafter referred to as the 'Site'). The Phase Two ESA will be conducted to provide further characterization of the Site subsurface conditions and address the Areas of Potential Environmental Concerns (APECs) outlined in EXP March 2019 Preliminary Phase One ESA to the subsequent filing of a Record of Site Condition (RSC) on the Ontario Ministry of the Environment (MOE) Brownfields Environmental Site Registry, which might be required. The SAAP presents the procedures and measures that will be undertaken during field investigative activities to characterize the Site conditions and meet the data quality objectives of the Phase Two ESA.

The SAAP presents the sampling program proposed for the Site, the recommended procedures and protocols for sampling and related field activities, the data quality objectives, and the quality assurance/ quality control measures that will be undertaken to provide for the collection of accurate, reproducible and representative data.

2. Field Sampling Program

The field sampling program was developed to provide for the collection of samples of the surficial and subsurface soil materials for chemical analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (collectively known as 'BTEX'), volatile organic compounds (VOCs), metals & inorganics, Electrical conductivity (EC, Sodium Adsorption Ratio (SAR) and polycyclic aromatic hydrocarbons (PAHs) in soil and for the analysis of PHCs, VOCs, Metals and Inorganics, EC, SAR and PAHs in groundwater. The soil sampling media is to consist of the surface soils and upper overburden materials (depths up to 6.1 m below grade). The soil sampling will be location-specific to assess for the potential presence of PHCs, VOCs, Metals and Inorganics, EC, SAR and PAHs based on the identification of areas of potential environmental concern (APECs). Vapour readings will also be collected in the field to determine samples to be submitted for BTEX and PHC F1-F2 analysis. The soil sample intervals will extend from the surface up to a maximum depth of approximately 6.1 meters (m) below grade surface (bgs).

The groundwater sampling will be location-specific to assess or confirm for the potential presence of PHCs, VOCs, Metals and Inorganics, EC, SAR and/or PAHs based on the identification of APECs or historical exceedance in groundwater. The monitoring well network will comprise of four (4) newly installed wells along with six (6) previously installed by CRA in 2009.

Vertical control of the boreholes and monitoring wells will be obtained through the completion of an elevation survey with reference to a local structure with a known geodetic elevation. Groundwater flow and direction in the water table aquifer will also be determined through groundwater level measurements and the elevations established from the Site elevation survey.

3. Field Methods

To meet the requirements of the field sampling program, the following field investigative methods will be undertaken:

- Borehole Drilling;
- Soil Sampling;
- Monitoring Well Installation;
- Monitoring Well Development;
- Groundwater Level Measurements;
- Elevation Survey; and,
- Groundwater Sampling.

The field investigative methods will be performed following the procedures and protocols set out in EXP's standard operating procedures and are outlined below:

3.1 Borehole Drilling

Boreholes will be advanced at the Site to facilitate the collection of soil samples for chemical analysis and geologic characterization; and, for the installation of groundwater monitoring wells. A total of seventeen (17) boreholes are proposed to be advanced at the Site for the environmental investigation, up to a maximum depth of approximately 6.1 m below grade, to provide for the collection of samples of the surficial and overburden materials beneath the Site. The borehole locations will be selected to determine the presence or absence of impacts in the soils and the upper overburden groundwater and to address the APECs outlined in EXP March 2019 Preliminary Phase One ESA Report.

Prior to borehole drilling, utility clearances will be obtained from public and private locators, as required. If any uncertainty regarding the location of a buried utility at a borehole location is encountered, hand augering or digging will be performed beforehand to confirm the location of the utility.

Where there is overlying asphalt or concrete, the overlying material will be mechanically cored to provide access to the underlying soil materials. The borehole drilling program will be conducted by a licensed driller under the oversight of EXP field staff. Auger flights will be cleaned prior to the commencement of drilling at each borehole location.

3.2 Soil Sampling

Soil samples will be collected for chemical analysis and geologic property characterization. The soil samples will be collected using 5 cm diameter, 61 cm long, split spoons and hollow stem augers or a 5 cm diameter, 1.5 m long, duel tube sampling system with interior dedicated vinyl sampling tubes. Upon retrieval from the boreholes, the split spoons or vinyl sampling tubes will be placed on a flat surface and disassembled by drilling personnel to provide access of the recovered cores. Geologic and sampling details of the recovered cores will be logged and the samples will be assessed for the potential presence of non-aqueous phase liquids. Soil stratigraphy encountered in the boreholes will be texturally, visually and olfactory classified in the field and in the laboratory. Soil samples will be logged for colour, grain size, moisture content, density, structures, texture, staining, and field vapour readings. A Photo-ionization Detector (PID) or GastechtorTM will be utilized to screen the soil samples for Total Organic Vapour (TOV). Representative worst-case soil samples from each borehole will be collected and submitted to a certified laboratory for analysis based on TOV readings, sample depth, visual and/or olfactory field observations.

Recommended volumes of soil samples selected for chemical analysis will be collected into pre-cleaned laboratory-supplied glass sample jars/vials identified for the specified analytical test group. Samples intended for PHC/BTEX and VOCs will be collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes

and sealed using Teflon lined septa lids. The samples will be placed into clean insulated coolers chilled with ice for storage and transport. The samples will be assigned unique identification numbers, and the date, time, location, and requested analyses for each sample will be documented in a bound field note book. The samples will be submitted to the contractual laboratory within analytical test group holding times under Chain of Custody protocols. New disposable chemical resistant gloves will be used for each soil core to prevent sample cross-contamination.

3.3 Monitoring Well Installation

A proposed total of three (3) boreholes will be instrumented as groundwater monitoring wells installed with 1.5 to 3 m long screens intercepting the native overburden material, where the shallow water table aquifer is expected, extending to depths of approximately 6.1 m below grade. The monitoring wells will be constructed using 51 mm diameter, Schedule 40, PVC riser pipe and number 10 slot size (0.25 mm) well screens. The base of the well screen will be sealed with threaded flush PVC end caps. All well pipe connections will be factory machined threaded flush couplings. The annular space around the well screen will be backfilled with silica sand, to an average height of 0.6 m above the top of the screen. Granular bentonite will be placed in the borehole annulus from the top of the sand pack to approximately 0.3 m below grade. The monitoring well will be completed with flush-mounted protective steel casings cemented into place.

3.4 Monitoring Well Development

The newly installed and previous (CRA, 2009) monitoring wells, will be developed to remove fine sediment particles potentially lodged in the sand pack and well screen to enhance hydraulic communication with the surrounding formation waters. The monitoring wells will be developed using a dedicated low-density polyethylene (LDPE) tubing, equipped with an inertial foot valve to disturb the water column. The wells will be developed until approximately 3 to 5 well volumes of water will be removed and/or until purged dry. Well development details will be documented on a well development log sheet or in a bound hard cover notebook. All development waters will be collected and stored in labeled, sealed containers.

3.5 Groundwater Level Measurements

Groundwater level measurement will be recorded for the newly installed monitoring well to determine the depth of the water table aquifer beneath the Site. The water level will be measured with respect to the top of the PVC riser pipe by means of an electronic water level meter. The water levels will be recorded on water level log sheets or in a bound field notebook. The water level meter probe will be decontaminated between monitoring well locations.

3.6 Elevation Survey

An elevation survey will be conducted to obtain vertical control of the newly installed monitoring well location and boreholes. The top of the PVC riser pipe of the monitoring well and ground surface elevation of the monitoring well and borehole locations will be surveyed against an geodetic benchmark, or if unavailable, against a suitable arbitrary benchmark. Elevations measured against a geodetic/arbitrary benchmark will be recorded as meters above mean sea level (m AMSL). The elevation survey will be accurate to within ± 0.3 cm.

3.7 Field Measurements of Water Quality Parameters

Prior to collecting the groundwater sample, field measurements of water quality parameters will be recorded from the monitoring wells utilizing low-flow purging and sampling methodologies. Groundwater will be purged from the monitoring wells using a peristaltic pump and dedicated LDPE tubing. Field measurements of dissolved oxygen concentration, electrical conductivity, oxidation-reduction potential, pH, temperature, turbidity and water levels will be recorded in three (3) minute intervals during the purging activities using a pre-calibrated multi probe water quality meter, a turbidity meter and a water level meter. Generally well purging will continued until the purged water has chemically stabilized as indicated by field parameter measurements and the well head drawdown is maintained within 10 cm for 3 consecutive readings. In the event that the parameters do not stabilize or the well head drawdown is too significant, the groundwater is to recover to approximately 75% of static levels before sampling.

The multi-meter electrodes will be calibrated prior to receipt of the meter by the supplier using in-house pH and conductivity reference standards. All collected purged water will be stored on-Site in labeled, sealed containers. Equipment used during groundwater monitoring will be thoroughly cleaned and decontaminated between wells.

3.8 Groundwater Sampling

Upon completion the field measurements of water quality parameters, groundwater samples will be collected for chemical analysis using the peristaltic pump and dedicated LDPE tubing. Recommended groundwater sample volumes will be collected into pre-clean laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples will be placed in an insulated cooler chilled with ice for storage and transport. Samples for BTEX and VOC analysis will be collected in triplicate vials prepared with concentrated hydrochloric acid or an acceptable substitute as a preservative. Each vial will be inverted and inspected for gas bubbles prior to being placed in the cooler to ensure that no head-space is present.

The groundwater sample will be assigned a unique identification number, and the date, time, project number, company name, location and requested analyses will be documented in a bound hard cover notebook. The sample will be submitted to the contractual laboratory within analytical test group holding times under chain of custody protocols. New disposable chemical resistant gloves will be used for each sampling location to prevent sample cross-contamination.

4. Field Quality Assurance/Quality Control Program

The objective of the field quality assurance/quality control (QA/QC) program is to obtain soil and groundwater samples and other field measurements that provide data of acceptable quality that meets the objectives of the Phase Two ESA. The objectives of the QA/QC program will be achieved through the implementation of procedures for the collection of unbiased (i.e. non-contaminated) samples, sample documentation and the collection of appropriate QC samples to provide a measure of sample reproducibility and accuracy. The field QA/QC measures will comprise:

- Decontamination Protocols;
- Equipment Calibration;
- Sample Preservation;
- Sample Documentation; and,
- Field Quality Control Samples.

Details on the field QA/QC measures are provided below.

4.1 Decontamination Protocols

Decontamination protocols will be followed during field sampling where non-dedicated sampling equipment is used to prevent sample cross contamination. For the borehole drilling and soil sampling, soil sampling devices will be cleaned/decontaminated between sampling intervals and auger flights between borehole locations in according with SOP requirements. For the monitoring well installation, well components are not to come into contact with the ground surface prior to insertion into boreholes. Electronic water level meters will be decontaminated between monitoring well locations during well development, and purging activities. For hydraulic conductivity tests, the electronic water level meters will be decontaminated between sampling locations. All decontamination fluids will be collected and stored in sealed, labeled containers.

4.2 Equipment Calibration

All equipment requiring calibration will be calibrated in the field according to manufacturer's requirements using analytical grade reagents, or by the supplier prior to conducting field activities, and subsequently checked in the field. The calibration of all pre-calibrated instruments will be checked in the field using analytical grade reagents and re-calibrated as required. For

multiple day sampling events, equipment calibration will be checked prior to the beginning of sampling activities. All calibration data will be documented in a bound hard cover notebook.

4.3 Sample Preservation

All samples will be preserved using appropriate analytical test group specific reagents, as required, and upon collection placed in pre-chilled insulated coolers packed with ice for storage and transport.

4.4 Sample Documentation

All samples will be assigned a unique identification number, which is to be recorded along with the date, time, project number, company name, location and requested analysis in a bound field notebook. All samples will be handled and transported following COC protocols.

4.5 Field Quality Control

Field quality control samples will be collected to evaluate the accuracy and reproducibility of the field sampling procedures. For groundwater sampling, one (1) field duplicate is to be collected for every ten (10) samples submitted for chemical analysis. For multiple day sampling events, at least one (1) field duplicate soil and groundwater sample will be submitted for chemical analysis. The field duplicate samples will be assessed by calculating the relative percent difference and comparing to the analytical test group specific acceptance criteria.

Appendix B – Survey Plan

Appendix C – Borehole Logs

Log of Borehole BH/MW101

Project No. HAM-00801631-A0 Drawing No. 1

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

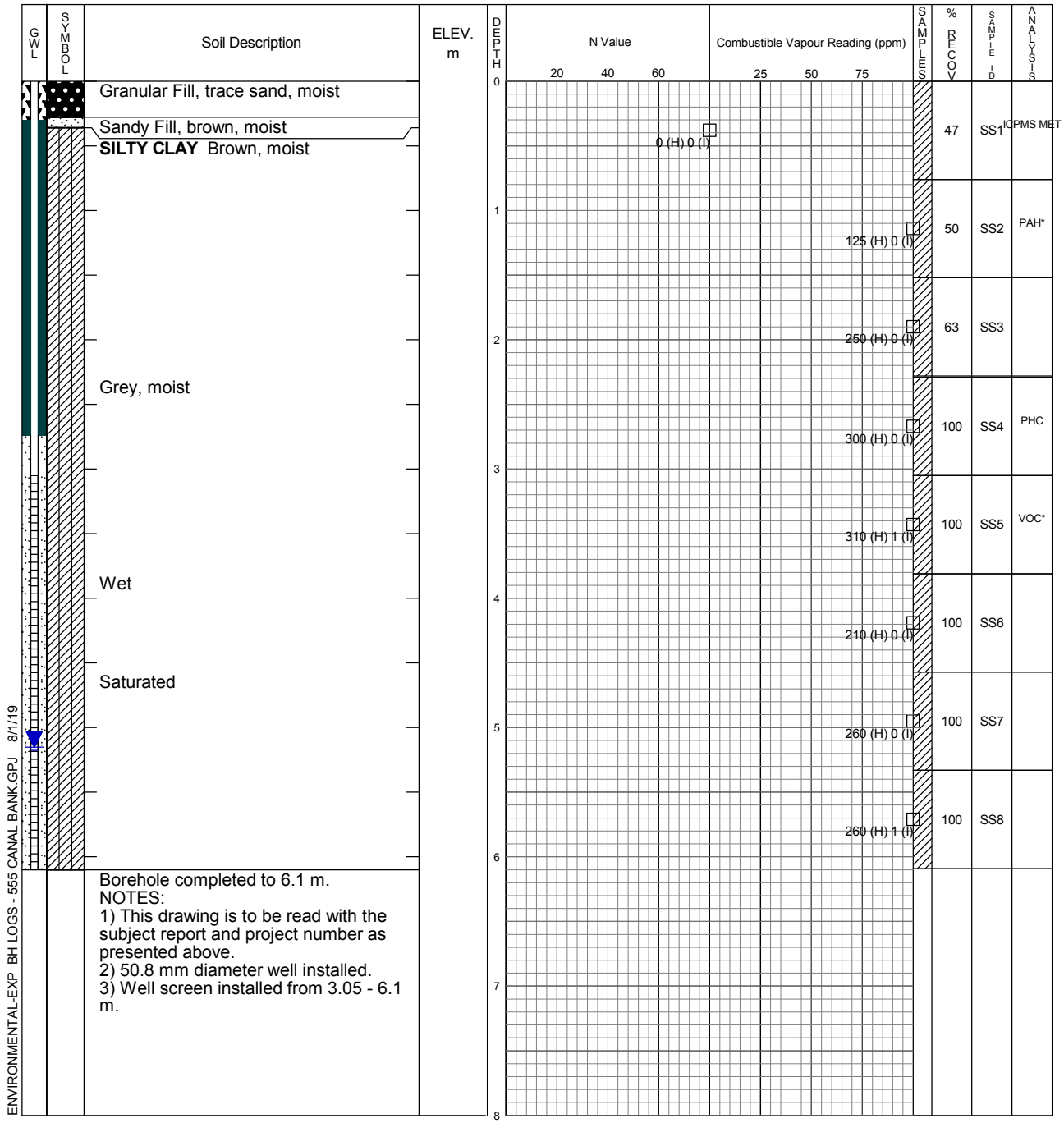
Date Drilled: July 2, 2019

Drill Type: 9580- VTR Power probe

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



Time	Water Level (m)	Depth to Cave (m)
July 10, 2019	5.176	

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW102

Project No. HAM-00801631-A0 Drawing No. 2

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

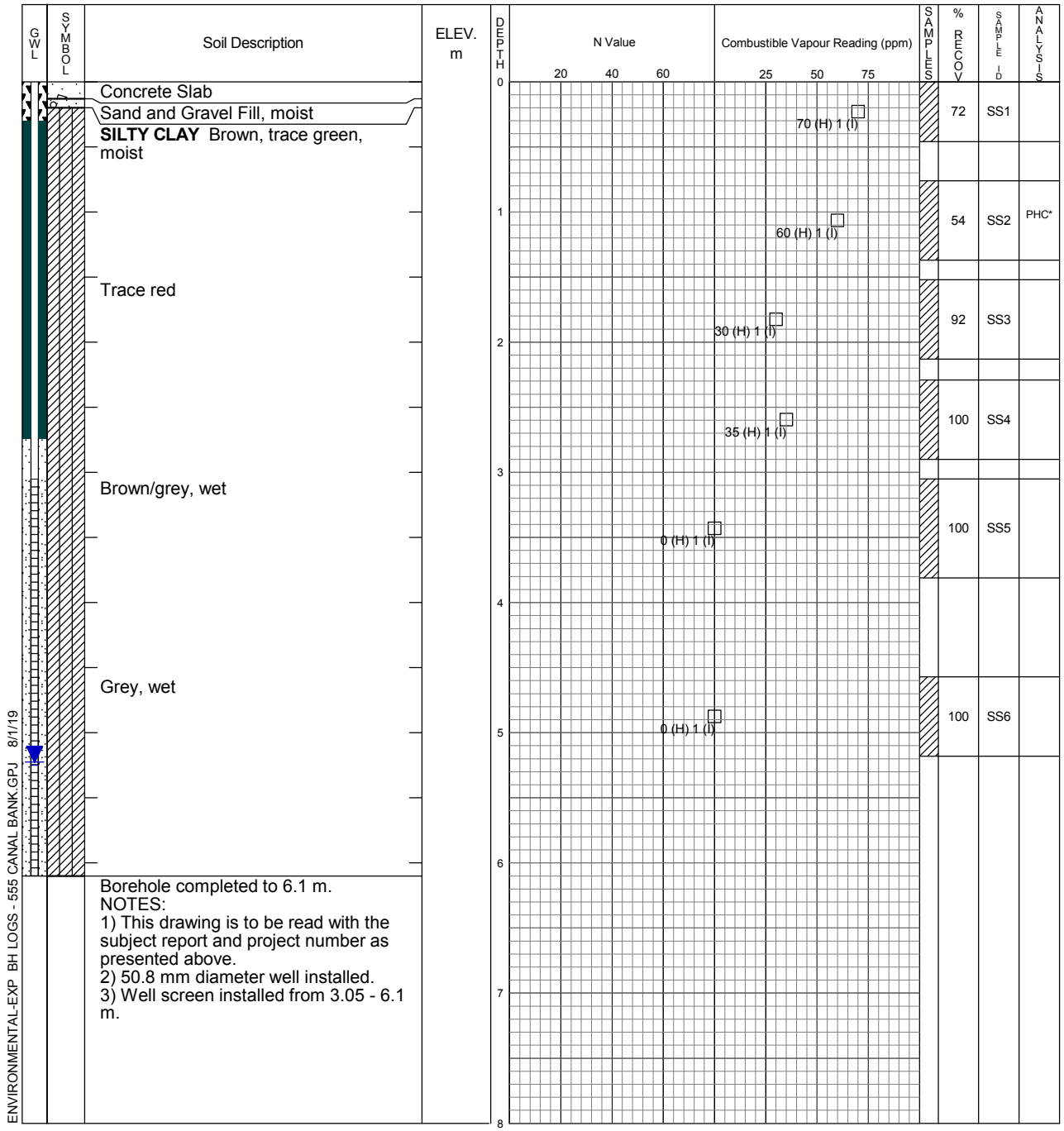
Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)
July 10, 2019	5.249	

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH103

Project No. HAM-00801631-A0 Drawing No. 3

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: July 2, 2019

Drill Type: 9580- VTR Power probe

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		SILTY CLAY FILL Brown, trace rootlets, moist		0		570 (H) 1 (I)		67	SS1	
		Wet		1		320 (H) 0 (I)		30	SS2	M & I
				2		470 (H) 0 (I)		50	SS3	
		Brown/black, trace wood, organic odour, wet				480 (H) 0 (I)		57	SS4	PHC
		SILTY CLAY Brown, trace rootlets, moist		3		450 (H) 0 (I)		50	SS5	
		Brown		4		450 (H) 0 (I)		40	SS6	
		Borehole completed to 4.57 m. NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH/MW104

Project No. HAM-00801631-A0 Drawing No. 4

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

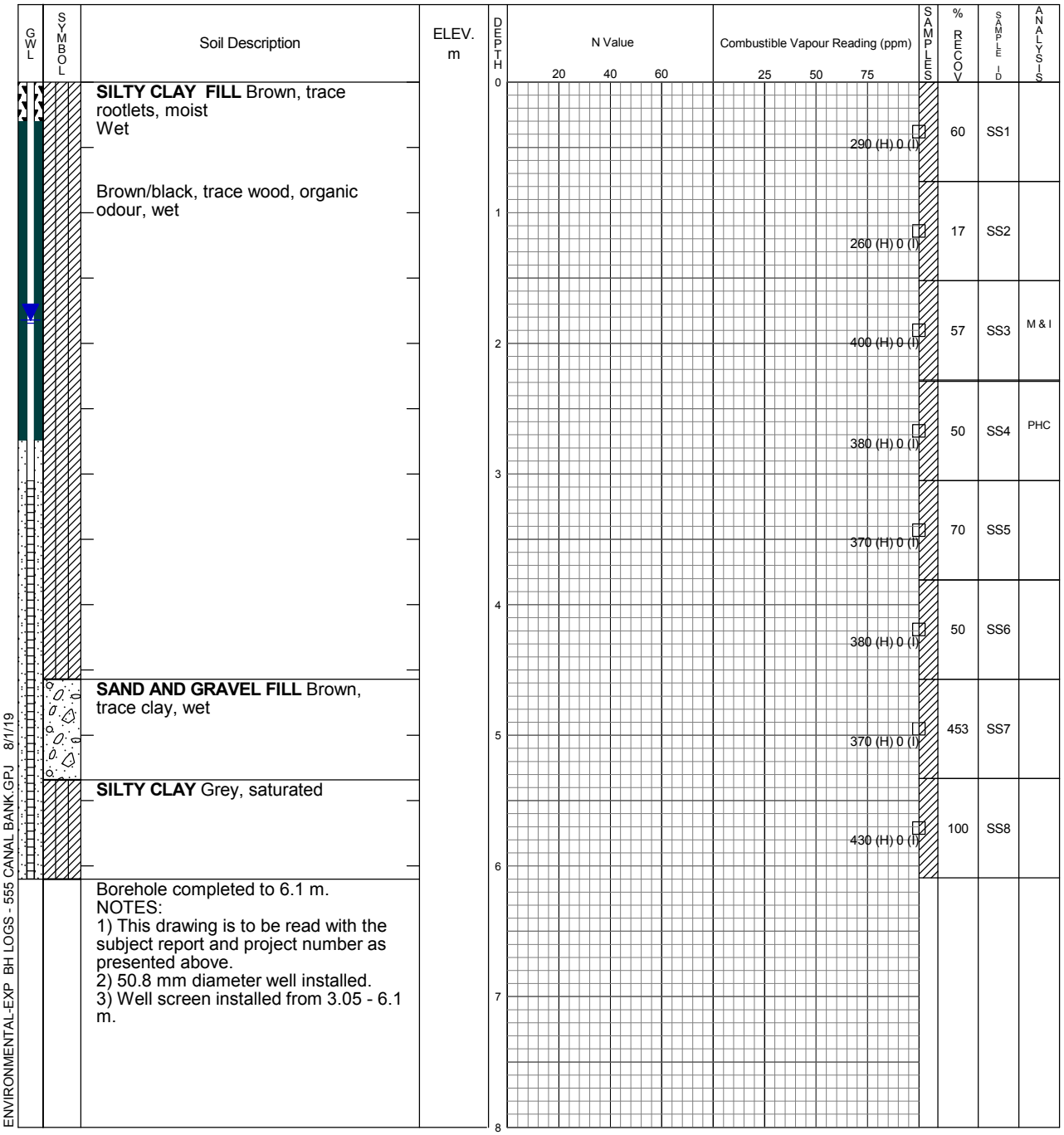
Date Drilled: July 2, 2019

Drill Type: 9580- VTR Power probe

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)
July 10, 2019	1.846	

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH105

Project No. HAM-00801631-A0 Drawing No. 5

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Sand and Gravel, Brown, trace bricks, moist		0	0 (H) 0 (I)			29	SS1	
		SILTY CLAY Brown,trace granular, moist		1	0 (H) 0 (I)			54	SS2	
		SAND AND GRAVEL Brown, trace clay, wet		1	0 (H) 0 (I)			71	SS3	
		SILTY CLAY Brown/ grey, trace green, moist		2	0 (H) 0 (I)			46	SS4	M & I*
				3	0 (H) 0 (I)			88	SS5	
		Borehole completed to 3.2 m.								
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4 5 6 7 8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)

Log of Borehole BH106

Project No. HAM-00801631-A0 Drawing No. 6

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Sand and Gravel, Brown, trace bricks, moist		0		0 (H) 1 (I)		33	SS1	
				1		0 (H) 0 (I)		25	SS2	
		SILTY CLAY Brown/ grey, trace green, moist				0 (H) 0 (I)		63	SS3	M & I
				2		0 (H) 0 (I)		58	SS4	
						0 (H) 0 (I)		75	SS5	
		Borehole completed to 3.05 m. NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		3						
				4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH107

Project No. HAM-00801631-A0 Drawing No. 7

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: July 2, 2019

Drill Type: 9580- VTR Power probe

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		SILTY CLAY FILL Brown, trace rootlets, moist		0		490 (H) 0 (I)		40	SS1	
		Wet		1		370 (H) 0 (I)		50	SS2	
		Brown/black, moist		2		470 (H) 0 (I)		47	SS3	
		Wet		3		540 (H) 0 (I)		67	SS4	PHC
		Lots of granular, black, organic odour		4		380 (H) 0 (I)		50	SS5	M & I
		Borehole completed to 4.57 m. NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		5		420 (H) 0 (I)		67	SS6	
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH108

Project No. HAM-00801631-A0 Drawing No. 8

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

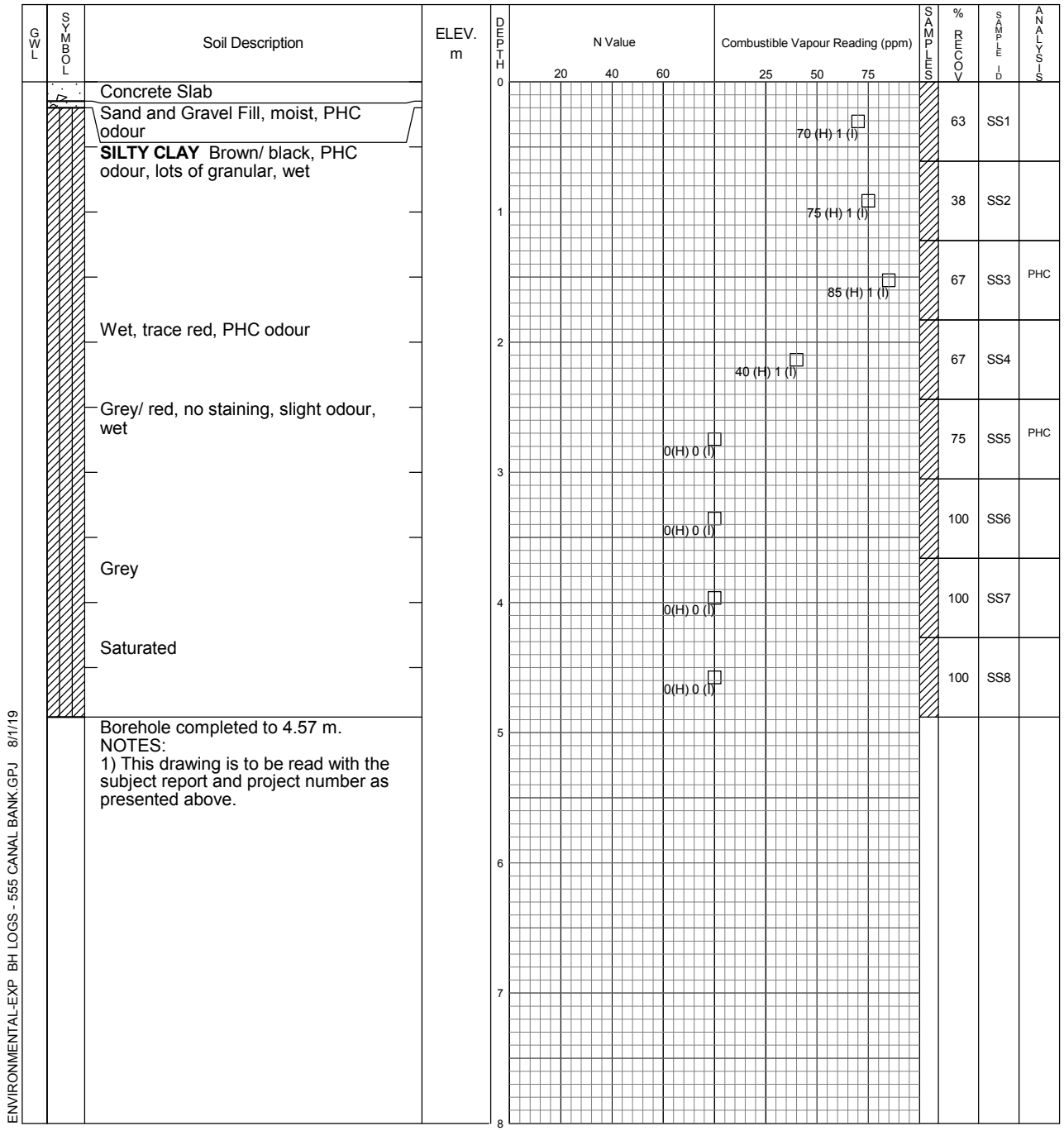
Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		



ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH109

Project No. HAM-00801631-A0 Drawing No. 9

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Sand and Gravel Fill, moist		0		0(H) 0 (I)		63	SS1	
		SILTY CLAY Brown, moist		1		0(H) 0 (I)		29	SS2	EC* SAR*
		Brown/grey, trace green, moist				0(H) 0 (I)		79	SS3	
				2		0(H) 0 (I)		67	SS4	
						0(H) 0 (I)		38	SS5	
		Borehole completed to 3.05 m.		3						
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH110

Project No. HAM-00801631-A0 Drawing No. 10

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt		0						
		Sand and Gravel Fill, moist								
		SILTY CLAY Brown, moist				0(H) 0 (I)		50	SS1	
		Brown/grey, trace green, moist		1		0(H) 0 (I)		33	SS2	EC SAR
						0(H) 0 (I)		63	SS3	
				2		0(H) 0 (I)		100	SS4	
						0(H) 0 (I)		17	SS5	
		Borehole completed to 3.05 m.		3						
		NOTES:								
		1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH111

Project No. HAM-00801631-A0 Drawing No. 11

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 26, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value 20 40 60	Combustible Vapour Reading (ppm) 25 50 75	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt 0.10 m		0	0(H) 0 (I)			79	SS1	
		Sand and Gravel Fill, wet								
		SILTY CLAY Brown, moist		1	0(H) 0 (I)			25	SS2	
		Brown/grey, trace green, moist								
				2	0(H) 0 (I)			38	SS3	EC SAR
				3	0(H) 0 (I)			63	SS4	
		Borehole completed to 2.9 m.								
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH112

Project No. HAM-00801631-A0 Drawing No. 12

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 26, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt		0		0(H) 0 (I)		46	SS1	
		Sand and Gravel Fill, wet								
		SILTY CLAY Brown, moist		1		0(H) 0 (I)		13	SS2	EC SAR
				2		0(H) 0 (I)		54	SS3	
		Brown/grey, trace red, moist								
				3		0(H) 0 (I)		71	SS4	
		Borehole completed to 2.9 m.								
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH113

Project No. HAM-00801631-A0 Drawing No. 13

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 26, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt		0		0(H) 0 (I)		25	SS1	
		Sand and Gravel Fill, wet								
		SILTY CLAY Brown, moist		1		0(H) 0 (I)		67	SS2	EC SAR
		Brown/grey, trace red, moist		2		0(H) 0 (I)		58	SS3	
				3		0(H) 0 (I)		92	SS4	
		Borehole completed to 2.9 m.								
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH114

Project No. HAM-00801631-A0 | Drawing No. 14

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 26, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20 40 60)	Combustible Vapour Reading (ppm) (25 50 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt (0.10 m)		0		0(H) 1 (I)		50	SS1	EC SAR
		Sand and Gravel Fill, wet								
		SILTY CLAY Brown/ black, trace grey, moist		1		0(H) 0 (I)		63	SS2	
		Brown/grey, trace red, moist		2		0(H) 0 (I)		54	SS3	
						0(H) 0 (I)		100	SS4	
		Borehole completed to 2.9 m.		3						
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH115

Project No. HAM-00801631-A0 Drawing No. 15

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 26, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt		0	0(H) 0 (I)			50	SS1	
		Sand and Gravel Fill, wet								
		SILTY CLAY Brown, moist		1	0(H) 0 (I)			63	SS2	
		Brown/grey, trace red, moist		2	0(H) 0 (I)			54	SS3	EC SAR
				3	0(H) 0 (I)			100	SS4	
		Borehole completed to 2.9 m.								
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH116

Project No. HAM-00801631-A0 | Drawing No. 16

Project: Phase Two ESA | Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 26, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt		0	0(H) 0 (I)			46	SS1	
		Sand and Gravel Fill, wet								
		SILTY CLAY Brown, moist								
		Brown/grey, trace red, moist		1	0(H) 0 (I)			58	SS2	EC SAR
				2	0(H) 0 (I)			58	SS3	
				3	0(H) 0 (I)			83	SS4	
		Borehole completed to 2.9 m.		4						
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

Time	Water Level (m)	Depth to Cave (m)

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Log of Borehole BH117

Project No. HAM-00801631-A0 Drawing No. 17

Project: Phase Two ESA Sheet No. 1 of 1

Location: 555 Canal Bank Street, Welland, ON

Refer to borehole location plan

Date Drilled: June 25, 2019

Drill Type: CME Truck Mounted

Datum: Geodetic

Chemical Analysis

BTEX	Benzene, Toluene, Ethylbenzene and Xylenes	*	Duplicate Sample
ING	Metals and Inorganics	PCB	Polychlorinated Biphenyls
MET	Metals	PHC	Petroleum Hydrocarbons (F1-F4)
PAH	Polycyclic Aromatic Hydrocarbons	VOC	Volatile Organic Compounds
PEST	Organochlorine Pesticides		

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Asphalt		0						
		Sand and Gravel Fill, moist								
		SILTY CLAY Brown, moist			0(H) 0 (I)			29	SS1	
		Brown/grey, trace green, moist		1	0(H) 0 (I)			50	SS2	EC SAR
					0(H) 0 (I)			58	SS3	
				2	0(H) 0 (I)			100	SS4	
		Grey, trace red, wet			0(H) 0 (I)			100	SS5	
		Borehole completed to 3.05 m.		3						
		NOTES: 1) This drawing is to be read with the subject report and project number as presented above.		4						
				5						
				6						
				7						
				8						

ENVIRONMENTAL-EXP BH LOGS - 555 CANAL BANK.GPJ 8/1/19

EXP Services Inc.
Brampton, Ontario
Telephone: 905-793-9800
Facsimile: 905-793-0641

Time	Water Level (m)	Depth to Cave (m)

Appendix D – Analytical tables

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-1	MW09-3	MW09-4	MW09-6	MW09-6	MW09-7
Lab ID		BH1/SA7	BH3/SA7	BH4/SA5	BH6/SA2	BH6/SA6	BH7/SA6
Sampling Date		12-Feb-09	14-Feb-09	14-Feb-09	15-Feb-09	15-Feb-09	12-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3-3.7	1.2-1.8	3.7-4.1	3-3.7
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	<10	<10	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	<10	29	<10	16	24	<10
PHC F4 (C34-C50)	5600	<10	<10	<10	<10	<10	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-8	MW09-8	MW09-9	MW09-9	MW09-10	MW09-11
Lab ID		BH8/SA2	BH8/SA7	BH9/SA4	BH9/SA7	BH10/SA6	BH11/SA7
Sampling Date		12-Feb-09	12-Feb-09	17-Feb-09	17-Feb-09	15-Feb-09	17-Feb-09
Soil Sample Depth (m)		0.1-1.2	3.7-4.1	1.8-2.4	3.7-4.1	3.7-4.1	3.7-4.1
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	25	-	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	**1100**	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	**2300**	<10	33	<10	16	<10
PHC F4 (C34-C50)	5600	220	<10	<10	<10	<10	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-11 (DUP)	MW09-12	MW09-12 (DUP)	MW09-13	MW09-14	MW09-15
Lab ID		BH11/SA7-DUP3	BH12/SA7	BH12/SA7	BH13/SA6	BH14/SA5	BH15/SA5
Sampling Date		17-Feb-09	17-Feb-09	17-Feb-09	11-Feb-09	13-Feb-09	13-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3.7-4.1	3-3.7	2.4-3	2.4-3
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	<10	<10	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	<10	<10	<10	<10	<10	<10
PHC F4 (C34-C50)	5600	<10	<10	<10	<10	<10	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-16	MW09-19	MW09-20	MW09-21	MW09-22	MW09-23
Lab ID		BH16/SA6	BH19/SA7	BH20/SA7	BH21/SA7	BH22/SA3	BH23/SA3
Sampling Date		13-Feb-09	12-Feb-09	17-Feb-09	11-Feb-09	23-Apr-09	23-Apr-09
Soil Sample Depth (m)		3-3.7	3.7-4.1	3.7-4.1	3.7-4.1	1.2-1.8	1.2-1.8
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	<10	<10	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	<10	<10	<10	<10	<10	<10
PHC F4 (C34-C50)	5600	<10	<10	<10	<10	<10	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-23 (DUP)	MW09-24	MW09-25	MW09-26	MW09-27	MW09-27
Lab ID		BH23/SA3	BH24/SA4	BH24/SA4	BH26/SA3	BH27/SA1	BH27/SA3
Sampling Date		23-Apr-09	23-Apr-09	23-Apr-09	23-Apr-09	19-Apr-09	19-Apr-09
Soil Sample Depth (m)		1.2-1.8	1.8-2.4	1.8-2.4	1.2-1.8	0.2-0.6	1.2-1.8
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	<10	<10	<10	<10	17	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	**810**	<10
PHC F3 (C16-C34)	1300	<10	<10	<10	<10	760	<10
PHC F4 (C34-C50)	5600	<10	<10	<10	<10	110	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-28	MW09-28	MW09-29	MW09-30	MW09-30	MW09-31
Lab ID		BH28/SA2	BH28/SA5	BH29/SA3	BH30/SA2	BH30/SA3	BH31/SA3
Sampling Date		19-Apr-09	19-Apr-09	19-Apr-09	19-Apr-09	19-Apr-09	18-Apr-09
Soil Sample Depth (m)		0.8-1.2	2.4-2.9	1.2-1.8	0.6-1.2	1.2-1.8	1.2-1.8
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	**98**	39	**150**	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	**5500**	**530**	**2600**	<10	<10	<10
PHC F3 (C16-C34)	1300	**3600**	520	**1500**	49	<10	<10
PHC F4 (C34-C50)	5600	380	84	83	<10	<10	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-32	MW09-32 (DUP)	MW09-33	MW09-34	MW09-39	MW09-40
Lab ID		BH32/SA3	BH32/SA3	BH33/SA3	BH34/SA3	BH39/SA4	BH40/SA3
Sampling Date		25-Apr-09	25-Apr-09	25-Apr-09	18-Apr-09	24-Apr-09	24-Apr-09
Soil Sample Depth (m)		1.2-1.8	1.2-1.8	1.5-1.8	1.2-1.4	1.8-2.4	1.2-1.8
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	65	<10	<10	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	<10	<10	19	<10	<10	<10
PHC F4 (C34-C50)	5600	<10	<10	<10	<10	<10	<10
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-41	MW09-42	MW09-43	MW09-44	MW09-46	MW1-09
Lab ID		BH41/SA8	BH42/SA2	BH43/SA2	BH44/SA3	BH46/SA3	S57906-120809-SP-004
Sampling Date		24-Apr-09	24-Apr-09	24-Apr-09	25-Apr-09	25-Apr-09	8-Dec-09
Soil Sample Depth (m)		3.8-4.2	0.6-1.2	0.6-1.2	1.2-1.8	1.2-1.6	0.6-1.2
Consultant		Golder	Golder	Golder	Golder	Golder	CRA
PHC F1 (C6-C10)	65	<10	<10	<10	<10	**2000**	<5.0
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	**330**	<10
PHC F3 (C16-C34)	1300	<10	<10	<10	<10	<10	<50
PHC F4 (C34-C50)	5600	<10	<10	<10	<10	<10	<50
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW1-09	BH28-10	BH28-10	BH29-10	BH29-10	BH30-10
Lab ID		S57906-120809-SP-005	S-57906-040510-JB-041	S-57906-040510-JB-042	S-57906-040510-JB-037	S-57906-040510-JB-038	S-57906-040510-JB-043
Sampling Date		8-Dec-09	5-Apr-10	5-Apr-10	5-Apr-10	5-Apr-10	5-Apr-10
Soil Sample Depth (m)		2.4-3	0.6-1.2	1.2-1.8	0.6-1.2	1.2-1.8	1.2-1.5
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
PHC F1 (C6-C10)	65	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	<10	<10	<10	15
PHC F3 (C16-C34)	1300	<50	419	<50	<50	<50	53
PHC F4 (C34-C50)	5600	<50	128	<50	<50	<50	<50
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH30-10	BH31-10	BH31-10	BH32-10	BH35-10	BH36-10
Lab ID		S-57906-040510-JB-044	S-57906-040510-JB-039	S-57906-040510-JB-040	S-57906-040810-SP-122	S-57906-040710-SP-100	S-57906-040610-SP-084
Sampling Date		5-Apr-10	5-Apr-10	5-Apr-10	8-Apr-10	7-Apr-10	6-Apr-10
Soil Sample Depth (m)		1.5-2.4	1.2-1.8	1.8-2.4	0.6-1.2	0.6-1.2	0.6-1.2
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
PHC F1 (C6-C10)	65	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	<10	10	11	<10	<10
PHC F3 (C16-C34)	1300	<50	<50	<50	<50	<50	<50
PHC F4 (C34-C50)	5600	<50	<50	<50	<50	<50	<50
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH38-10	BH38-10	BH39-10	BH40-10	BH41-10	BH41-10
Lab ID		S-57906-040610-SP-082	S-57906-040610-SP-083	S-57906-040610-SP-080	S-57906-040610-SP-088	S-57906-040610-SP-086	S-57906-040610-SP-087
Sampling Date		6-Apr-10	6-Apr-10	6-Apr-10	6-Apr-10	6-Apr-10	6-Apr-10
Soil Sample Depth (m)		0.6-1.2	1.8-2.4	0.6-1.2	0.6-1.2	1.2-1.8	1.8-2.4
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
PHC F1 (C6-C10)	65	13.3	-	<5.0	-	23.9	-
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	**1060**	**198**	<10	<10	**1230**	**157**
PHC F3 (C16-C34)	1300	630	194	51	<50	**8510**	200
PHC F4 (C34-C50)	5600	<50	<50	<50	<50	2260	51
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH42-10	BH42-10	BH43-10	BH43-10	BH44-10	BH45-10
Lab ID		S-57906-040610-SP-074	S-57906-040610-SP-075	S-57906-040610-SP-070	S-57906-040610-SP-071	S-57906-040710-JB-097	S-57906-040710-JB-094
Sampling Date		6-Apr-10	6-Apr-10	6-Apr-10	6-Apr-10	7-Apr-10	7-Apr-10
Soil Sample Depth (m)		1.8-2.4	2.4-3	0.6-1.2	1.8-2.4	0.6-1.2	0.9-1.2
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
PHC F1 (C6-C10)	65	14.3	-	<5.0	<5.0	-	-
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	**171**	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	132	<50	<50	<50	<50	<50
PHC F4 (C34-C50)	5600	<50	<50	<50	<50	<50	<50
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH47-10	BH49-10	BH50-10	BH53-10	BH55-10	BH56-10
Lab ID		S-57906-040610-SP-066	S-57906-040610-SP-076	S-57906-040610-SP-090	S-57906-040810-SP-113	S-57906-040810-SP-115	S-57906-040810-SP-116
Sampling Date		6-Apr-10	6-Apr-10	6-Apr-10	8-Apr-10	8-Apr-10	8-Apr-10
Soil Sample Depth (m)		0.6-1.2	1.8-2.4	0.6-1.2	3-3.6	4.2-4.8	3-3.6
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
PHC F1 (C6-C10)	65	<5.0	15.8	<5.0	<5.0	<5.0	<5.0
PHC F1 (C6-C10) - BTEX	65	-	-	-	-	-	-
PHC F2 (C10-C16)	150	<10	16	<10	<10	14	18
PHC F3 (C16-C34)	1300	<50	<50	<50	<50	<50	<50
PHC F4 (C34-C50)	5600	<50	<50	<50	<50	<50	<50
Reached baseline at C50?	-	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH101-SS4	BH102-SS2	BH122-SS2 (DUP of BH102- SS2)	BH103-SS4	BH104-SS4
Lab ID		KED175	KDC022	KDC023	KED182	KED184
Sampling Date		02-July-2019	25-June-2019	25-June-2019	02-July-2019	02-July-2019
Soil Sample Depth (m)		2.29 - 3.05	0.76 - 1.37	0.76 - 1.37	2.29 - 3.05	2.29 - 3.05
Consultant		EXP	EXP	EXP	EXP	EXP
PHC F1 (C6-C10)	65	<10	<10	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	<10	<10	<10	<10	<10
PHC F2 (C10-C16)	150	<10	<10	<10	<10	<10
PHC F3 (C16-C34)	1300	<50	<50	<50	<50	<50
PHC F4 (C34-C50)	5600	<50	<50	<50	<50	<50
Reached baseline at C50?	-	YES	YES	YES	YES	YES
PHC F4 (C34-C50)-gravimetric	5600	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH107-SS4	BH108-SS3	BH108-SS5
Lab ID		KED185	KDC027	KDC028
Sampling Date		02-July-2019	25-June-2019	25-June-2019
Soil Sample Depth (m)		2.29 - 3.05	1.22 - 1.83	2.44 - 3.05
Consultant		EXP	EXP	EXP
PHC F1 (C6-C10)	65	<10	<10	<10
PHC F1 (C6-C10) - BTEX	65	<10	<10	<10
PHC F2 (C10-C16)	150	<10	59	<10
PHC F3 (C16-C34)	1300	<50	**3500**	110
PHC F4 (C34-C50)	5600	<50	57	<50
Reached baseline at C50?	-	YES	YES	YES
PHC F4 (C34-C50)-gravimetric	5600	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-1	MW09-3	MW09-4	MW09-5	MW09-6	MW09-6	MW09-7	MW09-8	MW09-8	MW09-9	MW09-9
Lab ID		BH1/SA7	BH3/SA7	BH4/SA5	BH5/SA6	BH6/SA2	BH6/SA6	BH7/SA6	BH8/SA2	BH8/SA7	BH9/SA4	BH9/SA7
Sampling Date		12-Feb-09	14-Feb-09	14-Feb-09	15-Feb-09	15-Feb-09	15-Feb-09	12-Feb-09	12-Feb-09	12-Feb-09	17-Feb-09	17-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3-3.7	3-3.7	1.2-1.8	3.7-4.1	3-3.7	0.1-1.2	3.7-4.1	1.8-2.4	3.7-4.1
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acetone	28	-	-	-	<0.1	-	-	<0.1	-	<0.1	-	<0.1
Benzene	0.17	<0.02	<0.02	<0.02	0.003	<0.02	<0.02	0.003	<0.02	<0.0020	<0.02	0.003
Bromodichloromethane	13	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Bromoform	0.26	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Bromomethane	0.05	-	-	-	<0.003	-	-	<0.003	-	<0.003	-	<0.003
Carbon Tetrachloride	0.12	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Chlorobenzene	2.7	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Chloroform	0.18	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Dibromochloromethane	9.4	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,2-Dichlorobenzene	4.3	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,3-Dichlorobenzene	6	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,4-Dichlorobenzene	0.097	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Dichlorodifluoromethane	25	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	11	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,2-Dichloroethane	0.05	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,1-Dichloroethylene	0.05	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
cis-1,2-Dichloroethylene	30	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
trans-1,2-Dichloroethylene	0.75	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,2-Dichloropropane	0.085	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
cis-1,3-Dichloropropene	0.083	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
trans-1,3-Dichloropropene	0.083	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Ethylbenzene	15	<0.02	<0.02	<0.02	<0.0020	<0.02	<0.02	<0.0020	<0.02	<0.0020	<0.02	<0.0020
Ethylene Dibromide (1,2-Dibromoethane)	0.05	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Hexane (n)	34											
Methylene chloride (Dichloromethane)	0.96	-	-	-	<0.003	-	-	<0.003	-	<0.003	-	<0.003
Methyl ethyl ketone (2-Butanone)	44	-	-	-	<0.03	-	-	<0.03	-	<0.03	-	<0.03
Methyl Isobutyl Ketone	4.3											
Methyl t-butyl ether (MTBE)	1.4	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Styrene	2.2	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,1,1,2-Tetrachloroethane	0.05	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,1,2,2-Tetrachloroethane	0.05	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Tetrachloroethylene	2.3	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Toluene	6	<0.02	<0.02	<0.02	0.008	<0.02	<0.02	0.004	<0.02	0.002	0.15	0.007
1,1,1-Trichloroethane	3.4	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
1,1,2-Trichloroethane	0.05	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Trichloroethylene	0.52	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
Trichlorofluoromethane	5.8	-	-	-	<0.005	-	-	<0.005	-	<0.005	-	<0.005
Vinyl Chloride	0.022	-	-	-	<0.0020	-	-	<0.0020	-	<0.0020	-	<0.0020
m-Xylene + p-Xylene	NV											
o-Xylene	NV											
Xylenes (total)	25	<0.04	<0.04	<0.04	0.007	<0.04	<0.04	0.003	<0.04	<0.002	<0.04	0.006

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-10	MW09-11	MW09-11 (DUP)	MW09-12	MW09-12 (DUP)	MW09-13	MW09-14	MW09-15	MW09-16	MW09-19	MW09-20
Lab ID		BH10/SA6	BH11/SA7	BH11/SA7-DUP3	BH12/SA7	BH12/SA7-DUP4	BH13/SA6	BH14/SA5	BH15/SA5	BH16/SA6	BH19/SA7	BH20/SA7
Sampling Date		15-Feb-09	17-Feb-09	17-Feb-09	17-Feb-09	17-Feb-09	11-Feb-09	13-Feb-09	13-Feb-09	13-Feb-09	12-Feb-09	17-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3.7-4.1	3.7-4.1	3.7-4.1	3-3.7	2.4-3	2.4-3	3-3.7	3.7-4.1	3.7-4.1
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acetone	28	<0.1	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzene	0.17	0.002	<0.02	<0.02	<0.02	<0.02	0.004	0.004	0.003	0.004	0.002	0.007
Bromodichloromethane	13	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bromoform	0.26	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Bromomethane	0.05	<0.003	-	-	-	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Carbon Tetrachloride	0.12	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Chlorobenzene	2.7	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Chloroform	0.18	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dibromochloromethane	9.4	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,2-Dichlorobenzene	4.3	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,3-Dichlorobenzene	6	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,4-Dichlorobenzene	0.097	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Dichlorodifluoromethane	25	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	11	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,2-Dichloroethane	0.05	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1-Dichloroethylene	0.05	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
cis-1,2-Dichloroethylene	30	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
trans-1,2-Dichloroethylene	0.75	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,2-Dichloropropane	0.085	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
cis-1,3-Dichloropropene	0.083	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
trans-1,3-Dichloropropene	0.083	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ethylbenzene	15	<0.0020	<0.02	<0.02	<0.02	<0.02	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Ethylene Dibromide (1,2-Dibromoethane)	0.05	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Hexane (n)	34											
Methylene chloride (Dichloromethane)	0.96	<0.003	-	-	-	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Methyl ethyl ketone (2-Butanone)	44	<0.03	-	-	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Methyl Isobutyl Ketone	4.3											
Methyl t-butyl ether (MTBE)	1.4	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Styrene	2.2	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,1,2-Tetrachloroethane	0.05	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2,2-Tetrachloroethane	0.05	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Tetrachloroethylene	2.3	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Toluene	6	0.006	<0.02	<0.02	<0.02	<0.02	0.008	0.007	0.007	0.008	0.002	0.017
1,1,1-Trichloroethane	3.4	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
1,1,2-Trichloroethane	0.05	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Trichloroethylene	0.52	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Trichlorofluoromethane	5.8	<0.005	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Chloride	0.022	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
m-Xylene + p-Xylene	NV											
o-Xylene	NV											
Xylenes (total)	25	0.005	<0.04	<0.04	<0.04	<0.04	0.005	0.006	0.005	0.006	<0.002	0.014

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-20 (DUP)	MW09-21	MW09-22	MW09-23	MW09-23 (DUP)	MW09-24	MW09-25	MW09-26	MW09-27	MW09-27	MW09-28
Lab ID		BH20/SA7-DUP5	BH21/SA7	BH22/SA3	BH23/SA3	BH23/SA3	BH24/SA4	BH24/SA4	BH26/SA3	BH27/SA1	BH27/SA3	BH28/SA2
Sampling Date		17-Feb-09	11-Feb-09	23-Apr-09	23-Apr-09	23-Apr-09	23-Apr-09	23-Apr-09	23-Apr-09	19-Apr-09	19-Apr-09	19-Apr-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	1.2-1.8	1.2-1.8	1.2-1.8	1.8-2.4	1.8-2.4	1.2-1.8	0.2-0.6	1.2-1.8	0.8-1.2
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acetone	28	<0.1	<0.1	-	-	-	-	-	-	<5	<0.1	<50
Benzene	0.17	0.003	0.002	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	0.007	<1
Bromodichloromethane	13	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Bromoform	0.26	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Bromomethane	0.05	<0.003	<0.003	-	-	-	-	-	-	<0.2	<0.003	<2
Carbon Tetrachloride	0.12	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Chlorobenzene	2.7	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Chloroform	0.18	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Dibromochloromethane	9.4	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
1,2-Dichlorobenzene	4.3	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
1,3-Dichlorobenzene	6	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
1,4-Dichlorobenzene	0.097	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
Dichlorodifluoromethane	25	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	11	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
1,2-Dichloroethane	0.05	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
1,1-Dichloroethylene	0.05	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
cis-1,2-Dichloroethylene	30	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
trans-1,2-Dichloroethylene	0.75	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
1,2-Dichloropropane	0.085	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
cis-1,3-Dichloropropene	0.083	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
trans-1,3-Dichloropropene	0.083	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Ethylbenzene	15	<0.0020	<0.0020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	0.015	2
Ethylene Dibromide (1,2-Dibromoethane)	0.05	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
Hexane (n)	34											
Methylene chloride (Dichloromethane)	0.96	<0.003	<0.003	-	-	-	-	-	-	<0.2	<0.003	<2
Methyl ethyl ketone (2-Butanone)	44	<0.03	<0.03	-	-	-	-	-	-	<1	<0.03	<10
Methyl Isobutyl Ketone	4.3											
Methyl t-butyl ether (MTBE)	1.4	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Styrene	2.2	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
1,1,1,2-Tetrachloroethane	0.05	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
1,1,2,2-Tetrachloroethane	0.05	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
Tetrachloroethylene	2.3	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Toluene	6	0.008	0.006	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.0020	<1
1,1,1-Trichloroethane	3.4	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
1,1,2-Trichloroethane	0.05	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<0.1
Trichloroethylene	0.52	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
Trichlorofluoromethane	5.8	<0.005	<0.005	-	-	-	-	-	-	<0.3	<0.005	<3
Vinyl Chloride	0.022	<0.0020	<0.0020	-	-	-	-	-	-	<0.1	<0.0020	<1
m-Xylene + p-Xylene	NV											
o-Xylene	NV											
Xylenes (total)	25	0.007	0.004	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.5	0.3	8

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-28	MW09-29	MW09-30	MW09-30	MW09-31	MW09-32	MW09-32 (DUP)	MW09-33	MW09-34	MW09-39	MW09-40
Lab ID		BH28/SA5	BH29/SA3	BH30/SA2	BH30/SA3	BH31/SA3	BH32/SA3	BH32/SA3-DUP9	BH33/SA3	BH34/SA3	BH39/SA4	BH40/SA3
Sampling Date		19-Apr-09	19-Apr-09	19-Apr-09	19-Apr-09	18-Apr-09	25-Apr-09	25-Apr-09	25-Apr-09	18-Apr-09	24-Apr-09	24-Apr-09
Soil Sample Depth (m)		2.4-2.9	1.2-1.8	0.6-1.2	1.2-1.8	1.2-1.8	1.2-1.8	1.2-1.8	1.5-1.8	1.2-1.4	1.8-2.4	1.2-1.8
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acetone	28	<5	<50	<0.1	<0.1	-	-	-	-	<0.1	<0.1	<0.1
Benzene	0.17	<0.1	<1	<0.0020	<0.0020	<0.02	<0.02	<0.02	<0.02	0.006	<0.0020	0.003
Bromodichloromethane	13	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Bromoform	0.26	<0.1	<1	<0.003	<0.003	-	-	-	-	<0.003	<0.003	<0.003
Bromomethane	0.05	<0.2	<2	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	0.12	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Chlorobenzene	2.7	<0.1	<1	-	-	-	-	-	-	-	-	-
Chloroform	0.18	<0.1	<1	-	-	-	-	-	-	-	-	-
Dibromochloromethane	9.4	<0.1	<1	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	4.3	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,3-Dichlorobenzene	6	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,4-Dichlorobenzene	0.097	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Dichlorodifluoromethane	25	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	11	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,2-Dichloroethane	0.05	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,1-Dichloroethylene	0.05	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
cis-1,2-Dichloroethylene	30	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
trans-1,2-Dichloroethylene	0.75	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,2-Dichloropropane	0.085	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
cis-1,3-Dichloropropene	0.083	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
trans-1,3-Dichloropropene	0.083	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Ethylbenzene	15	0.1	<1	<0.0020	<0.0020	<0.02	<0.02	<0.02	<0.02	<0.0020	<0.0020	<0.0020
Ethylene Dibromide (1,2-Dibromoethane)	0.05	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Hexane (n)	34											
Methylene chloride (Dichloromethane)	0.96	<0.2	<2	<0.003	<0.003	-	-	-	-	<0.003	<0.003	<0.003
Methyl ethyl ketone (2-Butanone)	44	<1	<10	<0.03	<0.03	-	-	-	-	<0.03	<0.03	<0.03
Methyl Isobutyl Ketone	4.3											
Methyl t-butyl ether (MTBE)	1.4	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Styrene	2.2	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,1,1,2-Tetrachloroethane	0.05	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,1,2,2-Tetrachloroethane	0.05	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Tetrachloroethylene	2.3	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Toluene	6	0.1	<1	0.004	0.004	<0.02	<0.02	<0.02	<0.02	0.009	<0.0020	0.004
1,1,1-Trichloroethane	3.4	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
1,1,2-Trichloroethane	0.05	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Trichloroethylene	0.52	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
Trichlorofluoromethane	5.8	<0.3	<3	<0.005	<0.005	-	-	-	-	<0.005	<0.005	<0.005
Vinyl Chloride	0.022	<0.1	<1	<0.0020	<0.0020	-	-	-	-	<0.0020	<0.0020	<0.0020
m-Xylene + p-Xylene	NV											
o-Xylene	NV											
Xylenes (total)	25	<0.1	3	<0.002	0.004	<0.04	<0.04	<0.04	<0.04	0.01	<0.002	0.003

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-41	MW09-42	MW09-43	MW09-43 (DUP)	MW09-44	MW09-44 (DUP)	MW09-45	MW09-46	MW1-09	MW1-09	BH09-34
Lab ID		BH41/SA8	BH42/SA2	BH43/SA2	BH43/SA2-DUP8	BH44/SA3	BH44/SA3-DUP11	BH45/SA2	BH46/SA3	S-57906-120809-SP-004	S-57906-120809-SP-005	
Sampling Date		24-Apr-09	24-Apr-09	24-Apr-09	24-Apr-09	25-Apr-09	25-Apr-09	18-Apr-09	25-Apr-09	8-Dec-09	8-Dec-09	18-Apr-09
Soil Sample Depth (m)		3.8-4.2	0.6-1.2	0.6-1.2	0.6-1.2	1.2-1.8	1.2-1.8	0.6-1.2	1.2-1.6	0.6-1.2	2.4-3	1.2-1.4
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	CRA	CRA	CRA
Acetone	28	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<50	<0.50	<0.50	
Benzene	0.17	0.003	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	0.0142	<0.0020	0.006
Bromodichloromethane	13	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0050	<0.0050	
Bromoform	0.26	<0.003	<0.003	<0.0020	<0.0020	<0.0020	<0.0020	<0.003	<1	<0.0020	<0.0020	
Bromomethane	0.05	-	-	<0.003	<0.003	<0.003	<0.003	-	<2	<0.0030	<0.0030	
Carbon Tetrachloride	0.12	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
Chlorobenzene	2.7	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	<1	<0.0020	<0.0020	
Chloroform	0.18	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	<1	<0.0060	<0.0060	
Dibromochloromethane	9.4	-	-	<0.0020	<0.0020	<0.0020	<0.0020	-	<1	<0.0030	<0.0030	
1,2-Dichlorobenzene	4.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
1,3-Dichlorobenzene	6	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
1,4-Dichlorobenzene	0.097	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
Dichlorodifluoromethane	25	-	-	-	-	-	-	-	-	<0.030	<0.030	
1,1-Dichloroethane	11	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
1,2-Dichloroethane	0.05	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
1,1-Dichloroethylene	0.05	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
cis-1,2-Dichloroethylene	30	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.020	<0.020	
trans-1,2-Dichloroethylene	0.75	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
1,2-Dichloropropane	0.085	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
cis-1,3-Dichloropropene	0.083	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0030	<0.0030	
trans-1,3-Dichloropropene	0.083	<0.0020	<0.0020					<0.0020	<1	<0.0030	<0.0030	
Ethylbenzene	15	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	0.0027	<0.0020	
Ethylene Dibromide (1,2-Dibromoethane)	0.05	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.004	<0.004	
Hexane (n)	34											
Methylene chloride (Dichloromethane)	0.96	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<2	<0.0030	<0.0030	
Methyl ethyl ketone (2-Butanone)	44	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<10	<0.20	<0.20	
Methyl Isobutyl Ketone	4.3											
Methyl t-butyl ether (MTBE)	1.4	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.20	<0.20	
Styrene	2.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
1,1,1,2-Tetrachloroethane	0.05	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0080	<0.0080	
1,1,2,2-Tetrachloroethane	0.05	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.004	<0.004	
Tetrachloroethylene	2.3	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
Toluene	6	0.005	0.003	0.004	0.005	0.003	0.002	0.004	<1	0.0262	0.0028	0.009
1,1,1-Trichloroethane	3.4	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0080	<0.0080	
1,1,2-Trichloroethane	0.05	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0020	<0.0020	
Trichloroethylene	0.52	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0040	<0.0040	
Trichlorofluoromethane	5.8	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<3	<0.030	<0.030	
Vinyl Chloride	0.022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<1	<0.0030	<0.0030	
m-Xylene + p-Xylene	NV											
o-Xylene	NV											
Xylenes (total)	25	<0.002	<0.002	0.005	0.005	<0.002	<0.002	0.028	<1	0.0155	<0.0030	0.01

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH101-SS1	BH101-SS5	BH1011-SS5 (DUP of BH101 - SS5)	BH102-SS2	BH122-SS2 (DUP of BH02-SS2)	BH103-SS2	BH104-SS3	BH107-SS5	BH108-SS3
Lab ID		KED175	KED179	KED180	KDC022	KDC023	KED181	KED183	KED186	KDC027
Sampling Date		2-Jul-19	2-Jul-19	2-Jul-19	25-Jun-19	25-Jun-19	2-Jul-19	2-Jul-19	2-Jul-19	25-Jun-19
Soil Sample Depth (m)		0 - 0.76	3.05 - 3.81	3.05 - 3.81	0.76 - 1.37	0.76 - 1.37	0.76 - 1.52	1.52 - 2.29	3.05 - 3.81	1.22 - 1.83
Consultant		EXP	EXP	EXP	EXP	EXP	EXP	EXP	EXP	EXP
Acetone	28	-	<0.50	<0.50	-	-	-	-	-	-
Benzene	0.17	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Bromodichloromethane	13	-	<0.050	<0.050	-	-	-	-	-	-
Bromoform	0.26	-	<0.050	<0.050	-	-	-	-	-	-
Bromomethane	0.05	-	<0.050	<0.050	-	-	-	-	-	-
Carbon Tetrachloride	0.12	-	<0.050	<0.050	-	-	-	-	-	-
Chlorobenzene	2.7	-	<0.050	<0.050	-	-	-	-	-	-
Chloroform	0.18	-	<0.050	<0.050	-	-	-	-	-	-
Dibromochloromethane	9.4	-	<0.050	<0.050	-	-	-	-	-	-
1,2-Dichlorobenzene	4.3	-	<0.050	<0.050	-	-	-	-	-	-
1,3-Dichlorobenzene	6	-	<0.050	<0.050	-	-	-	-	-	-
1,4-Dichlorobenzene	0.097	-	<0.050	<0.050	-	-	-	-	-	-
Dichlorodifluoromethane	25	-	<0.050	<0.050	-	-	-	-	-	-
1,1-Dichloroethane	11	-	<0.050	<0.050	-	-	-	-	-	-
1,2-Dichloroethane	0.05	-	<0.050	<0.050	-	-	-	-	-	-
1,1-Dichloroethylene	0.05	-	<0.050	<0.050	-	-	-	-	-	-
cis-1,2-Dichloroethylene	30	-	<0.050	<0.050	-	-	-	-	-	-
trans-1,2-Dichloroethylene	0.75	-	<0.050	<0.050	-	-	-	-	-	-
1,2-Dichloropropane	0.085	-	<0.050	<0.050	-	-	-	-	-	-
cis-1,3-Dichloropropene	0.083	-	<0.030	<0.030	-	-	-	-	-	-
trans-1,3-Dichloropropene	0.083	-	<0.040	<0.040	-	-	-	-	-	-
Ethylbenzene	15	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylene Dibromide (1,2-Dibromoethane)	0.05	-	<0.050	<0.050	-	-	-	-	-	-
Hexane (n)	34	-	<0.050	<0.050	-	-	-	-	-	-
Methylene chloride (Dichloromethane)	0.96	-	<0.050	<0.050	-	-	-	-	-	-
Methyl ethyl ketone (2-Butanone)	44	-	<0.50	<0.50	-	-	-	-	-	-
Methyl Isobutyl Ketone	4.3	-	<0.050	<0.050	-	-	-	-	-	-
Methyl t-butyl ether (MTBE)	1.4	-	<0.050	<0.050	-	-	-	-	-	-
Styrene	2.2	-	<0.050	<0.050	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	0.05	-	<0.050	<0.050	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	0.05	-	<0.020	<0.020	-	-	-	-	-	-
Tetrachloroethylene	2.3	-	<0.050	<0.050	-	-	-	-	-	-
Toluene	6	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
1,1,1-Trichloroethane	3.4	-	<0.050	<0.050	-	-	-	-	-	-
1,1,2-Trichloroethane	0.05	-	<0.050	<0.050	-	-	-	-	-	-
Trichloroethylene	0.52	-	<0.050	<0.050	-	-	-	-	-	-
Trichlorofluoromethane	5.8	-	<0.050	<0.050	-	-	-	-	-	-
Vinyl Chloride	0.022	-	<0.020	<0.020	-	-	-	-	-	-
m-Xylene + p-Xylene	NV	<0.040	<0.020	<0.020	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
o-Xylene	NV	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylenes (total)	25	<0.040	<0.020	<0.020	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 1: Full Depth Background SCS Agricultural or Other Land Use (coarse and/or fine textured soil)	MW09-1	MW09-6	MW09-7	MW09-8	MW09-9	MW09-10
Lab ID		BH1/SA7	BH6/SA6	BH7/SA6	BH8/SA7	BH9/SA7	BH10/SA6
Sampling Date		12-Feb-09	15-Feb-09	12-Feb-09	12-Feb-09	17-Feb-09	15-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3-3.7	3.7-4.1	3.7-4.1	3.7-4.1
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
1,1'-Biphenyl	0.05						
Bis(2-chloroethyl)ether	0.5	<0.2	-	<0.2	<0.2	<0.2	<0.2
Bis(2-chloroisopropyl)ether	0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1
Bis(2-ethylhexyl)phthalate	5	<0.5	-	<0.5	<0.5	<0.5	<0.5
p-Chloroaniline	0.5						
2-Chlorophenol	0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
3,3'-Dichlorobenzidine	1	<0.5	-	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	0.1	<0.2	-	<0.2	<0.2	<0.2	<0.2
Diethyl Phthalate	0.5	<0.2	-	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	0.2	-	-	-	-	-	-
Dimethylphthalate	0.5	<0.2	-	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	2	<0.1	-	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	0.5	<0.1	-	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	0.5						
2,4- & 2,6-Dinitrotoluene	0.5						
Pentachlorphenol	0.1	<0.2	-	<0.2	<0.2	<0.2	<0.2
Phenol	0.5	<0.2	-	<0.2	<0.2	<0.2	<0.2
1,2,4-Trichlorobenzene	0.05	<0.2	-	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 1: Full Depth Background SCS Agricultural or Other Land Use (coarse and/or fine textured soil)	MW09-11	MW09-11 (DUP3)	MW09-12	MW09-14	MW09-19	MW09-20
Lab ID		BH11/SA7	BH11/SA7	BH12/SA7	BH14/SA5	BH19/SA7	BH20/SA7
Sampling Date		17-Feb-09	17-Feb-09	17-Feb-09	13-Feb-09	12-Feb-09	17-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3.7-4.1	2.4-3	3.7-4.1	3.7-4.1
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
1,1'-Biphenyl	0.05						
Bis(2-chloroethyl)ether	0.5	<0.2	<0.2	<0.2	-	<0.2	<0.2
Bis(2-chloroisopropyl)ether	0.5	<0.1	<0.1	<0.1	-	<0.1	<0.1
Bis(2-ethylhexyl)phthalate	5	<0.5	<0.5	<0.5	-	<0.5	<0.5
p-Chloroaniline	0.5						
2-Chlorophenol	0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1
3,3'-Dichlorobenzidine	1	<0.5	<0.5	<0.5	-	<0.5	<0.5
2,4-Dichlorophenol	0.1	<0.2	<0.2	<0.2	-	<0.2	<0.2
Diethyl Phthalate	0.5	<0.2	<0.2	<0.2	-	<0.2	<0.2
2,4-Dimethylphenol	0.2	-	-	-	-	-	-
Dimethylphthalate	0.5	<0.2	<0.2	<0.2	-	<0.2	<0.2
2,4-Dinitrophenol	2	<0.1	<0.1	<0.1	-	<0.1	<0.1
2,4-Dinitrotoluene	0.5	<0.1	<0.1	<0.1	-	<0.1	<0.1
2,6-Dinitrotoluene	0.5						
2,4- & 2,6-Dinitrotoluene	0.5						
Pentachlorphenol	0.1	<0.2	<0.2	<0.2	-	<0.2	<0.2
Phenol	0.5	<0.2	<0.2	<0.2	-	<0.2	<0.2
1,2,4-Trichlorobenzene	0.05	<0.2	<0.2	<0.2	-	<0.2	<0.2
2,4,5-Trichlorophenol	0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1
2,4,6-Trichlorophenol	0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011)

Sample ID	MOECC (2011) Table 1: Full Depth Background SCS Agricultural or Other Land Use (coarse and/or fine textured soil)	MW09-21	MW09-39	MW09-40	MW09-41	MW09-42	MW09-43
Lab ID		BH21/SA7	BH39/SA4	BH40/SA3	BH41/SA8	BH42/SA2	BH43/SA2
Sampling Date		11-Feb-09	24-Apr-09	24-Apr-09	24-Apr-09	24-Apr-09	24-Apr-09
Soil Sample Depth (m)		3.7-4.1	1.8-2.4	1.2-1.8	3.8-4.2	0.6-1.2	0.6-1.2
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
1,1'-Biphenyl	0.05						
Bis(2-chloroethyl)ether	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bis(2-chloroisopropyl)ether	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-ethylhexyl)phthalate	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-Chloroaniline	0.5						
2-Chlorophenol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3,3'-Dichlorobenzidine	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2,4-Dichlorophenol	0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Diethyl Phthalate	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dimethylphenol	0.2	-	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethylphthalate	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4-Dinitrophenol	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	0.5						
2,4- & 2,6-Dinitrotoluene	0.5						
Pentachlorphenol	0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phenol	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2,4-Trichlorobenzene	0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
2,4,5-Trichlorophenol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011)

Sample ID	MOECC (2011) Table 1: Full Depth Background SCS Agricultural or Other Land Use (coarse and/or fine textured soil)	MW09-44	BH23-10	BH33-10	BH52-10	MW3-10
Lab ID		BH44/SA3	S-57906-040510-JB-103	S-57906-040810-SP-120	S-57906-040810-SP-120	S-57906-040710-JB-109
Sampling Date		25-Apr-09	5-Apr-10	7-Apr-10	8-Apr-10	7-Apr-10
Soil Sample Depth (m)		1.2-1.8	0.6-1.2	0.6-1.2	0.6-1.2	3.6-4.2
Consultant		Golder	CRA	CRA	CRA	CRA
1,1'-Biphenyl	0.05					
Bis(2-chloroethyl)ether	0.5	<0.2	-	-	-	-
Bis(2-chloroisopropyl)ether	0.5	<0.1	-	-	-	-
Bis(2-ethylhexyl)phthalate	5	<0.5	-	-	-	-
p-Chloroaniline	0.5					
2-Chlorophenol	0.1	<0.1	-	-	-	-
3,3'-Dichlorobenzidine	1	<0.5	-	-	-	-
2,4-Dichlorophenol	0.1	<0.2	-	-	-	-
Diethyl Phthalate	0.5	<0.2	-	-	-	-
2,4-Dimethylphenol	0.2	<0.1	-	-	-	-
Dimethylphthalate	0.5	<0.2	-	-	-	-
2,4-Dinitrophenol	2	<0.1	-	-	-	-
2,4-Dinitrotoluene	0.5	<0.1	-	-	-	-
2,6-Dinitrotoluene	0.5					
2,4- & 2,6-Dinitrotoluene	0.5					
Pentachlorphenol	0.1	<0.2	<0.1	<0.1	<0.1	<0.1
Phenol	0.5	<0.2	-	-	-	-
1,2,4-Trichlorobenzene	0.05	<0.2	-	-	-	-
2,4,5-Trichlorophenol	0.1	<0.1	-	-	-	-
2,4,6-Trichlorophenol	0.1	<0.1	-	-	-	-

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-1	MW09-2	MW09-3	MW09-4	MW09-5	MW09-6
Lab ID		BH1/SA1	BH2/SA1	BH3/SA7	BH4/SA2	BH5/SA2	BH6/SA1
Sampling Date		12-Feb-09	13-Feb-09	14-Feb-09	14-Feb-09	15-Feb-09	15-Feb-09
Soil Sample Depth (m)		0.2-0.6	0.2-0.6	3.7-4.1	1.2-1.8	0.6-1.2	0.6-1.2
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
Antimony	7.5	0.2	<0.2	<0.2	<0.2	<0.2	<0.5
Arsenic	18	5	3	7	3	5	5
Barium	390	67	100	120	41	180	79
Beryllium	5	0.3	0.3	1	0.2	1.4	0.3
Boron (Total)	120	<5	<5	5	<5	<5	<5
Boron (Hot water soluble)	1.5	0.48	0.3	0.68	0.45	0.24	0.16
Cadmium	1.2	0.2	<0.1	<0.1	<0.1	0.1	<0.1
Chromium (total)	160	19	8	24	17	30	90
Chromium VI	10	<0.2	<0.2	<0.2	<0.2	<1	<0.2
Cobalt	22	6.1	4.5	15	4.3	16	6.9
Copper	180	16	24	27	14	26	40
Lead	120	28	6	13	7	18	9
Mercury	1.8	-	-	-	-	-	-
Molybdenum	6.9	1.2	<0.5	0.9	2	0.7	0.5
Nickel	130	21	8.4	32	8.9	37	14
Selenium	2.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	1	0.12	<0.05	0.1	<0.05	0.17	0.1
Uranium	23	0.58	0.26	0.81	0.34	0.7	0.61
Vanadium	86	17	12	31	13	41	15
Zinc	340	91	31	73	31	77	42
Electrical Conductivity (mS/cm)	0.7	**2**	0.4	**0.72**	**1.5**	0.15	0.38
Sodium Adsorption Ratio (unitless)	5	**10**	0.4	0.2	1	2	0.41
Free Cyanide	0.051	**0.72**	<0.01	<0.01	<0.01	<0.01	<0.01
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.48	7.86	7.81	7.85	7.38	7.64

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-7	MW09-8	MW09-9	MW09-9 (DUP)	MW09-10	MW09-13
Lab ID		BH7/SA1	BH8/SA1	BH9-SA2	DUP 2	BH10-SA1	BH13-SA1
Sampling Date		15-Feb-09	12-Feb-09	17-Feb-09	17-Feb-09	15-Feb-09	11-Feb-09
Soil Sample Depth (m)		0.2-0.6	0.2-0.6	0.6-1.2	0.6-1.2	0.6-1.2	0.0-0.6
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
Antimony	7.5	0.3	<0.2	0.3	0.3	<0.2	<0.2
Arsenic	18	7	4	7	6	5	0
Barium	390	140	67	65	61	99	140
Beryllium	5	0.4	0.2	0.6	0.6	0.4	1.3
Boron (Total)	120	<5	6	<5	6	<5	<5
Boron (Hot water soluble)	1.5	0.2	0.29	0.49	0.44	0.14	0.13
Cadmium	1.2	0.2	<0.1	0.2	0.2	0.1	0.1
Chromium (total)	160	14	12	19	17	12	24
Chromium VI	10	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4
Cobalt	22	8.9	4.6	12	11	8.1	13
Copper	180	68	9.2	14	14	33	23
Lead	120	19	14	20	18	8	19
Mercury	1.8	-	-	-	-	-	-
Molybdenum	6.9	0.8	3	1.2	1.2	0.5	0.8
Nickel	130	17	12	31	26	16	26
Selenium	2.4	<0.5	<0.5	0.7	0.6	<0.5	<0.5
Silver	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	1	0.03	0.15	0.21	0.19	0.09	0.13
Uranium	23	0.37	12	0.92	0.79	0.4	0.65
Vanadium	86	19	9	28	26	0.19	34
Zinc	340	66	26	71	83	45	64
Electrical Conductivity (mS/cm)	0.7	-	-	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-	-	-
Free Cyanide	0.051	-	-	-	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-14	MW09-15	MW09-16	MW09-17	MW09-18	MW09-19
Lab ID		BH14/SA1	BH15-SA1	BH16-SA1	BH17/SA4	BH18/SA3	BH19/SA1
Sampling Date		13-Feb-09	13-Feb-09	13-Feb-09	14-Feb-09	14-Feb-09	12-Feb-09
Soil Sample Depth (m)		0.2-0.6	0.6-1.2	0.2-0.6	1.8-2.4	1.2-1.8	0.2-0.6
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
Antimony	7.5	0.2	<0.2	0.3	2.5	0.5	**12**
Arsenic	18	5	6	8	8	5	**23**
Barium	390	75	88	38	150	74	**1300**
Beryllium	5	0.6	0.6	0.4	0.9	0.3	<1
Boron (Total)	120	<5	<5	<5	9	<5	<25
Boron (Hot water soluble)	1.5	1.1	0.8	0.41	**5.7**	0.4	0.6
Cadmium	1.2	0.3	0.3	0.3	0.7	0.3	**5.4**
Chromium (total)	160	30	19	17	27	19	**270**
Chromium VI	10	<1	<0.2	<2	<1	<0.2	<0.4
Cobalt	22	10	8.7	7	11	6.2	22
Copper	180	22	19	17	51	30	**260**
Lead	120	56	22	27	86	63	**1600**
Mercury	1.8	-	-	-	-	-	-
Molybdenum	6.9	1.1	0.7	3.8	1.1	2.3	**28**
Nickel	130	20	30	29	43	18	120
Selenium	2.4	<0.5	<0.5	0.6	0.7	<0.5	<2.5
Silver	25	<0.2	<0.2	<0.2	<0.2	<0.2	<1
Thallium	1	0.1	0.13	0.23	0.18	0.11	<0.25
Uranium	23	0.79	0.66	1.1	0.73	0.48	<0.25
Vanadium	86	34	25	18	30	25	<25
Zinc	340	100	76	58	330	110	**1100**
Electrical Conductivity (mS/cm)	0.7	**1.5**	-	-	0.53	0.53	0.45
Sodium Adsorption Ratio (unitless)	5	1	-	-	1.8	1.2	0.53
Free Cyanide	0.051	<0.01	-	-	0.01	<0.01	<0.01
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.85	-	-	7.05	7.69	7.39

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-20	MW09-20 (DUP)	MW09-21	MW09-27	MW09-28	MW09-29
Lab ID		BH20/SA1	DUP1	BH21/SA1	BH27-SA2	BH28-SA3	BH29/SA2
Sampling Date		17-Feb-09	17-Feb-09	11-Feb-09	19-Apr-09	19-Apr-09	19-Apr-09
Soil Sample Depth (m)		0-0.6	0-0.6	0.2-0.6	0.6-1.2	1.2-1.8	0.6 - 1.2
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
Antimony	7.5	2.9	2.8	0.2	<0.20	<0.20	<0.20
Arsenic	18	4	6	5	4	4	6
Barium	390	350	**1100**	200	38	180	69
Beryllium	5	0.5	1	1	0.3	1	0.5
Boron (Total)	120	<5	7	<5	-	-	-
Boron (Hot water soluble)	1.5	0.52	0.19	0.33	0.47	0.18	0.3
Cadmium	1.2	0.5	0.8	0.2	0.03	0.2	<0.10
Chromium (total)	160	17	41	24	11	31	24
Chromium VI	10	<0.2	<0.2	<0.2	<1	<0.20	<1
Cobalt	22	6.2	14	12	3.4	13	9.6
Copper	180	22	42	27	10	27	8.9
Lead	120	100	**320**	16	13	15	13
Mercury	1.8	-	-	-	<0.05	<0.05	<0.05
Molybdenum	6.9	1.4	1.9	0.9	<0.5	0.5	0.8
Nickel	130	15	35	30	20	35	14
Selenium	2.4	<0.5	<0.5	<0.5	<0.8	<0.60	0.6
Silver	25	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2
Thallium	1	0.08	0.15	0.17	0.13	0.13	0.15
Uranium	23	0.43	0.86	0.81	-	-	-
Vanadium	86	18	36	31	16	43	38
Zinc	340	170	290	79	64	70	86
Electrical Conductivity (mS/cm)	0.7	0.36	0.38	0.53	-	-	-
Sodium Adsorption Ratio (unitless)	5	0.66	0.62	0.98	-	-	-
Free Cyanide	0.051	<0.01	<0.01	<0.01	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.34	7.35	7.59	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-30	BH09-34	BH09-35
Lab ID		BH30/SA1	BH34/SA2	BH35/SA2
Sampling Date		19-Apr-09	18-Apr-09	18-Apr-09
Soil Sample Depth (m)		0.2 - 0.6	0.6 - 1.2	0.6 - 1.2
Consultant		Golder	Golder	Golder
Antimony	7.5	<0.20	<0.20	<0.20
Arsenic	18	4	3	6
Barium	390	96	52	130
Beryllium	5	0.6	<0.20	1
Boron (Total)	120	-	<5.0	6
Boron (Hot water soluble)	1.5	0.3	0.06	0.78
Cadmium	1.2	0.2	<0.10	0.1
Chromium (total)	160	18	7	24
Chromium VI	10	<0.2	<0.2	<0.2
Cobalt	22	9.9	5.1	18
Copper	180	17	24	24
Lead	120	12	4	17
Mercury	1.8	<0.05	<0.05	<0.05
Molybdenum	6.9	<0.5	<0.5	0.7
Nickel	130	23	8.9	28
Selenium	2.4	<0.5	0.7	1.1
Silver	25	<0.2	<0.2	<0.2
Thallium	1	0.13	<0.05	0.15
Uranium	23	-	0.26	0.67
Vanadium	86	26	14	35
Zinc	340	76	31	67
Electrical Conductivity (mS/cm)	0.7	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-
Free Cyanide	0.051	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH09-36	BH09-37	BH09-38	MW09-39	MW09-40	MW09-41
Lab ID		BH36/SA2	BH37/SA1	BH38/SA1	BH-39/SA2	BH-40/SA2	BH-41/SA2
Sampling Date		18-Apr-09	18-Apr-09	18-Apr-09	24-Apr-09	24-Apr-09	24-Apr-09
Soil Sample Depth (m)		0.6 - 1.2	0 - 0.6	0 - 0.6	0.6-1.2	0.6-1.2	0.6-1.2
Consultant		Golder	Golder	Golder	Golder	Golder	Golder
Antimony	7.5	<0.20	**14**	**17**	<0.20	<0.20	0.2
Arsenic	18	5	**21**	**20**	4	4	4
Barium	390	81	**970**	**1000**	220	150	180
Beryllium	5	0.6	0.5	0.3	1	0.9	0.8
Boron (Total)	120	<5.0	19	13	-	-	-
Boron (Hot water soluble)	1.5	0.18	0.39	0.49	0.14	0.24	0.08
Cadmium	1.2	0.1	**2.6**	**2.9**	0.2	0.2	0.1
Chromium (total)	160	14	160	**170**	21	22	22
Chromium VI	10	<0.2	<0.4	<1	<0.2	<0.2	<0.2
Cobalt	22	7.3	19	21	13	14	12
Copper	180	25	**230**	**510**	22	24	22
Lead	120	10	**1200**	**1600**	15	12	11
Mercury	1.8	<0.05	0.49	1.8	<0.05	<0.05	<0.05
Molybdenum	6.9	<0.5	**13**	**14**	1	0.5	0.6
Nickel	130	17	94	91	29	28	27
Selenium	2.4	0.7	1.2	0.9	<0.05	<0.05	<0.05
Silver	25	<0.2	0.7	0.3	<0.2	<0.2	<0.2
Thallium	1	0.08	0.22	0.08	0.17	0.36	0.16
Uranium	23	0.4	0.76	0.43	-	-	-
Vanadium	86	21	24	26	31	32	29
Zinc	340	45	**700**	**700**	51	90	60
Electrical Conductivity (mS/cm)	0.7	-	-	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-	-	-
Free Cyanide	0.051	-	-	-	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	7.69	7.92	7.78

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-42
Lab ID		BH-42/SA1
Sampling Date		24-Apr-09
Soil Sample Depth (m)		0.2-0.6
Consultant		Golder
Antimony	7.5	<0.20
Arsenic	18	5
Barium	390	150
Beryllium	5	1
Boron (Total)	120	-
Boron (Hot water soluble)	1.5	0.43
Cadmium	1.2	0.2
Chromium (total)	160	24
Chromium VI	10	<0.2
Cobalt	22	15
Copper	180	25
Lead	120	13
Mercury	1.8	<0.05
Molybdenum	6.9	0.6
Nickel	130	33
Selenium	2.4	<0.05
Silver	25	<0.2
Thallium	1	0.15
Uranium	23	-
Vanadium	86	36
Zinc	340	67
Electrical Conductivity (mS/cm)	0.7	-
Sodium Adsorption Ratio (unitless)	5	-
Free Cyanide	0.051	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.65

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-43	MW09-44	DUP of MW09-44	MW09-45	DUP of MW09-45	MW1-09
Lab ID		BH-42/SA1	BH-44/SA1	BH-44/SA1-DUP10	BH45/SA2	BH45/SA2-DUP6	S-57906-120809-SP-004
Sampling Date		24-Apr-09	25-Apr-09	25-Apr-09	18-Apr-09	18-Apr-09	8-Dec-09
Soil Sample Depth (m)		0.2-0.6	0.2-0.6	0.2-0.6	0.6 - 1.2	0.6 - 1.2	0.6-1.2
Consultant		Golder	Golder	Golder	Golder	Golder	CRA
Antimony	7.5	1	<0.20	<0.20	0.3	0.3	<1.0
Arsenic	18	8	5	4	6	6	6.2
Barium	390	100	130	96	64	78	33.5
Beryllium	5	0.7	1	0.8	0.5	0.7	<0.5
Boron (Total)	120	-	-	-	<5.0	<5.0	-
Boron (Hot water soluble)	1.5	0.21	0.28	0.45	1.1	0.66	0.46
Cadmium	1.2	0.5	0.2	0.2	0.3	0.2	0.5
Chromium (total)	160	24	26	19	16	18	10.3
Chromium VI	10	<0.4	<0.2	<0.2	<1	<0.4	<2
Cobalt	22	11	14	12	5.1	7.9	5.6
Copper	180	45	23	21	13	26	5.6
Lead	120	66	19	18	15	18	11.1
Mercury	1.8	0.07	<0.05	<0.05	<0.05	<0.05	0.085
Molybdenum	6.9	2.2	0.7	0.7	0.6	1.2	1.1
Nickel	130	29	34	28	32	31	10.9
Selenium	2.4	<0.05	<0.05	<0.05	0.6	0.9	<1.0
Silver	25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	1	0.19	0.17	0.12	0.14	0.15	<0.5
Uranium	23	-	0.5	0.58	-	-	-
Vanadium	86	27	38	30	18	23	12.9
Zinc	340	180	72	60	55	61	40.3
Electrical Conductivity (mS/cm)	0.7	-	-	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-	-	-
Free Cyanide	0.051	-	-	-	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.09	7.5	-	-	-	8.09

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW1-09	BH2-09	BH2-09	BH4-09	BH5-09	BH6-09
Lab ID		S-57906-120809-SP-005	S-57906-120809-SP-001	S-57906-120809-SP-002	S-57906-120609-SP-006	S-57906-120809-SP-011	S-57906-120809-SP-012
Sampling Date		8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09	8-Dec-09
Soil Sample Depth (m)		2.4-3	0-0.6	1.8-2.4	0-0.6	1.8-2.4	1.8 - 2.4
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
Antimony	7.5	<1.0	1	1	-	-	-
Arsenic	18	4.8	3	5.5	-	-	-
Barium	390	109	27.6	174	-	-	-
Beryllium	5	0.78	0.5	1.11	-	-	-
Boron (Total)	120	-	-	-	-	-	-
Boron (Hot water soluble)	1.5	0.12	0.24	0.14	0.15	0.36	0.61
Cadmium	1.2	0.5	0.5	0.5	-	-	-
Chromium (total)	160	23.1	17.9	32.6	-	-	-
Chromium VI	10	<2	2	2.1	-	-	-
Cobalt	22	18.9	3.1	17.8	-	-	-
Copper	180	18.9	9.8	23.7	-	-	-
Lead	120	9	35.7	10.6	-	-	-
Mercury	1.8	<0.05	0.05	0.05	-	-	-
Molybdenum	6.9	<1.0	1.5	1	-	-	-
Nickel	130	24.5	6.8	32.9	-	-	-
Selenium	2.4	<1.0	1	1	-	-	-
Silver	25	<0.2	0.2	0.2	-	-	-
Thallium	1	<0.5	0.5	0.5	-	-	-
Uranium	23	-	-	-	-	-	-
Vanadium	86	31.2	9.6	44.2	-	-	-
Zinc	340	51.6	28.3	72.7	-	-	-
Electrical Conductivity (mS/cm)	0.7	-	-	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-	-	-
Free Cyanide	0.051	-	-	-	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.6	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH9-10	BH10-10	BH20-10	BH21-10	BH21-10	BH22-10
Lab ID		S-57906-040210-JB-022	S-57906-040510-JB-023	S-57906-040510-JB-059	S-57906-040510-JB-060	S-57906-040510-JB-061	S-57906-040510-JB-033
Sampling Date		4-Feb-10	4-Feb-10	5-Apr-10	5-Apr-10	5-Apr-10	5-Apr-10
Soil Sample Depth (m)		0 - 0.5	0 - 0.5	0-0.6	0-0.6	1.2 - 1.8	0 - 0.6
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
Antimony	7.5	-	-	-	-	-	<1.0
Arsenic	18	-	-	-	-	-	5.5
Barium	390	-	-	361	31.7	187	62.5
Beryllium	5	0.6	0.74	-	-	-	<0.5
Boron (Total)	120	-	-	-	-	-	23.6
Boron (Hot water soluble)	1.5	-	-	-	-	-	-
Cadmium	1.2	-	-	-	-	-	<0.5
Chromium (total)	160	-	-	-	-	-	10
Chromium VI	10	-	-	-	-	-	-
Cobalt	22	-	-	-	-	-	6.1
Copper	180	-	-	-	-	-	5.2
Lead	120	-	-	104	13.7	11.1	7.4
Mercury	1.8	-	-	-	-	-	-
Molybdenum	6.9	-	-	-	-	-	1.7
Nickel	130	-	-	-	-	-	11.3
Selenium	2.4	-	-	-	-	-	<1.0
Silver	25	-	-	-	-	-	<0.2
Thallium	1	-	-	-	-	-	<0.5
Uranium	23	-	-	-	-	-	<1.0
Vanadium	86	-	-	-	-	-	11.4
Zinc	340	-	-	-	-	-	15.2
Electrical Conductivity (mS/cm)	0.7	-	-	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-	-	-
Free Cyanide	0.051	-	-	-	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH24-10	BH25-10	BH26-10	BH27-10	BH27-10	BH33-10
Lab ID		S-57906-040510-JB-028	S-57906-040510-JB-035	S-57906-040510-JB-026	S-57906-040510-JB-024	S-57906-040510-JB-025	S-57906-040710-JB-102
Sampling Date		5-Apr-10	5-Apr-10	5-Apr-10	5-Apr-10	5-Apr-10	7-Apr-10
Soil Sample Depth (m)		0 - 0.6	0-0.6	0-0.6	0-0.6	1.2-1.8	0 - 0.6
Consultant		CRA	CRA	CRA	CRA	CRA	CRA
Antimony	7.5	<1.0	<1.0	<1.0	<1.0	-	-
Arsenic	18	3.9	4.3	9.9	**85.2**	5.8	-
Barium	390	40.8	66.6	12.3	181	-	-
Beryllium	5	<0.5	<0.5	<0.5	<0.5	-	-
Boron (Total)	120	17.6	17	30.2	11.3	-	-
Boron (Hot water soluble)	1.5	-	-	-	-	-	-
Cadmium	1.2	<0.5	<0.5	<0.5	1.12	-	-
Chromium (total)	160	10.7	13.4	21	25.9	-	-
Chromium VI	10	-	-	-	-	-	-
Cobalt	22	3.3	6.1	10.2	7.5	-	-
Copper	180	7.8	8.4	6.7	44.5	-	-
Lead	120	9	12	7.3	**136**	11.2	-
Mercury	1.8	-	-	-	-	-	-
Molybdenum	6.9	<1.0	2.9	1.8	2.8	-	-
Nickel	130	7.5	11.7	19.9	30.4	-	-
Selenium	2.4	<1.0	<1.0	<1.0	<1.0	-	-
Silver	25	<0.2	<0.2	<0.2	<0.2	-	-
Thallium	1	<0.5	<0.5	<0.5	<0.5	-	-
Uranium	23	<1.0	<1.0	<1.0	<1.0	-	-
Vanadium	86	9.4	10	22.9	16.3	-	-
Zinc	340	31.2	118	20.7	238	-	-
Electrical Conductivity (mS/cm)	0.7	-	-	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-	-	-
Free Cyanide	0.051	-	-	-	-	-	**0.059**
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH34-10	BH34-10	BH57-10	MW3-10
Lab ID		S-57906-040710-JB-104	S-57906-040710-JB-105	S-57906-042110-JB-124	S-57906-042110-JB-124
Sampling Date		7-Apr-10	7-Apr-10	21-Apr-10	7-Apr-10
Soil Sample Depth (m)		0- 0.6	1.2 - 1.8	0 - 0.3	1.2-1.8
Consultant		CRA	CRA	CRA	CRA
Antimony	7.5	-	-	<1.0	<1
Arsenic	18	-	-	4.7	3.7
Barium	390	-	-	34.3	162
Beryllium	5	-	-	<0.5	1.07
Boron (Total)	120	-	-	17.9	25.1
Boron (Hot water soluble)	1.5	-	-	-	-
Cadmium	1.2	-	-	<0.5	<0.5
Chromium (total)	160	-	-	24.2	30.9
Chromium VI	10	-	-	-	-
Cobalt	22	-	-	5.1	15.5
Copper	180	-	-	15.5	24.4
Lead	120	-	-	72.9	9.8
Mercury	1.8	-	-	-	-
Molybdenum	6.9	-	-	2	<1
Nickel	130	-	-	15.4	31.6
Selenium	2.4	-	-	<1.0	<1.0
Silver	25	-	-	<0.2	<0.2
Thallium	1	-	-	<0.5	<0.5
Uranium	23	-	-	-	<1.0
Vanadium	86	-	-	10.3	44.4
Zinc	340	-	-	38.7	70.1
Electrical Conductivity (mS/cm)	0.7	-	-	-	-
Sodium Adsorption Ratio (unitless)	5	-	-	-	-
Free Cyanide	0.051	**0.052**	**0.065**	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	-

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH3-SS3	BH6-SS3	BH101-SS1	BH103-SS2	BH104-SS3
Lab ID		JJY046	JJY048	KED175	KED181	KED183
Sampling Date		13-Feb-19	13-Feb-19	02-July-2019	02-July-2019	02-July-2019
Soil Sample Depth (m)				0 - 0.76	0.76 - 1.52	1.52 - 2.29
Consultant		EXP	EXP	EXP	EXP	EXP
Antimony	7.5	0.24	0.31	<0.20	0.22	0.21
Arsenic	18	5.2	5.6	1.3	4.8	4.5
Barium	390	130	180	20	140	120
Beryllium	5	1.1	1.2	0.24	0.94	0.89
Boron (Total)	120	16	15	<5.0	17	19
Boron (Hot water soluble)	1.5	0.29	0.18		-	0.79
Cadmium	1.2	<0.10	<0.10	<0.10	<0.10	0.1
Chromium (total)	160	33	34	15	28	27
Chromium VI	10	<0.2	<0.2	-	<0.2	<0.2
Cobalt	22	16	19	2.8	14	14
Copper	180	25	26	7.3	22	21
Lead	120	12	13	5.4	10	11
Mercury	1.8	<0.050	<0.050	<0.050	<0.050	<0.050
Molybdenum	6.9	0.66	0.78	0.93	0.71	0.67
Nickel	130	36	41	6.3	32	31
Selenium	2.4	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	25	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	1	0.24	0.19	<0.050	0.16	0.14
Uranium	23	1.2	1.1	0.56	0.89	0.89
Vanadium	86	43	46	31	38	37
Zinc	340	77	76	20	70	72
Electrical Conductivity (mS/cm)	0.7	-	-	-	**2.4**	**1.4**
Sodium Adsorption Ratio (unitless)	5	-	-	-	0.64	0.91
Free Cyanide	0.051	-	-	-	<0.01	<0.01
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	7.79	7.92

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH105-SS4	BH155-SS4 (DUP of BH105- SS4)	BH106-SS3	BH126 SS3 (DUP of BH106 - SS3)	BH107-SS5
Lab ID		KDC024	KDC025	KDC026	KEI555	KED186
Sampling Date		25-June-2019	25-June-2019	25-June-2019	25-June-2019	02-July-2019
Soil Sample Depth (m)		1.98 - 2.59	1.98 - 2.59	1.22 - 1.83	1.22 - 1.83	3.05 - 3.81
Consultant		EXP	EXP	EXP	EXP	EXP
Antimony	7.5	<0.20	<0.20	0.21	<0.20	<0.20
Arsenic	18	5.6	5.2	7	5.6	4.9
Barium	390	120	120	310	130	120
Beryllium	5	1.1	1.1	1.3	1	0.91
Boron (Total)	120	16	16	14	14	17
Boron (Hot water soluble)	1.5	0.46	0.44	0.1	-	0.71
Cadmium	1.2	<0.10	<0.10	0.1	<0.10	0.11
Chromium (total)	160	33	33	35	31	28
Chromium VI	10	<0.2	<0.2	<0.2	-	<0.2
Cobalt	22	17	16	**23**	21	14
Copper	180	28	26	30	27	23
Lead	120	11	10	16	13	11
Mercury	1.8	<0.050	0.057	<0.050	<0.050	<0.050
Molybdenum	6.9	0.68	0.54	0.89	0.69	0.7
Nickel	130	39	38	45	35	33
Selenium	2.4	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	25	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	1	0.16	0.17	0.21	0.19	0.15
Uranium	23	0.99	1	0.91	0.85	0.95
Vanadium	86	43	41	48	42	38
Zinc	340	76	79	81	75	75
Electrical Conductivity (mS/cm)	0.7	**2.9**	**3.4**	0.56	-	**1.5**
Sodium Adsorption Ratio (unitless)	5	0.94	0.9	1.2	-	0.78
Free Cyanide	0.051	<0.01	<0.01	<0.01	-	<0.01
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	7.94	7.91	7.86	-	7.83

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH109-SS2	BH199-SS2 (DUP of BH109 - SS2)	BH110-SS2	BH111-SS3	BH112-SS2
Lab ID		KDC029	KDC040	KDC030	KDC031	KDC034
Sampling Date		25-June-2019	25-June-2019	25-June-2019	26-June-2019	26-June-2019
Soil Sample Depth (m)		0.61 - 1.22	0.61 - 1.22	0.61 - 1.22	1.52 - 2.12	0.76 - 1.37
Consultant		EXP	EXP	EXP	EXP	EXP
Antimony	7.5	-	-	-	-	-
Arsenic	18	-	-	-	-	-
Barium	390	-	-	-	-	-
Beryllium	5	-	-	-	-	-
Boron (Total)	120	-	-	-	-	-
Boron (Hot water soluble)	1.5	-	-	-	-	-
Cadmium	1.2	-	-	-	-	-
Chromium (total)	160	-	-	-	-	-
Chromium VI	10	-	-	-	-	-
Cobalt	22	-	-	-	-	-
Copper	180	-	-	-	-	-
Lead	120	-	-	-	-	-
Mercury	1.8	-	-	-	-	-
Molybdenum	6.9	-	-	-	-	-
Nickel	130	-	-	-	-	-
Selenium	2.4	-	-	-	-	-
Silver	25	-	-	-	-	-
Thallium	1	-	-	-	-	-
Uranium	23	-	-	-	-	-
Vanadium	86	-	-	-	-	-
Zinc	340	-	-	-	-	-
Electrical Conductivity (mS/cm)	0.7	0.66	**0.74**	0.5	0.37	0.66
Sodium Adsorption Ratio (unitless)	5	1.7	1.8	2.2	0.7	2
Free Cyanide	0.051	-	-	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH113-SS2	BH114-SS1
Lab ID		KDC035	KDC036
Sampling Date		26-June-2019	26-June-2019
Soil Sample Depth (m)		0.76 - 1.37	0 - 0.61
Consultant		EXP	EXP
Antimony	7.5	-	-
Arsenic	18	-	-
Barium	390	-	-
Beryllium	5	-	-
Boron (Total)	120	-	-
Boron (Hot water soluble)	1.5	-	-
Cadmium	1.2	-	-
Chromium (total)	160	-	-
Chromium VI	10	-	-
Cobalt	22	-	-
Copper	180	-	-
Lead	120	-	-
Mercury	1.8	-	-
Molybdenum	6.9	-	-
Nickel	130	-	-
Selenium	2.4	-	-
Silver	25	-	-
Thallium	1	-	-
Uranium	23	-	-
Vanadium	86	-	-
Zinc	340	-	-
Electrical Conductivity (mS/cm)	0.7	**1.3**	0.64
Sodium Adsorption Ratio (unitless)	5	1.6	3.1
Free Cyanide	0.051	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH115-SS3	BH116-SS2	BH117-SS2
Lab ID		KDC037	KDC038	KDC039
Sampling Date		26-June-2019	26-June-2019	25-June-2019
Soil Sample Depth (m)		1.52 - 2.12	0.76 - 1.37	0.61 - 1.22
Consultant		EXP	EXP	EXP
Antimony	7.5	-	-	-
Arsenic	18	-	-	-
Barium	390	-	-	-
Beryllium	5	-	-	-
Boron (Total)	120	-	-	-
Boron (Hot water soluble)	1.5	-	-	-
Cadmium	1.2	-	-	-
Chromium (total)	160	-	-	-
Chromium VI	10	-	-	-
Cobalt	22	-	-	-
Copper	180	-	-	-
Lead	120	-	-	-
Mercury	1.8	-	-	-
Molybdenum	6.9	-	-	-
Nickel	130	-	-	-
Selenium	2.4	-	-	-
Silver	25	-	-	-
Thallium	1	-	-	-
Uranium	23	-	-	-
Vanadium	86			
Zinc	340	-	-	-
Electrical Conductivity (mS/cm)	0.7	**1**	**1.1**	**0.88**
Sodium Adsorption Ratio (unitless)	5	1.1	1.4	1.8
Free Cyanide	0.051	-	-	-
pH (pH units)	5-9 (surface soil); 5-11 (subsurface soil)	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.
pH level outside of the acceptable MECP range

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-1	MW09-6	MW09-7	MW09-8	MW09-9	MW09-10	MW09-11
Lab ID		BH1/SA7	BH6/SA6	BH7/SA6	BH8/SA7	BH9/SA7	BH10/SA6	BH11/SA7
Sampling Date		12-Feb-09	15-Feb-09	12-Feb-09	12-Feb-09	17-Feb-09	15-Feb-09	17-Feb-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	3-3.7	3.7-4.1	3.7-4.1	3.7-4.1	3.7-4.1
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acenaphthene	58	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	0.17	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	0.74	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	0.63	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	0.3	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	0.78	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	7.8	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	0.78	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	7.8	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	0.69	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	69	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	0.48	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1
1-Methylnaphthalene	3.4	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	3.4	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
1&2-Methylnaphthalene	3.4							
Naphthalene	0.75	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	7.8	<0.1	0.01	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	78	-	-	-	-	-	-	-

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-11 (DUP)	MW09-12	MW09-14	MW09-19	MW09-20	MW09-21	MW09-39
Lab ID		BH11/SA7	BH12/SA7	BH14/SA5	BH19/SA7	BH20/SA7	BH21/SA7	BH39/SA4
Sampling Date		17-Feb-09	17-Feb-09	13-Feb-09	12-Feb-09	17-Feb-09	11-Feb-09	24-Apr-09
Soil Sample Depth (m)		3.7-4.1	3.7-4.1	2.4-3	3.7-4.1	3.7-4.1	3.7-4.1	1.8-2.4
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acenaphthene	58	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	0.17	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Anthracene	0.74	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	0.63	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	0.3	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Benzo(b)fluoranthene	0.78	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)perylene	7.8	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	0.78	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Chrysene	7.8	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Dibenz(a,h)anthracene	0.1	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
Fluoranthene	0.69	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Fluorene	69	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene	0.48	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1
1-Methylnaphthalene	3.4	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	3.4	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
1&2-Methylnaphthalene	3.4							
Naphthalene	0.75	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Phenanthrene	7.8	<0.1	<0.1	<0.005	<0.1	<0.1	<0.1	<0.1
Pyrene	78	-	-	-	-	-	-	<0.1

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-40	MW09-41	MW09-42	MW09-43	MW09-44	BH3-SS2	BH6-SS2
Lab ID		BH40/SA3	BH41/SA8	BH42/SA2	BH43/SA2	BH44/SA3	JJY045	JJY047
Sampling Date		24-Apr-09	24-Apr-09	24-Apr-09	24-Apr-09	25-Apr-09	13-Feb-19	13-Feb-19
Soil Sample Depth (m)		1.2-1.8	3.8-4.2	0.6-1.2	0.6-1.2	1.2-1.8		
Consultant		Golder	Golder	Golder	Golder	Golder	EXP	EXP
Acenaphthene	58	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Acenaphthylene	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Anthracene	0.74	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Benzo(a)anthracene	0.63	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Benzo(a)pyrene	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Benzo(b)fluoranthene	0.78	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Benzo(ghi)perylene	7.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Benzo(k)fluoranthene	0.78	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Chrysene	7.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Dibenz(a,h)anthracene	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Fluoranthene	0.69	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Fluorene	69	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	0.48	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
1-Methylnaphthalene	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
2-Methylnaphthalene	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
1&2-Methylnaphthalene	3.4						<0.0071	<0.0071
Naphthalene	0.75	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Phenanthrene	7.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050
Pyrene	78	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0050	<0.0050

All soil concentrations reported in µg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	BH101-SS2	BH1011-SS2 (DUP of BH101- SS2)
Lab ID		KED176	KED177
Sampling Date		02-July-2019	02-July-2019
Soil Sample Depth (m)		0.76 - 1.52	0.76 - 1.52
Consultant		EXP	EXP
Acenaphthene	58	<0.0050	<0.0050
Acenaphthylene	0.17	<0.0050	<0.0050
Anthracene	0.74	<0.0050	<0.0050
Benzo(a)anthracene	0.63	<0.0050	<0.0050
Benzo(a)pyrene	0.3	<0.0050	<0.0050
Benzo(b)fluoranthene	0.78	<0.0050	<0.0050
Benzo(ghi)perylene	7.8	<0.0050	<0.0050
Benzo(k)fluoranthene	0.78	<0.0050	<0.0050
Chrysene	7.8	<0.0050	<0.0050
Dibenz(a,h)anthracene	0.1	<0.0050	<0.0050
Fluoranthene	0.69	<0.0050	<0.0050
Fluorene	69	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	0.48	<0.0050	<0.0050
1-Methylnaphthalene	3.4	<0.0050	<0.0050
2-Methylnaphthalene	3.4	<0.0050	<0.0050
1&2-Methylnaphthalene	3.4	<0.0071	<0.0071
Naphthalene	0.75	<0.0050	<0.0050
Phenanthrene	7.8	<0.0050	<0.0050
Pyrene	78	<0.0050	<0.0050

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition Residential/Parkland/Institutional Land Use (medium/fine textured soil)	MW09-18	MW09-19	MW09-20	MW09-21
Lab ID		BH18/SA3	BH19/SA1	BH20/SA1	BH21/SA1
Sampling Date		14-Feb-09	12-Feb-09	17-Feb-09	11-Feb-09
Soil Sample Depth (m)		1.2-1.8	0.2-0.6	0-0.6	0.2-0.6
Consultant		Golder	Golder	Golder	Golder
Total Polychlorinated Biphenyls	0.35	0.03	0.02	0.08	0.02

All soil concentrations reported in μg/g.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-1	MW09-3	MW09-3 (DUP)	MW09-4	MW09-6
Lab ID		MW1	MW3	MW3-DUP3	MW4	MW6
Sampling Date		26-Feb-09	26-Feb-09	26-Feb-09	26-Feb-09	27-Feb-09
Consultant		Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	750	-	-	-	-	-
PHC F1 (C6-C10) - BTEX	750	<100	<100	<100	<100	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	<100	<100	<100
PHC F4 (C34-C50)	500	<100	<100	<100	<100	<100
Reached baseline at C50?	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-7	MW09-8	MW09-9	MW09-9	MW09-10
Lab ID		MW7	MW8	MW9	JXB808	MW10
Sampling Date		26-Feb-09	26-Feb-09	26-Feb-09	3-Jun-19	27-Feb-09
Consultant		Golder	Golder	Golder	EXP	Golder
PHC F1 (C6-C10)	750	-	-	-	<25	-
PHC F1 (C6-C10) - BTEX	750	<100	<100	<100	<25	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	200	<200	<100
PHC F4 (C34-C50)	500	<100	200	**980**	<200	<100
Reached baseline at C50?	-	-	-	-	YES	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-11	MW09-12	MW09-13	MW09-14	MW09-14
Lab ID		MW11	MW12	MW13	MW14	GW-57906-071209-JB-003
Sampling Date		27-Feb-09	27-Feb-09	26-Feb-09	26-Feb-09	7-Dec-09
Consultant		Golder	Golder	Golder	Golder	CRA
PHC F1 (C6-C10)	750	-	-	-	-	-
PHC F1 (C6-C10) - BTEX	750	<100	<100	<100	<100	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	<100	340	420
PHC F4 (C34-C50)	500	<100	<100	<100	**940**	**1080**
Reached baseline at C50?	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-14	MW09-15	MW09-16	MW09-16 (DUP)	MW09-19
Lab ID		JXB809	MW15	MW16	MW16-DUP2	MW19
Sampling Date		3-Jun-19	26-Feb-09	26-Feb-09	26-Feb-09	26-Feb-09
Consultant		EXP	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	750	<25	-	-	-	-
PHC F1 (C6-C10) - BTEX	750	<25	<100	<100	<100	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<200	<100	<100	<100	<100
PHC F4 (C34-C50)	500	<200	<100	<100	<100	<100
Reached baseline at C50?	-	YES	-	-	-	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-20	MW09-21	MW09-22	MW09-22	MW09-222 (Dup of MW09-22)
Lab ID		GW-57906-071209-JB-004	MW21	MW22	JXB811	JXB818
Sampling Date		7-Dec-09	26-Feb-09	22-May-09	3-Jun-19	3-Jun-19
Consultant		CRA	Golder	Golder	EXP	EXP
PHC F1 (C6-C10)	750	<100	-	-	<25	<25
PHC F1 (C6-C10) - BTEX	750	-	<100	<100	<25	<25
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<250	<100	400	<200	<200
PHC F4 (C34-C50)	500	<250	<100	**1900**	<200	<200
Reached baseline at C50?	-	-	-	-	YES	YES
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-23	MW09-23	MW09-24	MW09-25	MW09-26
Lab ID		MW23	JXB812	MW24	MW25	MW26
Sampling Date		22-May-09	3-Jun-19	22-May-09	22-May-09	22-May-09
Consultant		Golder	EXP	Golder	Golder	Golder
PHC F1 (C6-C10)	750	-	<25	-	-	-
PHC F1 (C6-C10) - BTEX	750	<100	<25	<100	<100	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<200	<100	<100	<100
PHC F4 (C34-C50)	500	**710**	<200	380	260	180
Reached baseline at C50?	-	-	YES	-	-	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-27	MW09-28	MW09-29	MW09-30	MW09-31
Lab ID		MW27	MW28	MW29	MW30	MW31
Sampling Date		22-May-09	23-May-09	23-May-09	23-May-09	23-May-09
Consultant		Golder	Golder	Golder	Golder	Golder
PHC F1 (C6-C10)	750	-	-	-	-	-
PHC F1 (C6-C10) - BTEX	750	<100	<100	<100	<100	<100
PHC F2 (C10-C16)	150	<100	**4400**	**400**	<100	<100
PHC F3 (C16-C34)	500	<100	**4700**	<300	<100	<100
PHC F4 (C34-C50)	500	<100	**1200**	<300	<100	<100
Reached baseline at C50?	-	-	-	-	-	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-32	MW09-32	MW09-33	MW09-33	MW09-40
Lab ID		MW32	JXB813	MW33	JXB814	MW40
Sampling Date		22-May-09	3-Jun-19	22-May-09	3-Jun-19	22/05/09
Consultant		Golder	EXP	Golder	EXP	Golder
PHC F1 (C6-C10)	750	-	<25	-	<25	-
PHC F1 (C6-C10) - BTEX	750	<100	<25	<100	<25	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	110	<200	300	<200	<100
PHC F4 (C34-C50)	500	440	<200	**1100**	<200	<100
Reached baseline at C50?	-	-	YES	-	YES	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-41	MW09-41	MW09-41	MW09-42	MW09-42 (DUP)
Lab ID		MW41	GW-57906-071209-JB-002	JXB815	MW42	MW42-Duplicate 1
Sampling Date		22-May-09	7-Dec-09	3-Jun-19	22-May-09	22-May-09
Consultant		Golder	CRA	EXP	Golder	Golder
PHC F1 (C6-C10)	750	-	<100	<25	-	-
PHC F1 (C6-C10) - BTEX	750	<100	-	<25	<100	<100
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	**1200**	460	<200	<100	<100
PHC F4 (C34-C50)	500	**3900**	**1230**	<200	<100	<100
Reached baseline at C50?	-	-	-	YES	-	-
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-43	MW09-44	MW09-46	MW1-09	MW101
Lab ID		MW43	MW44	MW46	GW-57906-171209-JB010	KFZ374
Sampling Date		22-May-09	23-May-09	23-May-09	17-Dec-09	10-July-2019
Consultant		Golder	Golder	Golder	CRA	EXP
PHC F1 (C6-C10)	750	-	-	-	<100	<25
PHC F1 (C6-C10) - BTEX	750	<100	<100	<100	-	<25
PHC F2 (C10-C16)	150	<100	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<100	<100	<100	<250	<200
PHC F4 (C34-C50)	500	<100	<100	<100	<250	<200
Reached baseline at C50?	-	-	-	-	-	YES
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW1011	MW102	MW8-12	MW104
Lab ID		KFZ375	KFZ376	KFZ377	KFZ378
Sampling Date		10-July-2019	10-July-2019	10-July-2019	10-July-2019
Consultant		EXP	EXP	EXP	EXP
PHC F1 (C6-C10)	750	<25	<25	<25	<25
PHC F1 (C6-C10) - BTEX	750	<25	<25	<25	<25
PHC F2 (C10-C16)	150	<100	<100	<100	<100
PHC F3 (C16-C34)	500	<200	<200	<200	<200
PHC F4 (C34-C50)	500	<200	<200	<200	<200
Reached baseline at C50?	-	YES	YES	YES	YES
PHC F4 (C34-C50)-gravimetric	500	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW1-09	MW1-09	MW09-1	MW09-3	MW09-3 (DUP)	MW09-4	MW09-5	MW09-6	MW09-6	MW09-7	MW09-8
Lab ID		GW-57906-171209-JB-010	GW-57906-030210-JB-011	MW1	MW3	MW3-DUP3	MW4	MW5	MW6	MW6	MW7	MW8
Sampling Date		17-Dec-09	3-Feb-10	26-Feb-09	26-Feb-09	26-Feb-09	26-Feb-09	1-Mar-09	27-Feb-09	1-Mar-09	26-Feb-09	26-Feb-09
Consultant		CRA	CRA	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder	Golder
Acetone	130000	<20	<20	-	-	-	-	<10	-	<10	<10	<10
Benzene	430	<0.50	<0.50	<0.2	<0.2	<0.2	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1
Bromodichloromethane	85000	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
Bromoform	770	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
Bromomethane	56	<0.50	<1.0	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5
Carbon Tetrachloride	8.4	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
Chlorobenzene	630	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
Chloroform	22	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
Dibromochloromethane	82000	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	9600	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
1,3-Dichlorobenzene	9600	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
1,4-Dichlorobenzene	67	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
Dichlorodifluoromethane	4400	<1.0	<1.0	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	3100	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
1,2-Dichloroethane	12	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
1,1-Dichloroethylene	17	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
cis-1,2-Dichloroethylene	17	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
trans-1,2-Dichloroethylene	17	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
1,2-Dichloropropane	140	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
cis-1,3-Dichloropropene	45											
trans-1,3-Dichloropropene	45											
Ethylbenzene	2300	<0.50	<0.50	<0.2	<0.2	<0.2	<0.2	<0.1	<0.2	<0.1	<0.1	<0.1
Ethylene Dibromide (1,2-Dibromoethane)	0.83	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
Hexane (n)	520											
Methylene chloride (Dichloromethane)	5500	<0.50	<0.50	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5
Methyl ethyl ketone (2-Butanone)	1500000	<20	<20	-	-	-	-	<5	-	<5	<5	<5
Methyl Isobutyl Ketone	580000											
Methyl t-butyl ether (MTBE)	1400	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
Styrene	9100	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
1,1,1,2-Tetrachloroethane	28	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
1,1,2,2-Tetrachloroethane	15	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
Tetrachloroethylene	17	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
Toluene	18000	0.51	<0.50	<0.2	0.5	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1,1-Trichloroethane	6700	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
1,1,2-Trichloroethane	30	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
Trichloroethylene	17	<0.50	<0.50	-	-	-	-	<0.1	-	<0.1	<0.1	<0.1
Trichlorofluoromethane	2500	<1.0	<1.0	-	-	-	-	-	-	-	-	-
Vinyl Chloride	1.7	<0.50	<0.50	-	-	-	-	<0.2	-	<0.2	<0.2	<0.2
m-Xylene + p-Xylene	NV											
o-Xylene	NV											
Xylenes (total)	4200	<1.5	<1.5	<0.4	<0.4	<0.4	<0.4	<0.1	<0.4	<0.1	<0.1	<0.1

All groundwater concentrations reported in μg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-9	MW09-9	MW09-10	MW09-10	MW09-11	MW09-12	MW09-13	MW09-14	MW09-14	MW09-15	MW09-16
Lab ID		MW9	JXB808	MW10	MW10	MW11	MW12	MW13	MW14	JXB809	MW15	MW16
Sampling Date		26-Feb-09	3-Jun-19	27-Feb-09	1-Mar-09	27-Feb-09	27-Feb-09	26-Feb-09	26-Feb-09	3-Jun-19	26-Feb-09	26-Feb-09
Consultant		Golder	EXP	Golder	Golder	Golder	Golder	Golder	Golder	EXP	Golder	Golder
Acetone	130000	40	-	-	<10	-	-	<10	<10	-	<10	25
Benzene	430	<0.1	<0.20	<0.2	<0.1	<0.2	<0.2	<0.1	<0.1	<0.20	<0.1	<0.1/<0.2
Bromodichloromethane	85000	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Bromoform	770	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
Bromomethane	56	<0.5	-	-	<0.5	-	-	<0.5	<0.5	-	<0.5	<0.5
Carbon Tetrachloride	8.4	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Chlorobenzene	630	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Chloroform	22	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Dibromochloromethane	82000	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
1,2-Dichlorobenzene	9600	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
1,3-Dichlorobenzene	9600	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
1,4-Dichlorobenzene	67	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
Dichlorodifluoromethane	4400	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	3100	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
1,2-Dichloroethane	12	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
1,1-Dichloroethylene	17	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
cis-1,2-Dichloroethylene	17	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
trans-1,2-Dichloroethylene	17	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
1,2-Dichloropropane	140	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
cis-1,3-Dichloropropene	45											
trans-1,3-Dichloropropene	45											
Ethylbenzene	2300	<0.1	<0.20	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.20	<0.1	<0.1/<0.2
Ethylene Dibromide (1,2-Dibromoethane)	0.83	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
Hexane (n)	520											
Methylene chloride (Dichloromethane)	5500	<0.5	-	-	<0.5	-	-	<0.5	<0.5	-	<0.5	<0.5
Methyl ethyl ketone (2-Butanone)	1500000	<5	-	-	<5	-	-	<5	<5	-	<5	<5
Methyl Isobutyl Ketone	580000											
Methyl t-butyl ether (MTBE)	1400	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
Styrene	9100	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
1,1,1,2-Tetrachloroethane	28	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
1,1,2,2-Tetrachloroethane	15	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
Tetrachloroethylene	17	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Toluene	18000	<0.2	<0.20	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2/<0.2
1,1,1-Trichloroethane	6700	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
1,1,2-Trichloroethane	30	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
Trichloroethylene	17	<0.1	-	-	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1
Trichlorofluoromethane	2500	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	1.7	<0.2	-	-	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2
m-Xylene + p-Xylene	NV		<0.40							<0.40		
o-Xylene	NV		<0.20							<0.20		
Xylenes (total)	4200	<0.1	<0.40	<0.1	<0.1	<0.4	<0.4	<0.1	<0.1	<0.40	<0.1	<0.1/<0.4

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-19	MW09-20	MW09-21	MW09-22	MW09-22	MW09-222	MW09-23	MW09-23	MW09-24	MW09-25	MW09-26
Lab ID		MW19	GW-57906-071209-JB-004	MW21	MW22	JXB811	JXB818	MW23	JXB812	MW24	MW25	MW26
Sampling Date		26-Feb-09	7-Dec-09	26-Feb-09	22-May-09	3-Jun-19	3-Jun-19	22-May-09	3-Jun-19	22-May-09	22-May-09	22-May-09
Consultant		Golder	CRA	Golder	Golder	EXP	EXP	Golder	EXP	Golder	Golder	Golder
Acetone	130000	<10	<20	13	-	-	-	-	-	-	-	-
Benzene	430	<0.1	<0.50	<0.1	<0.2	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2
Bromodichloromethane	85000	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
Bromoform	770	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
Bromomethane	56	<0.5	<0.50	<0.5	-	-	-	-	-	-	-	-
Carbon Tetrachloride	8.4	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
Chlorobenzene	630	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
Chloroform	22	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
Dibromochloromethane	82000	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	9600	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	9600	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	67	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
Dichlorodifluoromethane	4400	-	<1.0	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	3100	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
1,2-Dichloroethane	12	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
1,1-Dichloroethylene	17	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethylene	17	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethylene	17	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
1,2-Dichloropropane	140	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	45											
trans-1,3-Dichloropropene	45											
Ethylbenzene	2300	<0.1	<0.50	<0.1	<0.2	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2
Ethylene Dibromide (1,2-Dibromoethane)	0.83	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
Hexane (n)	520											
Methylene chloride (Dichloromethane)	5500	<0.5	<0.50	<0.5	-	-	-	-	-	-	-	-
Methyl ethyl ketone (2-Butanone)	1500000	<5	<20	<5	-	-	-	-	-	-	-	-
Methyl Isobutyl Ketone	580000											
Methyl t-butyl ether (MTBE)	1400	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
Styrene	9100	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	28	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	15	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
Tetrachloroethylene	17	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
Toluene	18000	<0.2	0.51	0.2	<0.2	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.2
1,1,1-Trichloroethane	6700	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	30	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
Trichloroethylene	17	<0.1	<0.50	<0.1	-	-	-	-	-	-	-	-
Trichlorofluoromethane	2500	-	<1.0	-	-	-	-	-	-	-	-	-
Vinyl Chloride	1.7	<0.2	<0.50	<0.2	-	-	-	-	-	-	-	-
m-Xylene + p-Xylene	NV					<0.40	<0.40		<0.40			
o-Xylene	NV					<0.20	<0.20		<0.20			
Xylenes (total)	4200	<0.1	<1.5	<0.1	<0.4	<0.40	<0.40	<0.4	<0.40	<0.4	<0.4	<0.4

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-27	MW09-28	MW09-28	MW09-29	MW09-29	MW09-30	MW09-32	MW09-33	MW09-39	MW09-40	MW09-41
Lab ID		MW27	MW28	GW-57906-030210-JB-013	MW29	GW-57906-030210-JB-014	MW30	JXB813	JXB814	MW39	MW40	MW41
Sampling Date		22-May-09	23-May-09	4-Feb-10	23-May-09	4-Feb-10	23-May-09	3-Jun-19	3-Jun-19	22-May-09	22-May-09	22-May-09
Consultant		Golder	Golder	CRA	Golder	CRA	Golder	EXP	EXP	Golder	Golder	Golder
Acetone	130000	<10	<10	-	<10	-	<10	-	-	28	<20	12
Benzene	430	0.4	5.6	1.9	1.9	1.22	<0.1	<0.20	<0.20	<0.1	<0.2	0.1
Bromodichloromethane	85000	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
Bromoform	770	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
Bromomethane	56	<0.5	<0.5	-	<0.5	-	<0.5	-	-	<0.5	<1	<0.5
Carbon Tetrachloride	8.4	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
Chlorobenzene	630	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
Chloroform	22	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
Dibromochloromethane	82000	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
1,2-Dichlorobenzene	9600	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
1,3-Dichlorobenzene	9600	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
1,4-Dichlorobenzene	67	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
Dichlorodifluoromethane	4400	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	3100	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
1,2-Dichloroethane	12	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
1,1-Dichloroethylene	17	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
cis-1,2-Dichloroethylene	17	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
trans-1,2-Dichloroethylene	17	<0.1	<0.1	-	<0.1	<0.50	<0.1	-	-	<0.1	<0.2	<0.1
1,2-Dichloropropane	140	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
cis-1,3-Dichloropropene	45											
trans-1,3-Dichloropropene	45											
Ethylbenzene	2300	0.9	4.8	0.59	4.5	<0.50	<0.1	<0.20	<0.20	<0.1	<0.2	<0.1
Ethylene Dibromide (1,2-Dibromoethane)	0.83	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
Hexane (n)	520											
Methylene chloride (Dichloromethane)	5500	<0.5	<0.5	-	<0.5	-	<0.5	-	-	<0.5	<1	<0.5
Methyl ethyl ketone (2-Butanone)	1500000	<5	<5	-	<5	-	<5	-	-	<5	<10	<5
Methyl Isobutyl Ketone	580000											
Methyl t-butyl ether (MTBE)	1400	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
Styrene	9100	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
1,1,1,2-Tetrachloroethane	28	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
1,1,2,2-Tetrachloroethane	15	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
Tetrachloroethylene	17	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
Toluene	18000	0.3	1.1	<0.50	1.9	<0.50	<0.2	<0.20	<0.20	<0.2	<0.4	0.3
1,1,1-Trichloroethane	6700	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
1,1,2-Trichloroethane	30	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
Trichloroethylene	17	<0.1	<0.1	-	<0.1	-	<0.1	-	-	<0.1	<0.2	<0.1
Trichlorofluoromethane	2500	-	-	-	-	-	-	-	-	-	-	-
Vinyl Chloride	1.7	<0.2	<0.2	-	<0.2	-	<0.2	-	-	<0.2	<0.4	<0.2
m-Xylene + p-Xylene	NV							<0.40	<0.40			
o-Xylene	NV							<0.20	<0.20			
Xylenes (total)	4200	4.2	21	2.2	15	<1.5	<0.1	<0.40	<0.40	<0.1	<0.2	0.2

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-41	MW09-42	MW09-42 (DUP)	MW09-43	MW09-44	MW09-45
Lab ID		JXB815	MW42	MW42-Duplicate 1	MW43	MW44	MW45
Sampling Date		3-Jun-19	22-May-09	22-May-09	22-May-09	23-May-09	23-May-09
Consultant		EXP	Golder	Golder	Golder	Golder	Golder
Acetone	130000	-	19	<10	<10	<10	<10
Benzene	430	<0.20	<0.1	<0.1	<0.1	<0.1	<0.1
Bromodichloromethane	85000	-	<0.1	<0.1	<0.1	<0.1	<0.1
Bromoform	770	-	<0.2	<0.2	<0.2	<0.2	<0.2
Bromomethane	56	-	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	8.4	-	<0.1	<0.1	<0.1	<0.1	<0.1
Chlorobenzene	630	-	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	22	-	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromochloromethane	82000	-	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	9600	-	<0.2	<0.2	<0.2	<0.2	<0.2
1,3-Dichlorobenzene	9600	-	<0.2	<0.2	<0.2	<0.2	<0.2
1,4-Dichlorobenzene	67	-	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorodifluoromethane	4400	-	-	-	-	-	-
1,1-Dichloroethane	3100	-	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichloroethane	12	-	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethylene	17	-	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,2-Dichloroethylene	17	-	<0.1	<0.1	<0.1	<0.1	<0.1
trans-1,2-Dichloroethylene	17	-	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichloropropane	140	-	<0.1	<0.1	<0.1	<0.1	<0.1
cis-1,3-Dichloropropene	45						
trans-1,3-Dichloropropene	45						
Ethylbenzene	2300	<0.20	<0.1	<0.1	<0.1	<0.1	<0.1
Ethylene Dibromide (1,2-Dibromoethane)	0.83	-	<0.2	<0.2	<0.2	<0.2	<0.2
Hexane (n)	520						
Methylene chloride (Dichloromethane)	5500	-	<0.5	<0.5	<3	<0.5	<0.5
Methyl ethyl ketone (2-Butanone)	1500000	-	<5	<5	<5	<5	<5
Methyl Isobutyl Ketone	580000						
Methyl t-butyl ether (MTBE)	1400	-	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	9100	-	<0.2	<0.2	<0.2	<0.2	<0.2
1,1,1,2-Tetrachloroethane	28	-	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2,2-Tetrachloroethane	15	-	<0.2	<0.2	<0.2	<0.2	<0.2
Tetrachloroethylene	17	-	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	18000	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2
1,1,1-Trichloroethane	6700	-	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-Trichloroethane	30	-	<0.2	<0.2	<0.2	<0.2	<0.2
Trichloroethylene	17	-	<0.1	<0.1	<0.1	<0.1	<0.1
Trichlorofluoromethane	2500	-	-	-	-	-	-
Vinyl Chloride	1.7	-	<0.2	<0.2	<0.2	<0.2	<0.2
m-Xylene + p-Xylene	NV	<0.40					
o-Xylene	NV	<0.20					
Xylenes (total)	4200	<0.40	<0.1	<0.1	<0.1	<0.1	<0.1

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-46	MW101	MW1011	TRIP BANK
Lab ID		MW46	KFZ374	KFZ375	KFZ379
Sampling Date		23-May-09	10-Jul-19	10-Jul-19	NA
Consultant		Golder	EXP	EXP	EXP
Acetone	130000	<10	10	11	<10
Benzene	430	<0.1	<0.20	<0.20	<0.20
Bromodichloromethane	85000	<0.1	<0.50	<0.50	<0.50
Bromoform	770	<0.2	<1.0	<1.0	<1.0
Bromomethane	56	<0.5	<0.50	<0.50	<0.50
Carbon Tetrachloride	8.4	<0.1	<0.20	<0.20	<0.20
Chlorobenzene	630	<0.1	<0.20	<0.20	<0.20
Chloroform	22	<0.1	<0.20	<0.20	<0.20
Dibromochloromethane	82000	<0.2	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	9600	<0.2	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	9600	<0.2	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	67	<0.2	<0.50	<0.50	<0.50
Dichlorodifluoromethane	4400	-	<1.0	<1.0	<1.0
1,1-Dichloroethane	3100	<0.1	<0.20	<0.20	<0.20
1,2-Dichloroethane	12	<0.2	<0.50	<0.50	<0.50
1,1-Dichloroethylene	17	<0.1	<0.20	<0.20	<0.20
cis-1,2-Dichloroethylene	17	<0.1	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	17	<0.1	<0.50	<0.50	<0.50
1,2-Dichloropropane	140	<0.1	<0.20	<0.20	<0.20
cis-1,3-Dichloropropene	45		<0.30	<0.30	<0.30
trans-1,3-Dichloropropene	45		<0.40	<0.40	<0.40
Ethylbenzene	2300	<0.1	<0.20	<0.20	<0.20
Ethylene Dibromide (1,2-Dibromoethane)	0.83	<0.2	<0.20	<0.20	<0.20
Hexane (n)	520		<1.0	<1.0	<1.0
Methylene chloride (Dichloromethane)	5500	<0.5	<2.0	<2.0	<2.0
Methyl ethyl ketone (2-Butanone)	1500000	<5	<10	<10	<10
Methyl Isobutyl Ketone	580000		<5.0	<5.0	<5.0
Methyl t-butyl ether (MTBE)	1400	<0.2	<0.50	<0.50	<0.50
Styrene	9100	<0.2	<0.50	<0.50	<0.50
1,1,1,2-Tetrachloroethane	28	<0.1	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	15	<0.2	<0.50	<0.50	<0.50
Tetrachloroethylene	17	<0.1	<0.20	<0.20	<0.20
Toluene	18000	<0.2	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	6700	<0.1	<0.20	<0.20	<0.20
1,1,2-Trichloroethane	30	<0.2	<0.50	<0.50	<0.50
Trichloroethylene	17	<0.1	<0.20	<0.20	<0.20
Trichlorofluoromethane	2500	-	<0.50	<0.50	<0.50
Vinyl Chloride	1.7	<0.2	<0.20	<0.20	<0.20
m-Xylene + p-Xylene	NV		<0.20	<0.20	<0.20
o-Xylene	NV		<0.20	<0.20	<0.20
Xylenes (total)	4200	<0.1	<0.20	<0.20	<0.20

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-7	MW09-7 (DUP	MW09-7	MW09-8	MW09-9
Lab ID		MW7	MW7-DUP4	GW-57906-120310-JB	MW8	MW9
Sampling Date		26-Feb-09	26-Feb-09	12-Mar-10	27-Feb-09	26-Feb-09
Consultant		Golder	Golder	CRA	Golder	Golder
1,1'-Biphenyl	0.5	<0.5	<0.5	<0.40	<5	<50
Bis(2-chloroethyl)ether	5	<0.5	<0.5	<0.40	<5	<50
Bis(2-chloroisopropyl)ether	120					
Bis(2-ethylhexyl)phthalate	10	<2	<2	<2.0	<20	<200
p-Chloroaniline	10					
2-Chlorophenol	8.9	<0.3	<0.3	<0.30	<3	<30
3,3'-Dichlorobenzidine	0.5	<0.5	<0.5	<0.40	<5	<50
2,4-Dichlorophenol	20	<0.3	<0.3	<0.30	<3	<30
Diethyl Phthalate	38	<1	<1	<0.20	<10	<100
2,4-Dimethylphenol	59	<0.5	<0.5	<0.5	<5	<50
Dimethylphthalate	38	<1	<1	<0.20	<10	<100
2,4-Dinitrophenol	10	<6	<6	<1.0	<20	<600
2,4-Dinitrotoluene	5	<0.5	<0.5	<0.40	<5	<50
2,6-Dinitrotoluene	5					
2,4- & 2,6-Dinitrotoluene	5					
Pentachlorphenol	30	<1	<1	<0.5	<10	<100
Phenol	890	<0.5	<0.5	<0.5	<5	<50
1,2,4-Trichlorobenzene	70	<0.5	<0.5	<0.40	<5	<50
2,4,5-Trichlorophenol	8.9	<0.5	<0.5	<0.5	<5	<50
2,4,6-Trichlorophenol	2	<0.5	<0.5	<0.5	<5	<50

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-9	MW09-10	MW09-11	MW09-11	MW09-12
Lab ID		GW-57906-071209-JB-001	MW10	MW11	GW-57906-120310-JB-016	MW12
Sampling Date		7-Dec-09	27-Feb-09	27-Feb-09	12-Mar-10	27-Feb-09
Consultant		CRA	Golder	Golder	CRA	Golder
1,1'-Biphenyl	0.5	<0.40	<0.5	<0.5	<0.40	<0.5
Bis(2-chloroethyl)ether	5	<0.40	<0.5	<0.5	<0.40	<0.5
Bis(2-chloroisopropyl)ether	120					
Bis(2-ethylhexyl)phthalate	10	<2.0	<2	2	<2.0	2
p-Chloroaniline	10					
2-Chlorophenol	8.9	<0.30	<0.3	<0.3	<0.30	<0.3
3,3'-Dichlorobenzidine	0.5	<0.40	<0.5	<0.5	<0.40	<0.5
2,4-Dichlorophenol	20	<0.30	<0.3	<0.3	<0.30	<0.3
Diethyl Phthalate	38	0.48	<1	<1	<0.20	<1
2,4-Dimethylphenol	59	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethylphthalate	38	<0.20	<1	<1	<0.20	<1
2,4-Dinitrophenol	10	<1.0	<2	<2	<1.0	<2
2,4-Dinitrotoluene	5	<0.40	<0.5	<0.5	<0.40	<0.5
2,6-Dinitrotoluene	5					
2,4- & 2,6-Dinitrotoluene	5					
Pentachlorphenol	30	<0.5	<1	<1	<0.5	<1
Phenol	890	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	70	-	<0.5	<0.5	<0.40	<0.5
2,4,5-Trichlorophenol	8.9	<0.5	<0.5	<0.5	<0.5	<0.5
2,4,6-Trichlorophenol	2	<0.5	<0.5	<0.5	<0.5	<0.5

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-12	MW09-19	MW09-20	MW09-21	MW09-39
Lab ID		GW-57906-120310-JB-017	MW19	GW-57906-071209-JB-004	MW21	MW39
Sampling Date		12-Mar-10	27-Feb-09	7-Dec-09	27-Feb-09	22-May-09
Consultant		CRA	Golder	CRA	Golder	Golder
1,1'-Biphenyl	0.5	<0.40	<5	<0.40	<0.5	-
Bis(2-chloroethyl)ether	5	<0.40	<5	<0.40	<0.5	<50
Bis(2-chloroisopropyl)ether	120					
Bis(2-ethylhexyl)phthalate	10	<2.0	<20	<2.0	<2	<100
p-Chloroaniline	10					
2-Chlorophenol	8.9	<0.30	<3	<0.30	<0.3	<10
3,3'-Dichlorobenzidine	0.5	<0.40	<5	<0.40	<0.5	<50
2,4-Dichlorophenol	20	<0.30	<3	<0.30	<0.3	<10
Diethyl Phthalate	38	<0.20	<10	<0.20	<1	<10
2,4-Dimethylphenol	59	<0.5	<5	<0.5	<0.5	<50
Dimethylphthalate	38	<0.20	<10	<0.20	<1	<10
2,4-Dinitrophenol	10	<1.0	<20	<1.0	<2	<200
2,4-Dinitrotoluene	5	<0.40	<5	<0.40	<0.5	<30
2,6-Dinitrotoluene	5					
2,4- & 2,6-Dinitrotoluene	5					
Pentachlorphenol	30	<0.5	<10	<0.5	<1	<10
Phenol	890	<0.5	<5	<0.5	<0.5	-
1,2,4-Trichlorobenzene	70	<0.40	<5	-	<0.5	<10
2,4,5-Trichlorophenol	8.9	<0.5	<5	<0.5	<0.5	<50
2,4,6-Trichlorophenol	2	<0.5	<5	<0.5	<0.5	<50

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 2: Full Depth Generic SCS in a Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-41	MW09-42	MW09-43
Lab ID		MW41	MW42	MW43
Sampling Date		22-May-09	22-May-09	22-May-09
Consultant		Golder	Golder	Golder
1,1'-Biphenyl	0.5	-	-	-
Bis(2-chloroethyl)ether	5	<1	<0.5	<1
Bis(2-chloroisopropyl)ether	120			
Bis(2-ethylhexyl)phthalate	10	<2	<1	<2
p-Chloroaniline	10			
2-Chlorophenol	8.9	<0.2	<0.1	<0.2
3,3'-Dichlorobenzidine	0.5	<1	<0.5	<1
2,4-Dichlorophenol	20	<0.2	<0.1	<0.2
Diethyl Phthalate	38	<0.2	0.3	<0.2
2,4-Dimethylphenol	59	<1	<0.5	<1
Dimethylphthalate	38	<0.2	<0.1	<0.2
2,4-Dinitrophenol	10	<4	<2	<4
2,4-Dinitrotoluene	5	<0.5	<0.3	<0.5
2,6-Dinitrotoluene	5			
2,4- & 2,6-Dinitrotoluene	5			
Pentachlorphenol	30	<0.2	<0.1	<0.2
Phenol	890	-	-	-
1,2,4-Trichlorobenzene	70	<0.2	<0.1	<0.2
2,4,5-Trichlorophenol	8.9	<1	<0.5	<1
2,4,6-Trichlorophenol	2	<1	<0.5	<1

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-1	MW09-3	MW09-3 (DUP)	MW09-4	MW09-5	MW09-6	MW09-7
Lab ID		MW1	MW3	MW3-DUP3	MW4	MW5	MW6	MW7
Sampling Date		27-Feb-09	26-Feb-09	26-Feb-09	26-Feb-09	27-Feb-09	27-Feb-09	26-Feb-09
Consultant		Golder	Golder	Golder	Golder	Golder	Golder	Golder
Antimony	20000	<2.5	0.9	-	<3	0.7	1.3	0.8
Arsenic	1900	<5	<1	-	<5	<1	3	<1
Barium	29000	<25	33	-	<30	38	20	13
Beryllium	67	<2.5	<0.5	-	<3	<0.5	<0.5	<0.5
Boron (Total)	45000	510	50	-	520	720	550	210
Cadmium	2.7	<0.5	<0.1	-	<0.5	<0.1	<0.1	<0.1
Chromium (total)	810	<25	<5	-	<30	<5	<5	<5
Chromium VI	140	<5	<5	-	<5	<5	<5	-
Cobalt	66	4.3	14	-	18	31	50	15
Copper	87	8	<1	-	5	1	2	<5
Lead	25	<2.5	<0.5	-	<3	<0.5	<0.5	<0.5
Mercury	2.8	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1
Molybdenum	9200	24	340	-	22	14	27	15
Nickel	490	17	5	-	10	19	9	6
Selenium	63	<10	<1	-	<10	3	<1	<1
Silver	1.5	<0.5	<0.1	-	<0.5	<0.1	<0.1	<0.1
Thallium	510	<0.25	<0.05	-	<0.3	<0.05	0.06	<0.05
Uranium	420	32	1.3	-	22	20	11	21
Vanadium	250	<5	2	-	<5	<1	1	2
Zinc	1100	<100	<5	-	<30	<5	<5	<30
Sodium	2300000	480000	21000	-	420000	360000	190000	330000
Chloride	2300000							
Free Cyanide	66	-	<2	<2	<2	<2	<2	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-8	MW09-9	MW09-10	MW09-13	MW09-14	MW09-14	MW09-144 (DUP of MW09-14)
Lab ID		MW8	MW9	MW10	MW13	MW14	JXB809	JXB810
Sampling Date		26-Feb-09	26-Feb-09	27-Feb-09	26-Feb-09	26-Feb-09	3-Jun-19	3-Jun-19
Consultant		Golder	Golder	Golder	Golder	Golder	EXP	EXP
Antimony	20000	0.6	<3	<0.5	1.4	4	-	-
Arsenic	1900	<1	<5	1	3	<5	-	-
Barium	29000	14	<30	20	11	58	-	-
Beryllium	67	<0.5	<3	<0.5	<0.5	<3	-	-
Boron (Total)	45000	450	450	760	380	430	-	-
Cadmium	2.7	<0.1	<0.5	<0.1	<0.1	<0.5	-	-
Chromium (total)	810	<5	<30	<5	<5	<30	-	-
Chromium VI	140	-	-	-	-	-	-	-
Cobalt	66	7.3	11	3.7	16	25	-	-
Copper	87	6	5	3	<5	<5	-	-
Lead	25	<0.5	<3	<0.5	<0.5	<3	-	-
Mercury	2.8	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Molybdenum	9200	13	10	19	19	44	-	-
Nickel	490	11	12	8	9	14	-	-
Selenium	63	5	<10	3	3	<10	-	-
Silver	1.5	<0.1	<0.5	<0.1	<0.1	<0.5	-	-
Thallium	510	0.06	0.<3	0.09	0.06	<0.3	-	-
Uranium	420	31	32	11	21	13	-	-
Vanadium	250	1	<5	1	2	<5	-	-
Zinc	1100	9	<100	<5	<30	<30	-	-
Sodium	2300000	500000	440000	340000	310000	550000	360000	350000
Chloride	2300000						180000	180000
Free Cyanide	66	-	-	-	-	-	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-15	MW09-15 (DUP)	MW09-15	MW09-16	MW09-16 (DUP)	MW09-16	MW09-17
Lab ID		MW15	MW15-DUP1	GW-57906-120310-JB-020	MW16	MW16-DUP2	GW-57906-071209-JB-005	MW17
Sampling Date		26-Feb-09	26-Feb-09	12-Mar-10	26-Feb-09	26-Feb-09	7-Dec-09	26-Feb-09
Consultant		Golder	Golder	CRA	Golder	Golder	CRA	Golder
Antimony	20000	0.5	0.05	-	<0.5	<0.5	-	<3
Arsenic	1900	2	<1	-	4	4	-	<5
Barium	29000	19	18	-	36	38	-	32
Beryllium	67	<0.5	<0.5	-	<0.5	<0.5	-	<3
Boron (Total)	45000	490	510	-	220	220	-	490
Cadmium	2.7	<0.1	<0.1	-	0.2	0.2	-	<0.5
Chromium (total)	810	<5	<5	-	5	6	-	<30
Chromium VI	140	-	-	-	-	-	-	<5
Cobalt	66	19	19	-	24	26	-	29
Copper	87	<1	4	-	15	18	-	<5
Lead	25	<1/	<0.5	-	12	12	<1	<3
Mercury	2.8	<1.5	-	<0.02	<0.1	<0.1	-	<0.1
Molybdenum	9200	17	19	-	13	12	-	22
Nickel	490	10	11	-	17	19	-	20
Selenium	63	<1	<1	-	3	3	-	<10
Silver	1.5	<0.1	<0.1	-	0.2	0.2	-	<0.5
Thallium	510	0.05	0.07	-	0.14	0.144	-	<0.3
Uranium	420	15	16	-	23	23	-	30
Vanadium	250	2	1	-	8	10	-	<5
Zinc	1100	<5	<5	-	29	30	-	<100
Sodium	2300000	300000	340000	-	560000	580000	-	580000
Chloride	2300000							
Free Cyanide	66	-	-	-	-	-	-	<2

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-18	MW09-19	MW09-20	MW09-21	MW09-21 (DUP)	MW09-22	MW09-30
Lab ID		MW18	MW19	GW-57906-071209-JB-004	MW21	MW21-DUP1	JXB811	MW30
Sampling Date		26-Feb-09	26-Feb-09	7-Dec-09	26-Feb-09	26-Feb-09	3-Jun-19	23-May-09
Consultant		Golder	Golder	CRA	Golder	Golder	EXP	Golder
Antimony	20000	<3	0.7	<5.0	<3	<3	-	<0.5
Arsenic	1900	<5	<1	2.4	<5	<5	-	<1
Barium	29000	<30	52	<10	190	200	-	18
Beryllium	67	<3	<0.5	<1.0	<3	<3	-	<0.5
Boron (Total)	45000	600	330	228	240	260	-	750
Cadmium	2.7	1.1	<0.1	<0.10	<0.5	<0.5	-	0.2
Chromium (total)	810	<30	<5	3.9	<30	<30	-	<5
Chromium VI	140	<5	<5	<10			-	
Cobalt	66	11	1.9	10.5	21	23	-	11
Copper	87	<5	1	6.4	<5	<5	-	9
Lead	25	<3	0.6	<1.0	<3	<3	-	3
Mercury	2.8	<0.1	<0.1	<0.02	<0.1	<0.1	-	
Molybdenum	9200	19	10	5.2	43	31	-	8
Nickel	490	16	9	20.7	13	12	-	6
Selenium	63	<10	3	<5.0	<10	<10	-	<2
Silver	1.5	<0.5	<0.1	<0.10	<0.5	<0.5	-	<0.1
Thallium	510	<0.3	<0.05	<0.30	<0.3	<0.3	-	0.08
Uranium	420	48	21	-	19	20	-	
Vanadium	250	<5	1	1.9	<5	<5	-	<1
Zinc	1100	<100	<25	8	<30	<30	-	20
Sodium	2300000	540000	270000	643000	340000	340000	260000	370000
Chloride	2300000						130000	
Free Cyanide	66	<2	<2	-	<2	-	-	

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-33	MW09-39	MW09-40	MW09-41	MW09-42	MW09-42	MW09-43
Lab ID		JXB814	MW39	MW40	MW41	MW42	MW42-Duplicate 1	MW43
Sampling Date		3-Jun-19	22-May-09	22-May-09	22-May-09	22-May-09	22-May-09	22-May-09
Consultant		EXP	Golder	Golder	Golder	Golder	Golder	Golder
Antimony	20000	-	1.6	<0.5	1.2	1.1	1	0.8
Arsenic	1900	-	<1	<1	<1	<1	<1	<1
Barium	29000	-	12	48	15	12	12	19
Beryllium	67	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron (Total)	45000	-	450	260	480	450	440	300
Cadmium	2.7	-	0.2	<0.1	0.2	<0.1	<0.1	0.2
Chromium (total)	810	-	<5	<5	<5	<5	<5	<5
Chromium VI	140	-	<5			<5	<5	<5
Cobalt	66	-	21	4.8	18	15	15	8.4
Copper	87	-	<5	<5	<5	<5	<5	<5
Lead	25	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Mercury	2.8	-				<0.1	<0.1	<0.1
Molybdenum	9200	-	8	100	15	7	7	7
Nickel	490	-	18	35	19	14	14	8
Selenium	63	-	3	2	3	3	3	2
Silver	1.5	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Thallium	510	-	0.06	0.05	0.08	<0.05	<0.05	<0.05
Uranium	420	-	41	34	22	38	38	38
Vanadium	250	-	2	<1	2	2	2	2
Zinc	1100	-	<30	5	<30	<30	<30	<30
Sodium	2300000	62000	500000	500000	400000	420000	410000	480000
Chloride	2300000	19000						
Free Cyanide	66	-	<2	<2	<2	<2	-	<2

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-44	MW09-45	MW09-46	MW1-09	MW1-09	MW4-10	BH-06
Lab ID		MW44	MW45	MW46	GW-57906-171209-JB-010	GW-57906-030210-JB-011	GW-57906-210410-JB-021	JXB816
Sampling Date		23-May-09	23-May-09	23-May-09	17-Dec-09	3-Feb-10	21-Apr-10	3-Jun-19
Consultant		Golder	Golder	Golder	CRA	CRA	CRA	EXP
Antimony	20000	1.2	0.9	0.6	<5	-	-	<0.50
Arsenic	1900	<1	<1	<1	1.7	-	-	<1.0
Barium	29000	30	13	14	1.7	-	-	6.3
Beryllium	67	<0.5	<0.5	<0.5	<1	-	-	<0.50
Boron (Total)	45000	330	590	410	591	-	-	480
Cadmium	2.7	0.1	<0.1	<0.1	<0.10	-	-	<0.10
Chromium (total)	810	<5	<5	<5	1.6	-	-	<5.0
Chromium VI	140	<5	<5	<5	<10	-	-	-
Cobalt	66	18	15	13	16.2	-	-	<0.50
Copper	87	<5	<5	<5	48.9	2.7	-	1.2
Lead	25	<0.5	<0.5	<0.5	<1	-	-	<0.50
Mercury	2.8	<0.1	<0.1	<0.1	<0.02	-	<0.02	-
Molybdenum	9200	7	7	5	14.6	-	-	2.2
Nickel	490	8	9	7	34.7	-	-	1.9
Selenium	63	2	2	<1	<5	-	-	<2.0
Silver	1.5	<0.1	<0.1	<0.1	<0.10	-	-	<0.10
Thallium	510	<0.05	0.07	<0.05	0.31	-	-	<0.050
Uranium	420	51	36	27	-	-	-	57
Vanadium	250	1	1	1	<1	-	-	<0.50
Zinc	1100	<30	<30	<30	9.3	-	-	<5.0
Sodium	2300000	530000	520000	340000	121000	-	-	570000
Chloride	2300000							-
Free Cyanide	66	<2	-	<2	-	-	-	

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW101	MW1011
Lab ID		KFZ374	KFZ375
Sampling Date		10-July-2019	10-July-2019
Consultant		EXP	EXP
Antimony	20000	0.82	0.72
Arsenic	1900	1.7	2
Barium	29000	10	11
Beryllium	67	<0.50	<0.50
Boron (Total)	45000	390	370
Cadmium	2.7	<0.10	<0.10
Chromium (total)	810	<5.0	<5.0
Chromium VI	140	<0.50	-
Cobalt	66	5.3	5.3
Copper	87	<1.0	<1.0
Lead	25	<0.50	<0.50
Mercury	2.8	<0.1	-
Molybdenum	9200	10	9.7
Nickel	490	10	10
Selenium	63	2.1	<2.0
Silver	1.5	<0.10	<0.10
Thallium	510	0.062	<0.050
Uranium	420	30	27
Vanadium	250	0.6	0.57
Zinc	1100	<5.0	<5.0
Sodium	2300000	-	-
Chloride	2300000	-	-
Free Cyanide	66	-	-

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) S

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW3-10	MW09-6	MW09-7	MW09-7 (DUP)	MW09-7
Lab ID		GW-57906-043010-SP-001	MW6	MW7	MW7-DUP4	GW-57906-120310-JB
Sampling Date		30-Apr-10	27-Feb-09	26-Feb-09	26-Feb-09	12-Mar-10
Consultant		CRA	Golder	Golder	Golder	CRA
Acenaphthene	1700	-	<0.05	<0.2	<0.2	<0.020
Acenaphthylene	1.8	-	<0.05	<0.2	<0.2	<0.020
Anthracene	2.4	-	<0.05	<0.2	<0.2	<0.020
Benzo(a)anthracene	4.7	-	0.07	<0.2	<0.2	<0.020
Benzo(a)pyrene	0.81	-	<0.01	<0.2	<0.2	<0.005
Benzo(b)fluoranthene	0.75	-	<0.05	<0.2	<0.2	<0.020
Benzo(ghi)perylene	0.2	-	<0.1	<0.2	<0.2	<0.020
Benzo(k)fluoranthene	0.4	-	<0.05	<0.2	<0.2	<0.020
Chrysene	1	-	0.05	<0.2	<0.2	<0.020
Dibenz(a,h)anthracene	0.52	-	<0.1	<0.2	<0.2	<0.020
Fluoranthene	130	-	<0.05	<0.2	<0.2	<0.020
Fluorene	400	-	<0.05	<0.2	<0.2	<0.020
Indeno(1,2,3-cd)pyrene	0.2	-	<0.1	<0.2	<0.2	<0.020
1-Methylnaphthalene	1800	-	0.06	<0.2	<0.2	<0.020
2-Methylnaphthalene	1800	-	0.06	<0.2	<0.2	<0.020
1&2-Methylnaphthalene	1800					
Naphthalene	6400	-	0.29	<0.2	<0.2	<0.020
Phenanthrene	580	-	0.12	<0.2	<0.2	<0.020
Pyrene	68	0.174	<0.05	<0.2	<0.2	<0.020

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-8	MW09-9	MW09-9	MW09-10	MW09-10
Lab ID		MW8	MW9	GW-57906-071209-JB-001	MW10	GW-57906-030210-JB-012
Sampling Date		27-Feb-09	26-Feb-09	7-Dec-09	27-Feb-09	4-Feb-10
Consultant		Golder	Golder	CRA	Golder	CRA
Acenaphthene	1700	<2	<20	<0.020	<0.2	<0.020
Acenaphthylene	1.8	<2	<20	<0.020	<0.2	<0.020
Anthracene	2.4	<2	<20	<0.020	<0.2	<0.020
Benzo(a)anthracene	4.7	<2	<20	<0.020	0.5	<0.020
Benzo(a)pyrene	0.81	<2	<20	<0.005	<0.2	<0.005
Benzo(b)fluoranthene	0.75	<2	<20	<0.020	<0.2	<0.020
Benzo(ghi)perylene	0.2	<2	<20	<0.020	<0.2	<0.020
Benzo(k)fluoranthene	0.4	<2	<20	<0.020	<0.2	<0.020
Chrysene	1	<2	<20	<0.020	0.4	<0.020
Dibenz(a,h)anthracene	0.52	<2	<20	<0.020	<0.2	<0.020
Fluoranthene	130	<2	<20	<0.020	<0.2	<0.020
Fluorene	400	<2	<20	<0.020	<0.2	<0.020
Indeno(1,2,3-cd)pyrene	0.2	<2	<20	<0.020	<0.2	<0.020
1-Methylnaphthalene	1800	<2	<20	<0.020	0.2	<0.020
2-Methylnaphthalene	1800	<2	<20	<0.020	0.3	<0.020
1&2-Methylnaphthalene	1800					
Naphthalene	6400	<2	<20	<0.020	0.3	<0.020
Phenanthrene	580	<2	<20	<0.020	0.8	<0.020
Pyrene	68	<2	<20	<0.020	<0.2	<0.020

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-11	MW09-11	MW09-12	MW09-12	MW09-14
Lab ID		MW11	GW-57906-120310-JB-016	MW12	GW-57906-120310-JB-017	MW14
Sampling Date		27-Feb-09	12-Mar-10	27-Feb-09	12-Mar-10	26-Feb-09
Consultant		Golder	CRA	Golder	CRA	Golder
Acenaphthene	1700	<0.2	<0.020	<0.2	<0.020	<10
Acenaphthylene	1.8	<0.2	<0.020	<0.2	<0.020	<10
Anthracene	2.4	<0.2	<0.020	<0.2	<0.020	<10
Benzo(a)anthracene	4.7	<0.2	<0.020	<0.2	<0.020	<10
Benzo(a)pyrene	0.81	<0.2	<0.005	<0.2	<0.005	<2
Benzo(b)fluoranthene	0.75	<0.2	<0.020	<0.2	<0.020	<10
Benzo(ghi)perylene	0.2	<0.2	<0.020	<0.2	<0.020	<20
Benzo(k)fluoranthene	0.4	<0.2	<0.020	<0.2	<0.020	<10
Chrysene	1	<0.2	<0.020	<0.2	<0.020	<10
Dibenz(a,h)anthracene	0.52	<0.2	<0.020	<0.2	<0.020	<20
Fluoranthene	130	<0.2	<0.020	0.3	<0.020	<10
Fluorene	400	<0.2	<0.020	<0.2	<0.020	<10
Indeno(1,2,3-cd)pyrene	0.2	<0.2	<0.020	<0.2	<0.020	<20
1-Methylnaphthalene	1800	<0.2	<0.020	<0.2	<0.020	<10
2-Methylnaphthalene	1800	<0.2	<0.020	<0.2	<0.020	<10
1&2-Methylnaphthalene	1800					
Naphthalene	6400	0.3	<0.020	<0.2	<0.020	<10
Phenanthrene	580	0.8	<0.020	0.2	<0.020	<10
Pyrene	68	<0.2	<0.020	0.2	<0.020	<10

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-19	MW09-20	MW09-21	MW09-21	MW09-39
Lab ID		MW19	GW-57906-071209-JB-004	MW21	GW-57906-091209-JB-009	MW39
Sampling Date		27-Feb-09	7-Dec-09	27-Feb-09	9-Dec-09	22-May-09
Consultant		Golder	CRA	Golder	CRA	Golder
Acenaphthene	1700	<2	<0.020	<0.2	<0.020	<20
Acenaphthylene	1.8	<2	<0.020	<0.2	<0.020	<20
Anthracene	2.4	<2	<0.020	<0.2	<0.020	<5
Benzo(a)anthracene	4.7	<2	<0.020	0.5	<0.020	<5
Benzo(a)pyrene	0.81	<2	<0.005	0.6	0.0059	<1
Benzo(b)fluoranthene	0.75	<2	<0.020	**0.9**	<0.020	<5
Benzo(ghi)perylene	0.2	<2	<0.020	<0.2	<0.020	<5
Benzo(k)fluoranthene	0.4	<2	<0.020	0.4	<0.020	<5
Chrysene	1	<2	<0.020	0.7	<0.020	<5
Dibenz(a,h)anthracene	0.52	<2	<0.020	<0.2	<0.020	<10
Fluoranthene	130	3	<0.020	1.5	<0.020	<20
Fluorene	400	<2	<0.020	<0.2	<0.020	<20
Indeno(1,2,3-cd)pyrene	0.2	<2	<0.020	<0.2	<0.020	<10
1-Methylnaphthalene	1800	<2	<0.020	0.6	<0.020	<20
2-Methylnaphthalene	1800	<2	<0.020	0.6	<0.020	<20
1&2-Methylnaphthalene	1800					
Naphthalene	6400	<2	<0.020	0.7	<0.020	<20
Phenanthrene	580	<2	<0.020	1.1	<0.020	<20
Pyrene	68	2	<0.020	1.1	<0.020	<5

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	MW09-41	MW09-42	MW09-43	MW09-43	BH-06
Lab ID		MW41	MW42	MW43	GW-57906-091209-JB-008	JXB816
Sampling Date		22-May-09	22-May-09	22-May-09	9-Dec-09	3-Jun-19
Consultant		Golder	Golder	Golder	CRA	EXP
Acenaphthene	1700	<0.4	<0.2	<0.4	<0.020	<0.050
Acenaphthylene	1.8	<0.4	<0.2	<0.4	<0.020	<0.050
Anthracene	2.4	<0.1	<0.05	0.1	<0.020	<0.050
Benzo(a)anthracene	4.7	<0.1	<0.05	0.6	<0.020	<0.050
Benzo(a)pyrene	0.81	<0.02	<0.01	**0.86**	<0.005	<0.010
Benzo(b)fluoranthene	0.75	<0.1	<0.05	**1.6**	<0.020	<0.050
Benzo(ghi)perylene	0.2	<0.1	<0.05	**0.4**	<0.020	<0.050
Benzo(k)fluoranthene	0.4	<0.1	<0.05	**0.5**	<0.020	<0.050
Chrysene	1	<0.1	<0.05	0.7	<0.020	<0.050
Dibenz(a,h)anthracene	0.52	<0.2	<0.1	<0.2	<0.020	<0.050
Fluoranthene	130	<0.4	<0.2	1.2	<0.020	<0.050
Fluorene	400	<0.4	<0.2	<0.4	<0.020	<0.050
Indeno(1,2,3-cd)pyrene	0.2	<0.2	<0.1	**0.4**	<0.020	<0.050
1-Methylnaphthalene	1800	<0.4	<0.2	0.5	<0.020	<0.050
2-Methylnaphthalene	1800	<0.4	<0.2	0.6	<0.020	<0.050
1&2-Methylnaphthalene	1800					<0.071
Naphthalene	6400	<0.4	<0.2	0.4	<0.020	<0.050
Phenanthrene	580	<0.4	<0.2	1	<0.020	<0.030
Pyrene	68	<0.1	<0.05	1.2	<0.020	<0.050

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 3: Full Depth Generic SCS in a Non-Potable Groundwater Condition All Types of Land Use (medium/fine textured soil)	BH-066	MW101
Lab ID		JXB817	KHS539
Sampling Date		3-Jun-19	10-July-2019
Consultant		EXP	EXP
Acenaphthene	1700	<0.050	<0.050
Acenaphthylene	1.8	<0.050	<0.050
Anthracene	2.4	<0.050	<0.050
Benzo(a)anthracene	4.7	<0.050	<0.050
Benzo(a)pyrene	0.81	<0.010	<0.010
Benzo(b)fluoranthene	0.75	<0.050	<0.050
Benzo(ghi)perylene	0.2	<0.050	<0.050
Benzo(k)fluoranthene	0.4	<0.050	<0.050
Chrysene	1	<0.050	<0.050
Dibenz(a,h)anthracene	0.52	<0.050	<0.050
Fluoranthene	130	<0.050	<0.050
Fluorene	400	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	0.2	<0.050	<0.050
1-Methylnaphthalene	1800	<0.050	<0.050
2-Methylnaphthalene	1800	<0.050	<0.050
1&2-Methylnaphthalene	1800	<0.071	-
Naphthalene	6400	<0.050	<0.050
Phenanthrene	580	<0.030	<0.030
Pyrene	68	<0.050	<0.050

All groundwater concentrations reported in µg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Sample ID	MOECC (2011) Table 1: Full Depth Background SCS All Types of Land Use (groundwater)	MW09-18	MW09-19	MW09-20	MW09-21
Lab ID		MW18	MW19	GW-57906-071209-JB-004	MW21
Sampling Date		26-Feb-09	27-Feb-09	7-Dec-09	26-Feb-09
Consultant		Golder	Golder	CRA	Golder
Total Polychlorinated Biphenyls	0.2	<0.05	<0.05	<0.02	<0.05

All groundwater concentrations reported in μg/L.
'<' = Parameter below detection limit, as indicated
'NV'= No value
Bold Concentration exceeds MECP (2011) SCS.
Non-detect but detection limit exceeds the MECP (2011) SCS.

Appendix E – Certificates of Analysis

Your P.O. #: HAM-ENV
Your Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your C.O.C. #: 723423-06-01, 723423-04-01

Attention: Stephanie Hsia

exp Services Inc
Hamilton Branch
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/09
Report #: R5790280
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: B9H7557
Received: 2019/06/27, 15:30

Sample Matrix: Soil
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Hot Water Extractable Boron	3	2019/06/29	2019/07/02	CAM SOP-00408	R153 Ana. Prot. 2011
Free (WAD) Cyanide	3	2019/07/02	2019/07/03	CAM SOP-00457	OMOE E3015 m
Conductivity	13	2019/07/02	2019/07/02	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	3	2019/06/29	2019/07/03	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	2	N/A	2019/06/30	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	1	N/A	2019/07/02	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	1	N/A	2019/07/07	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	3	2019/07/02	2019/07/03	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2019/07/04	2019/07/04	CAM SOP-00316	CCME CWS m
Strong Acid Leachable Metals by ICPMS	3	2019/06/29	2019/07/02	CAM SOP-00447	EPA 6020B m
Moisture	6	N/A	2019/06/28	CAM SOP-00445	Carter 2nd ed 51.2 m
Moisture	1	N/A	2019/07/04	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT	3	2019/06/28	2019/06/28	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	13	N/A	2019/07/03	CAM SOP-00102	EPA 6010C

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

Your P.O. #: HAM-ENV
Your Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your C.O.C. #: 723423-06-01, 723423-04-01

Attention: Stephanie Hsia

exp Services Inc
Hamilton Branch
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/09
Report #: R5790280
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: B9H7557
Received: 2019/06/27, 15:30

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) Soils are reported on a dry weight basis unless otherwise specified.
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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.
Christine Gripton, Senior Project Manager
Email: Christine.Gripton@bvlabs.com
Phone# (519)652-9444

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BV Labs 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.

BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

RESULTS OF ANALYSES OF SOIL

BV Labs ID		KDC022	KDC023			KDC024	KDC025		
Sampling Date		2019/06/25 11:30	2019/06/25 11:30			2019/06/25 12:30	2019/06/25 12:30		
COC Number		723423-06-01	723423-06-01			723423-06-01	723423-06-01		
	UNITS	**BH102-SS2**	**BH122-SS2**	**RDL**	**QC Batch**	**BH105-SS4**	**BH155-SS4**	**RDL**	**QC Batch**
Calculated Parameters									
Sodium Adsorption Ratio	N/A					0.94	0.90		6201339
Inorganics									
Conductivity	mS/cm					2.9	3.4	0.002	6206364
Moisture	%	19	22	1.0	6203238	22	21	1.0	6202782
Available (CaCl2) pH	pH					7.94	7.91		6202898
WAD Cyanide (Free)	ug/g					<0.01	<0.01	0.01	6206238

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		KDC026			KDC027		KDC028		
Sampling Date		2019/06/25 13:30			2019/06/25 16:30		2019/06/25 16:30		
COC Number		723423-06-01			723423-06-01		723423-06-01		
	UNITS	**BH106-SS3**	**RDL**	**QC Batch**	**BH108-SS3**	**QC Batch**	**BH108-SS5**	**RDL**	**QC Batch**
Calculated Parameters									
Sodium Adsorption Ratio	N/A	1.2		6202069					
Inorganics									
Conductivity	mS/cm	0.56	0.002	6206364					
Moisture	%	22	1.0	6202782	20	6203238	23	1.0	6211775
Available (CaCl2) pH	pH	7.86		6202898					
WAD Cyanide (Free)	ug/g	<0.01	0.01	6206238					

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		KDC029	KDC030	KDC031		KDC031		
Sampling Date		2019/06/25 14:00	2019/06/25 15:00	2019/06/26 08:00		2019/06/26 08:00		
COC Number		723423-06-01	723423-06-01	723423-06-01		723423-06-01		
	UNITS	**BH109-SS2**	**BH110-SS2**	**BH111-SS3**	**QC Batch**	**BH111-SS3 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Sodium Adsorption Ratio	N/A	1.7	2.2	0.70	6202069			
Inorganics								
Conductivity	mS/cm	0.66	0.50	0.37	6206364	0.36	0.002	6206364

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

RESULTS OF ANALYSES OF SOIL

BV Labs ID		KDC034	KDC035	KDC036	KDC037	KDC038	KDC039		
Sampling Date		2019/06/26 08:30	2019/06/26 09:00	2019/06/26 09:30	2019/06/26 10:00	2019/06/26 10:30	2019/06/25 14:30		
COC Number		723423-04-01	723423-04-01	723423-04-01	723423-04-01	723423-04-01	723423-04-01		
	UNITS	**BH112-SS2**	**BH113-SS2**	**BH114-SS1**	**BH115-SS3**	**BH116-SS2**	**BH117-SS2**	**RDL**	**QC Batch**
Calculated Parameters									
Sodium Adsorption Ratio	N/A	2.0	1.6	3.1	1.1	1.4	1.8		6202069
Inorganics									
Conductivity	mS/cm	0.66	1.3	0.64	1.0	1.1	0.88	0.002	6206364

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs ID		KDC040		
Sampling Date		2019/06/25 14:00		
COC Number		723423-04-01		
	UNITS	**BH199-SS2**	**RDL**	**QC Batch**
Calculated Parameters				
Sodium Adsorption Ratio	N/A	1.8		6202069
Inorganics				
Conductivity	mS/cm	0.74	0.002	6206364

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		KDC024	KDC025		KDC026		
Sampling Date		2019/06/25 12:30	2019/06/25 12:30		2019/06/25 13:30		
COC Number		723423-06-01	723423-06-01		723423-06-01		
	UNITS	**BH105-SS4**	**BH155-SS4**	**QC Batch**	**BH106-SS3**	**RDL**	**QC Batch**
Inorganics							
Chromium (VI)	ug/g	<0.2	<0.2	6205026	<0.2	0.2	6205026
Metals							
Hot Water Ext. Boron (B)	ug/g	0.46	0.44	6204894	0.10	0.050	6206759
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	6205046	0.21	0.20	6205046
Acid Extractable Arsenic (As)	ug/g	5.6	5.2	6205046	7.0	1.0	6205046
Acid Extractable Barium (Ba)	ug/g	120	120	6205046	310	0.50	6205046
Acid Extractable Beryllium (Be)	ug/g	1.1	1.1	6205046	1.3	0.20	6205046
Acid Extractable Boron (B)	ug/g	16	16	6205046	14	5.0	6205046
Acid Extractable Cadmium (Cd)	ug/g	<0.10	<0.10	6205046	0.10	0.10	6205046
Acid Extractable Chromium (Cr)	ug/g	33	33	6205046	35	1.0	6205046
Acid Extractable Cobalt (Co)	ug/g	17	16	6205046	23	0.10	6205046
Acid Extractable Copper (Cu)	ug/g	28	26	6205046	30	0.50	6205046
Acid Extractable Lead (Pb)	ug/g	11	10	6205046	16	1.0	6205046
Acid Extractable Molybdenum (Mo)	ug/g	0.68	0.54	6205046	0.89	0.50	6205046
Acid Extractable Nickel (Ni)	ug/g	39	38	6205046	45	0.50	6205046
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	6205046	<0.50	0.50	6205046
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	6205046	<0.20	0.20	6205046
Acid Extractable Sodium (Na)	ug/g	420	440	6205046	300	50	6205046
Acid Extractable Thallium (Tl)	ug/g	0.16	0.17	6205046	0.21	0.050	6205046
Acid Extractable Uranium (U)	ug/g	0.99	1.0	6205046	0.91	0.050	6205046
Acid Extractable Vanadium (V)	ug/g	43	41	6205046	48	5.0	6205046
Acid Extractable Zinc (Zn)	ug/g	76	79	6205046	81	5.0	6205046
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.057	6205046	<0.050	0.050	6205046

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

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Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		KDC022			KDC022			KDC023	KDC027		
Sampling Date		2019/06/25 11:30			2019/06/25 11:30			2019/06/25 11:30	2019/06/25 16:30		
COC Number		723423-06-01			723423-06-01			723423-06-01	723423-06-01		
	UNITS	**BH102-SS2**	**RDL**	**QC Batch**	**BH102-SS2 Lab-Dup**	**RDL**	**QC Batch**	**BH122-SS2**	**BH108-SS3**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons											
Benzene	ug/g	<0.020	0.020	6204814				<0.020	<0.020	0.020	6204814
Toluene	ug/g	<0.020	0.020	6204814				<0.020	<0.020	0.020	6204814
Ethylbenzene	ug/g	<0.020	0.020	6204814				<0.020	<0.020	0.020	6204814
o-Xylene	ug/g	<0.020	0.020	6204814				<0.020	<0.020	0.020	6204814
p+m-Xylene	ug/g	<0.040	0.040	6204814				<0.040	<0.040	0.040	6204814
Total Xylenes	ug/g	<0.040	0.040	6204814				<0.040	<0.040	0.040	6204814
F1 (C6-C10)	ug/g	<10	10	6204814				<10	<10	10	6204814
F1 (C6-C10) - BTEX	ug/g	<10	10	6204814				<10	<10	10	6204814
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	6206309	<10	10	6206309	<10	59	10	6206309
F3 (C16-C34 Hydrocarbons)	ug/g	<50	50	6206309	<50	50	6206309	<50	3500	50	6206309
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	6206309	<50	50	6206309	<50	57	50	6206309
Reached Baseline at C50	ug/g	Yes		6206309	Yes		6206309	Yes	Yes		6206309
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	103		6204814				103	102		6204814
4-Bromofluorobenzene	%	94		6204814				94	95		6204814
D10-Ethylbenzene	%	102		6204814				103	97		6204814
D4-1,2-Dichloroethane	%	103		6204814				103	104		6204814
o-Terphenyl	%	91		6206309	90		6206309	91	95		6206309

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
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PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		KDC028		
Sampling Date		2019/06/25 16:30		
COC Number		723423-06-01		
	UNITS	**BH108-SS5**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons				
F1 (C6-C10)	ug/g	<10	10	6215212
F1 (C6-C10) - BTEX	ug/g	<10	10	6215212
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	6211500
F3 (C16-C34 Hydrocarbons)	ug/g	110	50	6211500
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	6211500
Reached Baseline at C50	ug/g	Yes		6211500
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	100		6215212
4-Bromofluorobenzene	%	102		6215212
D10-Ethylbenzene	%	87		6215212
D4-1,2-Dichloroethane	%	84		6215212
o-Terphenyl	%	106		6211500

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KDC022
Sample ID: BH102-SS2
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6204814	N/A	2019/06/30	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6206309	2019/07/02	2019/07/03	Prabhjot Gulati
Moisture	BAL	6203238	N/A	2019/06/28	Jatinder Ghumann

BV Labs ID: KDC022 Dup
Sample ID: BH102-SS2
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6206309	2019/07/02	2019/07/03	Prabhjot Gulati

BV Labs ID: KDC023
Sample ID: BH122-SS2
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6204814	N/A	2019/06/30	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6206309	2019/07/02	2019/07/03	Prabhjot Gulati
Moisture	BAL	6203238	N/A	2019/06/28	Jatinder Ghumann

BV Labs ID: KDC024
Sample ID: BH105-SS4
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6204894	2019/06/29	2019/07/02	Jolly John
Free (WAD) Cyanide	TECH	6206238	2019/07/02	2019/07/03	Louise Harding
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	6205026	2019/06/29	2019/07/03	Rupinder Sihota
Strong Acid Leachable Metals by ICPMS	ICP/MS	6205046	2019/06/29	2019/07/02	Viviana Canzonieri
Moisture	BAL	6202782	N/A	2019/06/28	Jatinder Ghumann
pH CaCl2 EXTRACT	AT	6202898	2019/06/28	2019/06/28	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	6201339	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC025
Sample ID: BH155-SS4
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6204894	2019/06/29	2019/07/02	Jolly John
Free (WAD) Cyanide	TECH	6206238	2019/07/02	2019/07/03	Louise Harding
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	6205026	2019/06/29	2019/07/03	Rupinder Sihota
Strong Acid Leachable Metals by ICPMS	ICP/MS	6205046	2019/06/29	2019/07/02	Viviana Canzonieri
Moisture	BAL	6202782	N/A	2019/06/28	Jatinder Ghumann

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KDC025
Sample ID: BH155-SS4
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	6202898	2019/06/28	2019/06/28	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	6201339	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC026
Sample ID: BH106-SS3
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6206759	2019/06/29	2019/07/02	Medhat Nasr
Free (WAD) Cyanide	TECH	6206238	2019/07/02	2019/07/03	Louise Harding
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	6205026	2019/06/29	2019/07/03	Rupinder Sihota
Strong Acid Leachable Metals by ICPMS	ICP/MS	6205046	2019/06/29	2019/07/02	Viviana Canzonieri
Moisture	BAL	6202782	N/A	2019/06/28	Jatinder Ghumann
pH CaCl2 EXTRACT	AT	6202898	2019/06/28	2019/06/28	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC027
Sample ID: BH108-SS3
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6204814	N/A	2019/07/02	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6206309	2019/07/02	2019/07/03	Prabhjot Gulati
Moisture	BAL	6203238	N/A	2019/06/28	Jatinder Ghumann

BV Labs ID: KDC028
Sample ID: BH108-SS5
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6215212	N/A	2019/07/07	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6211500	2019/07/04	2019/07/04	Jeevaraj Jeevaratrnam
Moisture	BAL	6211775	N/A	2019/07/04	Gurpreet Kaur

BV Labs ID: KDC029
Sample ID: BH109-SS2
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KDC030 **Collected:** 2019/06/25
Sample ID: BH110-SS2 **Shipped:**
Matrix: Soil **Received:** 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC031 **Collected:** 2019/06/26
Sample ID: BH111-SS3 **Shipped:**
Matrix: Soil **Received:** 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC031 Dup **Collected:** 2019/06/26
Sample ID: BH111-SS3 **Shipped:**
Matrix: Soil **Received:** 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva

BV Labs ID: KDC034 **Collected:** 2019/06/26
Sample ID: BH112-SS2 **Shipped:**
Matrix: Soil **Received:** 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC035 **Collected:** 2019/06/26
Sample ID: BH113-SS2 **Shipped:**
Matrix: Soil **Received:** 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC036 **Collected:** 2019/06/26
Sample ID: BH114-SS1 **Shipped:**
Matrix: Soil **Received:** 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KDC037
Sample ID: BH115-SS3
Matrix: Soil

Collected: 2019/06/26
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC038
Sample ID: BH116-SS2
Matrix: Soil

Collected: 2019/06/26
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC039
Sample ID: BH117-SS2
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

BV Labs ID: KDC040
Sample ID: BH199-SS2
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/06/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	6206364	2019/07/02	2019/07/02	Kazzandra Adeva
Sodium Adsorption Ratio (SAR)	CALC/MET	6202069	N/A	2019/07/03	Automated Statchk

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

GENERAL COMMENTS

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

Package 1	6.0°C

Revised report (2019/07/09): Includes results for F1-F4 on sample BH108-SS5.

Results relate only to the items tested.

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BV Labs Job #: B9H7557
Report Date: 2019/07/09

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6204814	1,4-Difluorobenzene	2019/06/29	102	60 - 140	94	60 - 140	103	%		
6204814	4-Bromofluorobenzene	2019/06/29	97	60 - 140	102	60 - 140	95	%		
6204814	D10-Ethylbenzene	2019/06/29	118	60 - 140	84	60 - 140	92	%		
6204814	D4-1,2-Dichloroethane	2019/06/29	102	60 - 140	95	60 - 140	102	%		
6206309	o-Terphenyl	2019/07/02	94	60 - 130	89	60 - 130	87	%		
6211500	o-Terphenyl	2019/07/04	106	60 - 130	103	60 - 130	102	%		
6215212	1,4-Difluorobenzene	2019/07/07	102	60 - 140	99	60 - 140	100	%		
6215212	4-Bromofluorobenzene	2019/07/07	102	60 - 140	102	60 - 140	103	%		
6215212	D10-Ethylbenzene	2019/07/07	87	60 - 140	97	60 - 140	77	%		
6215212	D4-1,2-Dichloroethane	2019/07/07	85	60 - 140	84	60 - 140	83	%		
6202782	Moisture	2019/06/28							1.2	20
6202898	Available (CaCl2) pH	2019/06/28			100	97 - 103			0.27	N/A
6203238	Moisture	2019/06/28							1.0	20
6204814	Benzene	2019/06/30	111	60 - 140	76	60 - 140	<0.020	ug/g	NC	50
6204814	Ethylbenzene	2019/06/30	123	60 - 140	77	60 - 140	<0.020	ug/g	NC	50
6204814	F1 (C6-C10) - BTEX	2019/06/30					<10	ug/g	NC	30
6204814	F1 (C6-C10)	2019/06/30	121	60 - 140	95	80 - 120	<10	ug/g	NC	30
6204814	o-Xylene	2019/06/30	119	60 - 140	76	60 - 140	<0.020	ug/g	NC	50
6204814	p+m-Xylene	2019/06/30	121	60 - 140	78	60 - 140	<0.040	ug/g	NC	50
6204814	Toluene	2019/06/30	122	60 - 140	79	60 - 140	<0.020	ug/g	NC	50
6204814	Total Xylenes	2019/06/30					<0.040	ug/g	NC	50
6204894	Hot Water Ext. Boron (B)	2019/07/02	100	75 - 125	100	75 - 125	<0.050	ug/g	7.1	40
6205026	Chromium (VI)	2019/07/03	72	70 - 130	84	80 - 120	<0.2	ug/g	NC	35
6205046	Acid Extractable Antimony (Sb)	2019/07/02	93	75 - 125	104	80 - 120	<0.20	ug/g	38 (1)	30
6205046	Acid Extractable Arsenic (As)	2019/07/02	NC	75 - 125	104	80 - 120	<1.0	ug/g	5.4	30
6205046	Acid Extractable Barium (Ba)	2019/07/02	NC	75 - 125	100	80 - 120	<0.50	ug/g	1.2	30
6205046	Acid Extractable Beryllium (Be)	2019/07/02	100	75 - 125	97	80 - 120	<0.20	ug/g	2.5	30
6205046	Acid Extractable Boron (B)	2019/07/02	98	75 - 125	98	80 - 120	<5.0	ug/g	6.1	30
6205046	Acid Extractable Cadmium (Cd)	2019/07/02	101	75 - 125	101	80 - 120	<0.10	ug/g	4.1	30
6205046	Acid Extractable Chromium (Cr)	2019/07/02	98	75 - 125	102	80 - 120	<1.0	ug/g	8.1	30
6205046	Acid Extractable Cobalt (Co)	2019/07/02	99	75 - 125	102	80 - 120	<0.10	ug/g	5.8	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6205046	Acid Extractable Copper (Cu)	2019/07/02	NC	75 - 125	104	80 - 120	<0.50	ug/g	4.9	30
6205046	Acid Extractable Lead (Pb)	2019/07/02	NC	75 - 125	102	80 - 120	<1.0	ug/g	16	30
6205046	Acid Extractable Mercury (Hg)	2019/07/02	93	75 - 125	99	80 - 120	<0.050	ug/g	2.0	30
6205046	Acid Extractable Molybdenum (Mo)	2019/07/02	102	75 - 125	99	80 - 120	<0.50	ug/g	8.0	30
6205046	Acid Extractable Nickel (Ni)	2019/07/02	96	75 - 125	106	80 - 120	<0.50	ug/g	7.9	30
6205046	Acid Extractable Selenium (Se)	2019/07/02	101	75 - 125	106	80 - 120	<0.50	ug/g	5.9	30
6205046	Acid Extractable Silver (Ag)	2019/07/02	100	75 - 125	101	80 - 120	<0.20	ug/g	0.091	30
6205046	Acid Extractable Sodium (Na)	2019/07/02	101	75 - 125	105	80 - 120	<50	ug/g		
6205046	Acid Extractable Thallium (Tl)	2019/07/02	95	75 - 125	101	80 - 120	<0.050	ug/g	1.2	30
6205046	Acid Extractable Uranium (U)	2019/07/02	101	75 - 125	102	80 - 120	<0.050	ug/g	6.0	30
6205046	Acid Extractable Vanadium (V)	2019/07/02	101	75 - 125	103	80 - 120	<5.0	ug/g	6.1	30
6205046	Acid Extractable Zinc (Zn)	2019/07/02	NC	75 - 125	105	80 - 120	<5.0	ug/g	5.7	30
6206238	WAD Cyanide (Free)	2019/07/03	100	75 - 125	99	80 - 120	<0.01	ug/g	NC	35
6206309	F2 (C10-C16 Hydrocarbons)	2019/07/03	104	50 - 130	99	80 - 120	<10	ug/g	NC	30
6206309	F3 (C16-C34 Hydrocarbons)	2019/07/03	99	50 - 130	93	80 - 120	<50	ug/g	NC	30
6206309	F4 (C34-C50 Hydrocarbons)	2019/07/03	94	50 - 130	88	80 - 120	<50	ug/g	NC	30
6206364	Conductivity	2019/07/02			105	90 - 110	<0.002	mS/cm	2.7	10
6206759	Hot Water Ext. Boron (B)	2019/07/02	103	75 - 125	104	75 - 125	<0.050	ug/g	15	40
6211500	F2 (C10-C16 Hydrocarbons)	2019/07/05	104	50 - 130	96	80 - 120	<10	ug/g	NC	30
6211500	F3 (C16-C34 Hydrocarbons)	2019/07/05	101	50 - 130	97	80 - 120	<50	ug/g	NC	30
6211500	F4 (C34-C50 Hydrocarbons)	2019/07/05	102	50 - 130	97	80 - 120	<50	ug/g	NC	30
6211775	Moisture	2019/07/04							2.1	20
6215212	F1 (C6-C10) - BTEX	2019/07/07					<10	ug/g	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6215212	F1 (C6-C10)	2019/07/07	102	60 - 140	99	80 - 120	<10	ug/g	NC	30

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.

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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 (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

BV Labs Job #: B9H7557
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-00801631-A0(200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

VALIDATION SIGNATURE PAGE

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

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs 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.

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Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your C.O.C. #: 724141-01-01, 724141-02-01

Attention: Stephanie Hsia

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/09
Report #: R5789706
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9I2277
Received: 2019/07/03, 16:01

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	2	N/A	2019/07/08	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	3	2019/07/05	2019/07/06	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	2	N/A	2019/07/05		EPA 8260C m
Free (WAD) Cyanide	3	2019/07/05	2019/07/08	CAM SOP-00457	OMOE E3015 m
Conductivity	3	2019/07/05	2019/07/05	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	3	2019/07/04	2019/07/08	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	4	N/A	2019/07/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2019/07/05	2019/07/05	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	3	2019/07/05	2019/07/06	CAM SOP-00316	CCME CWS m
Strong Acid Leachable Metals by ICPMS	3	2019/07/05	2019/07/08	CAM SOP-00447	EPA 6020B m
Strong Acid Leachable Metals by ICPMS	1	2019/07/06	2019/07/08	CAM SOP-00447	EPA 6020B m
Moisture	11	N/A	2019/07/04	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	2	2019/07/05	2019/07/06	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	3	2019/07/05	2019/07/05	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	3	N/A	2019/07/08	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds in Soil	2	N/A	2019/07/05	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

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Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your C.O.C. #: 724141-01-01, 724141-02-01

Attention: Stephanie Hsia

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/09
Report #: R5789706
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9I2277
Received: 2019/07/03, 16:01

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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) Soils are reported on a dry weight basis unless otherwise specified.
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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.
Christine Gripton, Senior Project Manager
Email: Christine.Gripton@bvlabs.com
Phone# (519)652-9444

==========

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BV Labs 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.

BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 ICPMS METALS (SOIL)

BV Labs ID		KED175		
Sampling Date		2019/07/02 11:00		
COC Number		724141-01-01		
	UNITS	**BH101-SS1**	**RDL**	**QC Batch**
Metals				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	6214913
Acid Extractable Arsenic (As)	ug/g	1.3	1.0	6214913
Acid Extractable Barium (Ba)	ug/g	20	0.50	6214913
Acid Extractable Beryllium (Be)	ug/g	0.24	0.20	6214913
Acid Extractable Boron (B)	ug/g	<5.0	5.0	6214913
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	6214913
Acid Extractable Chromium (Cr)	ug/g	15	1.0	6214913
Acid Extractable Cobalt (Co)	ug/g	2.8	0.10	6214913
Acid Extractable Copper (Cu)	ug/g	7.3	0.50	6214913
Acid Extractable Lead (Pb)	ug/g	5.4	1.0	6214913
Acid Extractable Molybdenum (Mo)	ug/g	0.93	0.50	6214913
Acid Extractable Nickel (Ni)	ug/g	6.3	0.50	6214913
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	6214913
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	6214913
Acid Extractable Sodium (Na)	ug/g	80	50	6214913
Acid Extractable Thallium (Tl)	ug/g	<0.050	0.050	6214913
Acid Extractable Uranium (U)	ug/g	0.56	0.050	6214913
Acid Extractable Vanadium (V)	ug/g	31	5.0	6214913
Acid Extractable Zinc (Zn)	ug/g	20	5.0	6214913
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	6214913

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 METALS & INORGANICS PKG (SOIL)

BV Labs ID		KED181		KED183	KED186		
Sampling Date		2019/07/02 15:00		2019/07/02 14:00	2019/07/02 15:30		
COC Number		724141-01-01		724141-01-01	724141-02-01		
	UNITS	**BH103-SS2**	**QC Batch**	**BH104-SS3**	**BH107-SS5**	**RDL**	**QC Batch**
Calculated Parameters							
Sodium Adsorption Ratio	N/A	0.64	6209517	0.91	0.78		6209517
Inorganics							
Conductivity	mS/cm	2.4	6213380	1.4	1.5	0.002	6213380
Moisture	%	21	6210945	19	19	1.0	6210945
Available (CaCl2) pH	pH	7.79	6212875	7.92	7.83		6213039
WAD Cyanide (Free)	ug/g	<0.01	6213496	<0.01	<0.01	0.01	6213496
Chromium (VI)	ug/g	<0.2	6211200	<0.2	<0.2	0.2	6211200
Metals							
Hot Water Ext. Boron (B)	ug/g	0.79	6213181	0.71	0.53	0.050	6213181
Acid Extractable Antimony (Sb)	ug/g	0.22	6213212	0.21	<0.20	0.20	6213212
Acid Extractable Arsenic (As)	ug/g	4.8	6213212	4.5	4.9	1.0	6213212
Acid Extractable Barium (Ba)	ug/g	140	6213212	120	120	0.50	6213212
Acid Extractable Beryllium (Be)	ug/g	0.94	6213212	0.89	0.91	0.20	6213212
Acid Extractable Boron (B)	ug/g	17	6213212	19	17	5.0	6213212
Acid Extractable Cadmium (Cd)	ug/g	<0.10	6213212	0.10	0.11	0.10	6213212
Acid Extractable Chromium (Cr)	ug/g	28	6213212	27	28	1.0	6213212
Acid Extractable Cobalt (Co)	ug/g	14	6213212	14	14	0.10	6213212
Acid Extractable Copper (Cu)	ug/g	22	6213212	21	23	0.50	6213212
Acid Extractable Lead (Pb)	ug/g	10	6213212	11	11	1.0	6213212
Acid Extractable Molybdenum (Mo)	ug/g	0.71	6213212	0.67	0.70	0.50	6213212
Acid Extractable Nickel (Ni)	ug/g	32	6213212	31	33	0.50	6213212
Acid Extractable Selenium (Se)	ug/g	<0.50	6213212	<0.50	<0.50	0.50	6213212
Acid Extractable Silver (Ag)	ug/g	<0.20	6213212	<0.20	<0.20	0.20	6213212
Acid Extractable Sodium (Na)	ug/g	300	6213212	290	300	50	6213212
Acid Extractable Thallium (Tl)	ug/g	0.16	6213212	0.14	0.15	0.050	6213212
Acid Extractable Uranium (U)	ug/g	0.89	6213212	0.89	0.95	0.050	6213212
Acid Extractable Vanadium (V)	ug/g	38	6213212	37	38	5.0	6213212
Acid Extractable Zinc (Zn)	ug/g	70	6213212	72	75	5.0	6213212
Acid Extractable Mercury (Hg)	ug/g	<0.050	6213212	<0.050	<0.050	0.050	6213212

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 PAHS (SOIL)

BV Labs ID		KED176			KED176			KED177		
Sampling Date		2019/07/02 11:00			2019/07/02 11:00			2019/07/02 11:00		
COC Number		724141-01-01			724141-01-01			724141-01-01		
	UNITS	**BH101-SS2**	**RDL**	**QC Batch**	**BH101-SS2 Lab-Dup**	**RDL**	**QC Batch**	**BH1011-SS2**	**RDL**	**QC Batch**
Inorganics										
Moisture	%	18	1.0	6210851	18	1.0	6210851	18	1.0	6210851
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	6209085				<0.0071	0.0071	6209085
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Acenaphthylene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Anthracene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Benzo(a)anthracene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Benzo(a)pyrene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Chrysene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Dibenz(a,h)anthracene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Fluoranthene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Fluorene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
1-Methylnaphthalene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
2-Methylnaphthalene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Naphthalene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Phenanthrene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Pyrene	ug/g	<0.0050	0.0050	6212990				<0.0050	0.0050	6212990
Surrogate Recovery (%)										
D10-Anthracene	%	99		6212990				98		6212990
D14-Terphenyl (FS)	%	77		6212990				76		6212990
D8-Acenaphthylene	%	73		6212990				72		6212990

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 PETROLEUM HYDROCARBONS (SOIL)

BV Labs ID		KED178	KED182	KED184	KED185		
Sampling Date		2019/07/02 11:00	2019/07/02 15:00	2019/07/02 14:00	2019/07/02 15:30		
COC Number		724141-01-01	724141-01-01	724141-01-01	724141-02-01		
	UNITS	**BH101-SS4**	**BH103-SS4**	**BH104-SS4**	**BH107-SS4**	**RDL**	**QC Batch**
Inorganics							
Moisture	%	22	18	17	19	1.0	6210851
BTEX & F1 Hydrocarbons							
Benzene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	6213656
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	6213656
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	6213656
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	0.020	6213656
p+m-Xylene	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	6213656
Total Xylenes	ug/g	<0.040	<0.040	<0.040	<0.040	0.040	6213656
F1 (C6-C10)	ug/g	<10	<10	<10	<10	10	6213656
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	<10	10	6213656
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	<10	10	6212568
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	<50	<50	50	6212568
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	<50	<50	50	6212568
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes		6212568
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	100	98	100	100		6213656
4-Bromofluorobenzene	%	101	100	99	100		6213656
D10-Ethylbenzene	%	106	106	102	107		6213656
D4-1,2-Dichloroethane	%	104	102	102	104		6213656
o-Terphenyl	%	104	103	106	104		6212568

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		KED179	KED180		
Sampling Date		2019/07/02 11:00	2019/07/02 11:00		
COC Number		724141-01-01	724141-01-01		
	UNITS	**BH101-SS5**	**BH1011-SS5**	**RDL**	**QC Batch**
Inorganics					
Moisture	%	23	26	1.0	6210851
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	6209081
Volatile Organics					
Acetone (2-Propanone)	ug/g	<0.50	<0.50	0.50	6211003
Benzene	ug/g	<0.020	<0.020	0.020	6211003
Bromodichloromethane	ug/g	<0.050	<0.050	0.050	6211003
Bromoform	ug/g	<0.050	<0.050	0.050	6211003
Bromomethane	ug/g	<0.050	<0.050	0.050	6211003
Carbon Tetrachloride	ug/g	<0.050	<0.050	0.050	6211003
Chlorobenzene	ug/g	<0.050	<0.050	0.050	6211003
Chloroform	ug/g	<0.050	<0.050	0.050	6211003
Dibromochloromethane	ug/g	<0.050	<0.050	0.050	6211003
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	6211003
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	6211003
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	0.050	6211003
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	0.050	6211003
1,1-Dichloroethane	ug/g	<0.050	<0.050	0.050	6211003
1,2-Dichloroethane	ug/g	<0.050	<0.050	0.050	6211003
1,1-Dichloroethylene	ug/g	<0.050	<0.050	0.050	6211003
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	0.050	6211003
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	0.050	6211003
1,2-Dichloropropane	ug/g	<0.050	<0.050	0.050	6211003
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	6211003
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	6211003
Ethylbenzene	ug/g	<0.020	<0.020	0.020	6211003
Ethylene Dibromide	ug/g	<0.050	<0.050	0.050	6211003
Hexane	ug/g	<0.050	<0.050	0.050	6211003
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	0.050	6211003
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	0.50	6211003
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	0.50	6211003
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	0.050	6211003
Styrene	ug/g	<0.050	<0.050	0.050	6211003

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		KED179	KED180		
Sampling Date		2019/07/02 11:00	2019/07/02 11:00		
COC Number		724141-01-01	724141-01-01		
	UNITS	**BH101-SS5**	**BH1011-SS5**	**RDL**	**QC Batch**
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	0.050	6211003
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	0.050	6211003
Tetrachloroethylene	ug/g	<0.050	<0.050	0.050	6211003
Toluene	ug/g	<0.020	<0.020	0.020	6211003
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	0.050	6211003
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	0.050	6211003
Trichloroethylene	ug/g	<0.050	<0.050	0.050	6211003
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	0.050	6211003
Vinyl Chloride	ug/g	<0.020	<0.020	0.020	6211003
p+m-Xylene	ug/g	<0.020	<0.020	0.020	6211003
o-Xylene	ug/g	<0.020	<0.020	0.020	6211003
Total Xylenes	ug/g	<0.020	<0.020	0.020	6211003
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	94	93		6211003
D10-o-Xylene	%	110	119		6211003
D4-1,2-Dichloroethane	%	110	109		6211003
D8-Toluene	%	96	96		6211003

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exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KED175 **Collected:** 2019/07/02
Sample ID: BH101-SS1 **Shipped:**
Matrix: Soil **Received:** 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6214913	2019/07/06	2019/07/08	Viviana Canzonieri

BV Labs ID: KED176 **Collected:** 2019/07/02
Sample ID: BH101-SS2 **Shipped:**
Matrix: Soil **Received:** 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6209085	N/A	2019/07/08	Automated Statchk
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6212990	2019/07/05	2019/07/06	Mitesh Raj

BV Labs ID: KED176 Dup **Collected:** 2019/07/02
Sample ID: BH101-SS2 **Shipped:**
Matrix: Soil **Received:** 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal

BV Labs ID: KED177 **Collected:** 2019/07/02
Sample ID: BH1011-SS2 **Shipped:**
Matrix: Soil **Received:** 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6209085	N/A	2019/07/08	Automated Statchk
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6212990	2019/07/05	2019/07/06	Mitesh Raj

BV Labs ID: KED178 **Collected:** 2019/07/02
Sample ID: BH101-SS4 **Shipped:**
Matrix: Soil **Received:** 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6213656	N/A	2019/07/06	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6212568	2019/07/05	2019/07/05	Atoosa Keshavarz
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal

BV Labs ID: KED179 **Collected:** 2019/07/02
Sample ID: BH101-SS5 **Shipped:**
Matrix: Soil **Received:** 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6209081	N/A	2019/07/05	Automated Statchk
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal
Volatile Organic Compounds in Soil	GC/MS	6211003	N/A	2019/07/05	Chandni Khawas

BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KED180
Sample ID: BH1011-SS5
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6209081	N/A	2019/07/05	Automated Statchk
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal
Volatile Organic Compounds in Soil	GC/MS	6211003	N/A	2019/07/05	Chandni Khawas

BV Labs ID: KED181
Sample ID: BH103-SS2
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6213181	2019/07/05	2019/07/06	Azita Fazaeli
Free (WAD) Cyanide	TECH	6213496	2019/07/05	2019/07/08	Louise Harding
Conductivity	AT	6213380	2019/07/05	2019/07/05	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	6211200	2019/07/04	2019/07/08	Rupinder Sihota
Strong Acid Leachable Metals by ICPMS	ICP/MS	6213212	2019/07/05	2019/07/08	Viviana Canzonieri
Moisture	BAL	6210945	N/A	2019/07/04	Prgya Panchal
pH CaCl2 EXTRACT	AT	6212875	2019/07/05	2019/07/05	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	6209517	N/A	2019/07/08	Automated Statchk

BV Labs ID: KED182
Sample ID: BH103-SS4
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6213656	N/A	2019/07/06	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6212568	2019/07/05	2019/07/06	Atoosa Keshavarz
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal

BV Labs ID: KED183
Sample ID: BH104-SS3
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6213181	2019/07/05	2019/07/06	Azita Fazaeli
Free (WAD) Cyanide	TECH	6213496	2019/07/05	2019/07/08	Louise Harding
Conductivity	AT	6213380	2019/07/05	2019/07/05	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	6211200	2019/07/04	2019/07/08	Rupinder Sihota
Strong Acid Leachable Metals by ICPMS	ICP/MS	6213212	2019/07/05	2019/07/08	Viviana Canzonieri
Moisture	BAL	6210945	N/A	2019/07/04	Prgya Panchal
pH CaCl2 EXTRACT	AT	6213039	2019/07/05	2019/07/05	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	6209517	N/A	2019/07/08	Automated Statchk

BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KED184
Sample ID: BH104-SS4
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6213656	N/A	2019/07/06	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6212568	2019/07/05	2019/07/06	Atoosa Keshavarz
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal

BV Labs ID: KED185
Sample ID: BH107-SS4
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6213656	N/A	2019/07/06	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6212568	2019/07/05	2019/07/06	Atoosa Keshavarz
Moisture	BAL	6210851	N/A	2019/07/04	Prgya Panchal

BV Labs ID: KED186
Sample ID: BH107-SS5
Matrix: Soil

Collected: 2019/07/02
Shipped:
Received: 2019/07/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6213181	2019/07/05	2019/07/06	Azita Fazaeli
Free (WAD) Cyanide	TECH	6213496	2019/07/05	2019/07/08	Louise Harding
Conductivity	AT	6213380	2019/07/05	2019/07/05	Kazzandra Adeva
Hexavalent Chromium in Soil by IC	IC/SPEC	6211200	2019/07/04	2019/07/08	Rupinder Sihota
Strong Acid Leachable Metals by ICPMS	ICP/MS	6213212	2019/07/05	2019/07/08	Viviana Canzonieri
Moisture	BAL	6210945	N/A	2019/07/04	Prgya Panchal
pH CaCl2 EXTRACT	AT	6213039	2019/07/05	2019/07/05	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	6209517	N/A	2019/07/08	Automated Statchk

GENERAL COMMENTS

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

Package 1	0.7°C

Results relate only to the items tested.

BV Labs Job #: B9I2277
Report Date: 2019/07/09

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6211003	4-Bromofluorobenzene	2019/07/04	101	60 - 140	100	60 - 140	96	%		
6211003	D10-o-Xylene	2019/07/04	91	60 - 130	103	60 - 130	99	%		
6211003	D4-1,2-Dichloroethane	2019/07/04	103	60 - 140	105	60 - 140	112	%		
6211003	D8-Toluene	2019/07/04	107	60 - 140	103	60 - 140	93	%		
6212568	o-Terphenyl	2019/07/05	101	60 - 130	103	60 - 130	106	%		
6212990	D10-Anthracene	2019/07/05	94	50 - 130	99	50 - 130	99	%		
6212990	D14-Terphenyl (FS)	2019/07/05	78	50 - 130	80	50 - 130	81	%		
6212990	D8-Acenaphthylene	2019/07/05	75	50 - 130	76	50 - 130	72	%		
6213656	1,4-Difluorobenzene	2019/07/05	99	60 - 140	100	60 - 140	98	%		
6213656	4-Bromofluorobenzene	2019/07/05	103	60 - 140	103	60 - 140	100	%		
6213656	D10-Ethylbenzene	2019/07/05	108	60 - 140	102	60 - 140	99	%		
6213656	D4-1,2-Dichloroethane	2019/07/05	102	60 - 140	104	60 - 140	103	%		
6210851	Moisture	2019/07/04							0.54	20
6210945	Moisture	2019/07/04							13	20
6211003	1,1,1,2-Tetrachloroethane	2019/07/04	108	60 - 140	106	60 - 130	<0.050	ug/g	NC	50
6211003	1,1,1-Trichloroethane	2019/07/04	104	60 - 140	101	60 - 130	<0.050	ug/g	NC	50
6211003	1,1,2,2-Tetrachloroethane	2019/07/04	100	60 - 140	105	60 - 130	<0.050	ug/g	NC	50
6211003	1,1,2-Trichloroethane	2019/07/04	100	60 - 140	102	60 - 130	<0.050	ug/g	NC	50
6211003	1,1-Dichloroethane	2019/07/04	99	60 - 140	99	60 - 130	<0.050	ug/g	NC	50
6211003	1,1-Dichloroethylene	2019/07/04	102	60 - 140	100	60 - 130	<0.050	ug/g	NC	50
6211003	1,2-Dichlorobenzene	2019/07/04	90	60 - 140	92	60 - 130	<0.050	ug/g	NC	50
6211003	1,2-Dichloroethane	2019/07/04	97	60 - 140	101	60 - 130	<0.050	ug/g	NC	50
6211003	1,2-Dichloropropane	2019/07/04	90	60 - 140	91	60 - 130	<0.050	ug/g	NC	50
6211003	1,3-Dichlorobenzene	2019/07/04	87	60 - 140	89	60 - 130	<0.050	ug/g	NC	50
6211003	1,4-Dichlorobenzene	2019/07/04	91	60 - 140	94	60 - 130	<0.050	ug/g	NC	50
6211003	Acetone (2-Propanone)	2019/07/04	91	60 - 140	100	60 - 140	<0.50	ug/g	NC	50
6211003	Benzene	2019/07/04	95	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
6211003	Bromodichloromethane	2019/07/04	97	60 - 140	100	60 - 130	<0.050	ug/g	NC	50
6211003	Bromoform	2019/07/04	104	60 - 140	109	60 - 130	<0.050	ug/g	NC	50
6211003	Bromomethane	2019/07/04	104	60 - 140	107	60 - 140	<0.050	ug/g	NC	50
6211003	Carbon Tetrachloride	2019/07/04	104	60 - 140	100	60 - 130	<0.050	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6211003	Chlorobenzene	2019/07/04	89	60 - 140	90	60 - 130	<0.050	ug/g	NC	50
6211003	Chloroform	2019/07/04	97	60 - 140	96	60 - 130	<0.050	ug/g	NC	50
6211003	cis-1,2-Dichloroethylene	2019/07/04	91	60 - 140	93	60 - 130	<0.050	ug/g	1.1	50
6211003	cis-1,3-Dichloropropene	2019/07/04	77	60 - 140	88	60 - 130	<0.030	ug/g	NC	50
6211003	Dibromochloromethane	2019/07/04	105	60 - 140	107	60 - 130	<0.050	ug/g	NC	50
6211003	Dichlorodifluoromethane (FREON 12)	2019/07/04	95	60 - 140	93	60 - 140	<0.050	ug/g	NC	50
6211003	Ethylbenzene	2019/07/04	85	60 - 140	85	60 - 130	<0.020	ug/g	NC	50
6211003	Ethylene Dibromide	2019/07/04	98	60 - 140	101	60 - 130	<0.050	ug/g	NC	50
6211003	Hexane	2019/07/04	103	60 - 140	100	60 - 130	<0.050	ug/g	NC	50
6211003	Methyl Ethyl Ketone (2-Butanone)	2019/07/04	87	60 - 140	99	60 - 140	<0.50	ug/g	NC	50
6211003	Methyl Isobutyl Ketone	2019/07/04	87	60 - 140	99	60 - 130	<0.50	ug/g	NC	50
6211003	Methyl t-butyl ether (MTBE)	2019/07/04	82	60 - 140	84	60 - 130	<0.050	ug/g	NC	50
6211003	Methylene Chloride(Dichloromethane)	2019/07/04	105	60 - 140	106	60 - 130	<0.050	ug/g	NC	50
6211003	o-Xylene	2019/07/04	88	60 - 140	88	60 - 130	<0.020	ug/g	NC	50
6211003	p+m-Xylene	2019/07/04	89	60 - 140	90	60 - 130	<0.020	ug/g	NC	50
6211003	Styrene	2019/07/04	91	60 - 140	93	60 - 130	<0.050	ug/g	NC	50
6211003	Tetrachloroethylene	2019/07/04	99	60 - 140	96	60 - 130	<0.050	ug/g	NC	50
6211003	Toluene	2019/07/04	96	60 - 140	95	60 - 130	<0.020	ug/g	NC	50
6211003	Total Xylenes	2019/07/04					<0.020	ug/g	NC	50
6211003	trans-1,2-Dichloroethylene	2019/07/04	100	60 - 140	101	60 - 130	<0.050	ug/g	NC	50
6211003	trans-1,3-Dichloropropene	2019/07/04	80	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
6211003	Trichloroethylene	2019/07/04	100	60 - 140	101	60 - 130	<0.050	ug/g	NC	50
6211003	Trichlorofluoromethane (FREON 11)	2019/07/04	108	60 - 140	103	60 - 130	<0.050	ug/g	NC	50
6211003	Vinyl Chloride	2019/07/04	103	60 - 140	102	60 - 130	<0.020	ug/g	NC	50
6211200	Chromium (VI)	2019/07/08	19 (1)	70 - 130	87	80 - 120	<0.2	ug/g	NC	35
6212568	F2 (C10-C16 Hydrocarbons)	2019/07/05	90	50 - 130	93	80 - 120	<10	ug/g	NC	30
6212568	F3 (C16-C34 Hydrocarbons)	2019/07/05	94	50 - 130	96	80 - 120	<50	ug/g	NC	30
6212568	F4 (C34-C50 Hydrocarbons)	2019/07/05	100	50 - 130	102	80 - 120	<50	ug/g	NC	30
6212875	Available (CaCl2) pH	2019/07/05			100	97 - 103			0.075	N/A
6212990	1-Methylnaphthalene	2019/07/06	79	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
6212990	2-Methylnaphthalene	2019/07/06	71	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6212990	Acenaphthene	2019/07/06	81	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
6212990	Acenaphthylene	2019/07/06	76	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40
6212990	Anthracene	2019/07/06	85	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
6212990	Benzo(a)anthracene	2019/07/06	89	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
6212990	Benzo(a)pyrene	2019/07/06	86	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
6212990	Benzo(b/j)fluoranthene	2019/07/06	82	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
6212990	Benzo(g,h,i)perylene	2019/07/06	83	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
6212990	Benzo(k)fluoranthene	2019/07/06	90	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
6212990	Chrysene	2019/07/06	86	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
6212990	Dibenz(a,h)anthracene	2019/07/06	85	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
6212990	Fluoranthene	2019/07/06	78	50 - 130	80	50 - 130	<0.0050	ug/g	32	40
6212990	Fluorene	2019/07/06	81	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
6212990	Indeno(1,2,3-cd)pyrene	2019/07/06	86	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
6212990	Naphthalene	2019/07/06	59	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
6212990	Phenanthrene	2019/07/06	84	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
6212990	Pyrene	2019/07/06	82	50 - 130	84	50 - 130	<0.0050	ug/g	17	40
6213039	Available (CaCl2) pH	2019/07/05			101	97 - 103			0.32	N/A
6213181	Hot Water Ext. Boron (B)	2019/07/05	106	75 - 125	105	75 - 125	<0.050	ug/g	NC	40
6213212	Acid Extractable Antimony (Sb)	2019/07/08	77	75 - 125	106	80 - 120	<0.20	ug/g	NC	30
6213212	Acid Extractable Arsenic (As)	2019/07/08	92	75 - 125	101	80 - 120	<1.0	ug/g	3.9	30
6213212	Acid Extractable Barium (Ba)	2019/07/08	NC	75 - 125	98	80 - 120	<0.50	ug/g	6.9	30
6213212	Acid Extractable Beryllium (Be)	2019/07/08	93	75 - 125	98	80 - 120	<0.20	ug/g	2.6	30
6213212	Acid Extractable Boron (B)	2019/07/08	77	75 - 125	96	80 - 120	<5.0	ug/g	9.9	30
6213212	Acid Extractable Cadmium (Cd)	2019/07/08	94	75 - 125	101	80 - 120	<0.10	ug/g	14	30
6213212	Acid Extractable Chromium (Cr)	2019/07/08	92	75 - 125	98	80 - 120	<1.0	ug/g	6.9	30
6213212	Acid Extractable Cobalt (Co)	2019/07/08	92	75 - 125	99	80 - 120	<0.10	ug/g	5.4	30
6213212	Acid Extractable Copper (Cu)	2019/07/08	NC	75 - 125	100	80 - 120	<0.50	ug/g	4.6	30
6213212	Acid Extractable Lead (Pb)	2019/07/08	94	75 - 125	101	80 - 120	<1.0	ug/g	5.8	30
6213212	Acid Extractable Mercury (Hg)	2019/07/08	97	75 - 125	100	80 - 120	<0.050	ug/g	5.7	30
6213212	Acid Extractable Molybdenum (Mo)	2019/07/08	90	75 - 125	98	80 - 120	<0.50	ug/g	1.2	30
6213212	Acid Extractable Nickel (Ni)	2019/07/08	94	75 - 125	98	80 - 120	<0.50	ug/g	4.1	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6213212	Acid Extractable Selenium (Se)	2019/07/08	95	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
6213212	Acid Extractable Silver (Ag)	2019/07/08	95	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
6213212	Acid Extractable Sodium (Na)	2019/07/08	94	75 - 125	91	80 - 120	<50	ug/g		
6213212	Acid Extractable Thallium (Tl)	2019/07/08	93	75 - 125	100	80 - 120	<0.050	ug/g	0.59	30
6213212	Acid Extractable Uranium (U)	2019/07/08	95	75 - 125	100	80 - 120	<0.050	ug/g	0.89	30
6213212	Acid Extractable Vanadium (V)	2019/07/08	NC	75 - 125	100	80 - 120	<5.0	ug/g	6.6	30
6213212	Acid Extractable Zinc (Zn)	2019/07/08	NC	75 - 125	101	80 - 120	<5.0	ug/g	3.5	30
6213380	Conductivity	2019/07/05			104	90 - 110	<0.002	mS/cm	1.4	10
6213496	WAD Cyanide (Free)	2019/07/08	99	75 - 125	95	80 - 120	<0.01	ug/g	NC	35
6213656	Benzene	2019/07/05	101	60 - 140	101	60 - 140	<0.020	ug/g	NC	50
6213656	Ethylbenzene	2019/07/05	108	60 - 140	107	60 - 140	<0.020	ug/g	NC	50
6213656	F1 (C6-C10) - BTEX	2019/07/05					<10	ug/g	NC	30
6213656	F1 (C6-C10)	2019/07/05	111	60 - 140	105	80 - 120	<10	ug/g	NC	30
6213656	o-Xylene	2019/07/05	107	60 - 140	106	60 - 140	<0.020	ug/g	NC	50
6213656	p+m-Xylene	2019/07/05	106	60 - 140	107	60 - 140	<0.040	ug/g	NC	50
6213656	Toluene	2019/07/05	106	60 - 140	105	60 - 140	<0.020	ug/g	NC	50
6213656	Total Xylenes	2019/07/05					<0.040	ug/g	NC	50
6214913	Acid Extractable Antimony (Sb)	2019/07/08	104	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
6214913	Acid Extractable Arsenic (As)	2019/07/08	102	75 - 125	100	80 - 120	<1.0	ug/g	9.4	30
6214913	Acid Extractable Barium (Ba)	2019/07/08	101	75 - 125	97	80 - 120	<0.50	ug/g	6.8	30
6214913	Acid Extractable Beryllium (Be)	2019/07/08	99	75 - 125	95	80 - 120	<0.20	ug/g	NC	30
6214913	Acid Extractable Boron (B)	2019/07/08	100	75 - 125	95	80 - 120	<5.0	ug/g	NC	30
6214913	Acid Extractable Cadmium (Cd)	2019/07/08	102	75 - 125	96	80 - 120	<0.10	ug/g	0.26	30
6214913	Acid Extractable Chromium (Cr)	2019/07/08	102	75 - 125	99	80 - 120	<1.0	ug/g	8.7	30
6214913	Acid Extractable Cobalt (Co)	2019/07/08	100	75 - 125	99	80 - 120	<0.10	ug/g	1.7	30
6214913	Acid Extractable Copper (Cu)	2019/07/08	101	75 - 125	98	80 - 120	<0.50	ug/g	1.6	30
6214913	Acid Extractable Lead (Pb)	2019/07/08	102	75 - 125	98	80 - 120	<1.0	ug/g	0.90	30
6214913	Acid Extractable Mercury (Hg)	2019/07/08	100	75 - 125	99	80 - 120	<0.050	ug/g	NC	30
6214913	Acid Extractable Molybdenum (Mo)	2019/07/08	104	75 - 125	95	80 - 120	<0.50	ug/g	NC	30
6214913	Acid Extractable Nickel (Ni)	2019/07/08	100	75 - 125	99	80 - 120	<0.50	ug/g	0.0059	30
6214913	Acid Extractable Selenium (Se)	2019/07/08	108	75 - 125	106	80 - 120	<0.50	ug/g	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6214913	Acid Extractable Silver (Ag)	2019/07/08	100	75 - 125	94	80 - 120	<0.20	ug/g	NC	30
6214913	Acid Extractable Sodium (Na)	2019/07/08	106	75 - 125	99	80 - 120	<50	ug/g		
6214913	Acid Extractable Thallium (Tl)	2019/07/08	101	75 - 125	97	80 - 120	<0.050	ug/g	NC	30
6214913	Acid Extractable Uranium (U)	2019/07/08	103	75 - 125	98	80 - 120	<0.050	ug/g	8.1	30
6214913	Acid Extractable Vanadium (V)	2019/07/08	104	75 - 125	97	80 - 120	<5.0	ug/g	8.5	30
6214913	Acid Extractable Zinc (Zn)	2019/07/08	NC	75 - 125	101	80 - 120	<5.0	ug/g	6.4	30

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.

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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 (absolute difference <= 2x RDL).

(1) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was reanalyzed with the same results.

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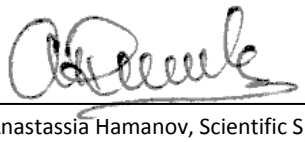
BV Labs Job #: B9I2277
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: John Deere- Canal Bank
Your P.O. #: HAM-ENV
Sampler Initials: PM

VALIDATION SIGNATURE PAGE

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



Anastassia Hamanov, Scientific Specialist

BV Labs 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.

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Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your C.O.C. #: 667354-12-01

Attention: Stephanie Hsia

exp Services Inc
Hamilton Branch
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/09
Report #: R5789511
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9I3303
Received: 2019/07/04, 14:43

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Strong Acid Leachable Metals by ICPMS	1	2019/07/06	2019/07/08	CAM SOP-00447	EPA 6020B m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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.

Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your C.O.C. #: 667354-12-01

Attention: Stephanie Hsia

exp Services Inc
Hamilton Branch
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/09
Report #: R5789511
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9I3303
Received: 2019/07/04, 14:43

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Christine Gripton, Senior Project Manager
Email: Christine.Gripton@bvlabs.com
Phone# (519)652-9444
==========
This report has been generated and distributed using a secure automated process.
BV Labs 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.

BV Labs Job #: B9I3303
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		KEI555		
Sampling Date		2019/06/25 13:30		
COC Number		667354-12-01		
	UNITS	**BH126 SS3**	**RDL**	**QC Batch**
Metals				
Acid Extractable Aluminum (Al)	ug/g	20000	50	6215160
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	6215160
Acid Extractable Arsenic (As)	ug/g	5.6	1.0	6215160
Acid Extractable Barium (Ba)	ug/g	130	0.50	6215160
Acid Extractable Beryllium (Be)	ug/g	1.0	0.20	6215160
Acid Extractable Bismuth (Bi)	ug/g	<1.0	1.0	6215160
Acid Extractable Boron (B)	ug/g	14	5.0	6215160
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	6215160
Acid Extractable Calcium (Ca)	ug/g	44000	50	6215160
Acid Extractable Chromium (Cr)	ug/g	31	1.0	6215160
Acid Extractable Cobalt (Co)	ug/g	21	0.10	6215160
Acid Extractable Copper (Cu)	ug/g	27	0.50	6215160
Acid Extractable Iron (Fe)	ug/g	35000	50	6215160
Acid Extractable Lead (Pb)	ug/g	13	1.0	6215160
Acid Extractable Magnesium (Mg)	ug/g	15000	50	6215160
Acid Extractable Manganese (Mn)	ug/g	560	1.0	6215160
Acid Extractable Molybdenum (Mo)	ug/g	0.69	0.50	6215160
Acid Extractable Nickel (Ni)	ug/g	35	0.50	6215160
Acid Extractable Phosphorus (P)	ug/g	660	50	6215160
Acid Extractable Potassium (K)	ug/g	3600	200	6215160
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	6215160
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	6215160
Acid Extractable Sodium (Na)	ug/g	280	50	6215160
Acid Extractable Strontium (Sr)	ug/g	93	1.0	6215160
Acid Extractable Thallium (Tl)	ug/g	0.19	0.050	6215160
Acid Extractable Tin (Sn)	ug/g	<1.0	1.0	6215160
Acid Extractable Uranium (U)	ug/g	0.85	0.050	6215160
Acid Extractable Vanadium (V)	ug/g	42	5.0	6215160
Acid Extractable Zinc (Zn)	ug/g	75	5.0	6215160
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	6215160

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9I3303
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KEI555
Sample ID: BH126 SS3
Matrix: Soil

Collected: 2019/06/25
Shipped:
Received: 2019/07/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6215160	2019/07/06	2019/07/08	Daniel Teclu

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

BV Labs Job #: B9I3303
Report Date: 2019/07/09

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

GENERAL COMMENTS

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

Package 1	1.7°C

Results relate only to the items tested.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

BV Labs Job #: B9I3303
Report Date: 2019/07/09

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6215160	Acid Extractable Aluminum (Al)	2019/07/08	NC	75 - 125	101	80 - 120	<50	ug/g		
6215160	Acid Extractable Antimony (Sb)	2019/07/08	93	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
6215160	Acid Extractable Arsenic (As)	2019/07/08	92	75 - 125	105	80 - 120	<1.0	ug/g	NC	30
6215160	Acid Extractable Barium (Ba)	2019/07/08	84	75 - 125	95	80 - 120	<0.50	ug/g	7.4	30
6215160	Acid Extractable Beryllium (Be)	2019/07/08	92	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
6215160	Acid Extractable Bismuth (Bi)	2019/07/08	90	75 - 125	102	80 - 120	<1.0	ug/g		
6215160	Acid Extractable Boron (B)	2019/07/08	94	75 - 125	103	80 - 120	<5.0	ug/g	NC	30
6215160	Acid Extractable Cadmium (Cd)	2019/07/08	91	75 - 125	101	80 - 120	<0.10	ug/g	NC	30
6215160	Acid Extractable Calcium (Ca)	2019/07/08	NC	75 - 125	103	80 - 120	<50	ug/g		
6215160	Acid Extractable Chromium (Cr)	2019/07/08	93	75 - 125	102	80 - 120	<1.0	ug/g	12	30
6215160	Acid Extractable Cobalt (Co)	2019/07/08	91	75 - 125	104	80 - 120	<0.10	ug/g	10	30
6215160	Acid Extractable Copper (Cu)	2019/07/08	89	75 - 125	100	80 - 120	<0.50	ug/g	4.9	30
6215160	Acid Extractable Iron (Fe)	2019/07/08	NC	75 - 125	104	80 - 120	<50	ug/g		
6215160	Acid Extractable Lead (Pb)	2019/07/08	91	75 - 125	105	80 - 120	<1.0	ug/g	4.8	30
6215160	Acid Extractable Magnesium (Mg)	2019/07/08	NC	75 - 125	103	80 - 120	<50	ug/g		
6215160	Acid Extractable Manganese (Mn)	2019/07/08	NC	75 - 125	103	80 - 120	<1.0	ug/g		
6215160	Acid Extractable Mercury (Hg)	2019/07/08	93	75 - 125	105	80 - 120	<0.050	ug/g	NC	30
6215160	Acid Extractable Molybdenum (Mo)	2019/07/08	91	75 - 125	101	80 - 120	<0.50	ug/g	NC	30
6215160	Acid Extractable Nickel (Ni)	2019/07/08	91	75 - 125	104	80 - 120	<0.50	ug/g	1.8	30
6215160	Acid Extractable Phosphorus (P)	2019/07/08	NC	75 - 125	100	80 - 120	<50	ug/g		
6215160	Acid Extractable Potassium (K)	2019/07/08	NC	75 - 125	101	80 - 120	<200	ug/g		
6215160	Acid Extractable Selenium (Se)	2019/07/08	96	75 - 125	106	80 - 120	<0.50	ug/g	NC	30
6215160	Acid Extractable Silver (Ag)	2019/07/08	89	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
6215160	Acid Extractable Sodium (Na)	2019/07/08	91	75 - 125	103	80 - 120	<50	ug/g		
6215160	Acid Extractable Strontium (Sr)	2019/07/08	NC	75 - 125	102	80 - 120	<1.0	ug/g		
6215160	Acid Extractable Thallium (Tl)	2019/07/08	91	75 - 125	104	80 - 120	<0.050	ug/g	NC	30
6215160	Acid Extractable Tin (Sn)	2019/07/08	92	75 - 125	100	80 - 120	<1.0	ug/g		
6215160	Acid Extractable Uranium (U)	2019/07/08	92	75 - 125	103	80 - 120	<0.050	ug/g	2.5	30
6215160	Acid Extractable Vanadium (V)	2019/07/08	NC	75 - 125	103	80 - 120	<5.0	ug/g	11	30

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BV Labs Job #: B9I3303
Report Date: 2019/07/09

QUALITY ASSURANCE REPORT(CONT'D)

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6215160	Acid Extractable Zinc (Zn)	2019/07/08	92	75 - 125	102	80 - 120	<5.0	ug/g	4.8	30

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.

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.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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 (absolute difference <= 2x RDL).

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BV Labs Job #: B9I3303
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exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE-CANAL BANK
Your P.O. #: HAM-ENV
Sampler Initials: PM

VALIDATION SIGNATURE PAGE

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

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs 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.

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Maxxam
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Your P.O. #: HAM-ENV
Your Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your C.O.C. #: N/A

Attention: Stephanie Hsia

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/04/12
Report #: R5667948
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B991442
Received: 2019/04/08, 15:25

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	2	N/A	2019/04/11	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	2	2019/04/10	2019/04/11	CAM SOP-00408	R153 Ana. Prot. 2011
Hexavalent Chromium in Soil by IC (1)	2	2019/04/09	2019/04/10	CAM SOP-00436	EPA 3060/7199 m
Strong Acid Leachable Metals by ICPMS	2	2019/04/10	2019/04/10	CAM SOP-00447	EPA 6020B m
Moisture	4	N/A	2019/04/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	2	2019/04/10	2019/04/10	CAM SOP-00318	EPA 8270D m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.

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) Soils are reported on a dry weight basis unless otherwise specified.

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Maxxam
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Your P.O. #: HAM-ENV
Your Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your C.O.C. #: N/A

Attention: Stephanie Hsia

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/04/12
Report #: R5667948
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B991442
Received: 2019/04/08, 15:25

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Christine Gripton, Senior Project Manager
Email: CGripton@maxxam.ca
Phone# (800)268-7396 Ext:250
==========
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.

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Maxxam Job #: B991442
Report Date: 2019/04/12

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your P.O. #: HAM-ENV
Sampler Initials: DB

O.REG 153 METALS PACKAGE (SOIL)

Maxxam ID		JJY046	JJY048		
Sampling Date		2019/02/13	2019/02/13		
COC Number		N/A	N/A		
	UNITS	**BH3-SS3**	**BH6-SS3**	**RDL**	**QC Batch**
Inorganics					
Moisture	%	20	20	1.0	6060670
Chromium (VI)	ug/g	<0.2	<0.2	0.2	6061386
Metals					
Hot Water Ext. Boron (B)	ug/g	0.29	0.18	0.050	6062983
Acid Extractable Antimony (Sb)	ug/g	0.24	0.31	0.20	6062660
Acid Extractable Arsenic (As)	ug/g	5.2	5.6	1.0	6062660
Acid Extractable Barium (Ba)	ug/g	130	180	0.50	6062660
Acid Extractable Beryllium (Be)	ug/g	1.1	1.2	0.20	6062660
Acid Extractable Boron (B)	ug/g	16	15	5.0	6062660
Acid Extractable Cadmium (Cd)	ug/g	<0.10	<0.10	0.10	6062660
Acid Extractable Chromium (Cr)	ug/g	33	34	1.0	6062660
Acid Extractable Cobalt (Co)	ug/g	16	19	0.10	6062660
Acid Extractable Copper (Cu)	ug/g	25	26	0.50	6062660
Acid Extractable Lead (Pb)	ug/g	12	13	1.0	6062660
Acid Extractable Molybdenum (Mo)	ug/g	0.66	0.78	0.50	6062660
Acid Extractable Nickel (Ni)	ug/g	36	41	0.50	6062660
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	0.50	6062660
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	0.20	6062660
Acid Extractable Sodium (Na)	ug/g	440	500	50	6062660
Acid Extractable Thallium (Tl)	ug/g	0.24	0.19	0.050	6062660
Acid Extractable Uranium (U)	ug/g	1.2	1.1	0.050	6062660
Acid Extractable Vanadium (V)	ug/g	43	46	5.0	6062660
Acid Extractable Zinc (Zn)	ug/g	77	76	5.0	6062660
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	0.050	6062660

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B991442
Report Date: 2019/04/12

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your P.O. #: HAM-ENV
Sampler Initials: DB

O.REG 153 PAHS (SOIL)

Maxxam ID		JJY045	JJY047		
Sampling Date		2019/02/13	2019/02/13		
COC Number		N/A	N/A		
	UNITS	**BH3-SS2**	**BH6-SS2**	**RDL**	**QC Batch**
Inorganics					
Moisture	%	17	14	1.0	6061606
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	0.0071	6058367
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	<0.0050	<0.0050	0.0050	6062873
Acenaphthylene	ug/g	<0.0050	<0.0050	0.0050	6062873
Anthracene	ug/g	<0.0050	<0.0050	0.0050	6062873
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	0.0050	6062873
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	0.0050	6062873
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	6062873
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	0.0050	6062873
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	6062873
Chrysene	ug/g	<0.0050	<0.0050	0.0050	6062873
Dibenz(a,h)anthracene	ug/g	<0.0050	<0.0050	0.0050	6062873
Fluoranthene	ug/g	<0.0050	<0.0050	0.0050	6062873
Fluorene	ug/g	<0.0050	<0.0050	0.0050	6062873
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	0.0050	6062873
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	6062873
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	6062873
Naphthalene	ug/g	<0.0050	<0.0050	0.0050	6062873
Phenanthrene	ug/g	<0.0050	<0.0050	0.0050	6062873
Pyrene	ug/g	<0.0050	<0.0050	0.0050	6062873
Surrogate Recovery (%)					
D10-Anthracene	%	91	97		6062873
D14-Terphenyl (FS)	%	99	99		6062873
D8-Acenaphthylene	%	96	96		6062873

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B991442
Report Date: 2019/04/12

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your P.O. #: HAM-ENV
Sampler Initials: DB

TEST SUMMARY

Maxxam ID: JJY045
Sample ID: BH3-SS2
Matrix: Soil

Collected: 2019/02/13
Shipped:
Received: 2019/04/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6058367	N/A	2019/04/11	Automated Statchk
Moisture	BAL	6061606	N/A	2019/04/09	Mithunaa Sasitheepan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6062873	2019/04/10	2019/04/10	Mitesh Raj

Maxxam ID: JJY046
Sample ID: BH3-SS3
Matrix: Soil

Collected: 2019/02/13
Shipped:
Received: 2019/04/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6062983	2019/04/10	2019/04/11	Jolly John
Hexavalent Chromium in Soil by IC	IC/SPEC	6061386	2019/04/09	2019/04/10	Sally Norouz
Strong Acid Leachable Metals by ICPMS	ICP/MS	6062660	2019/04/10	2019/04/10	Viviana Canzonieri
Moisture	BAL	6060670	N/A	2019/04/09	Mithunaa Sasitheepan

Maxxam ID: JJY047
Sample ID: BH6-SS2
Matrix: Soil

Collected: 2019/02/13
Shipped:
Received: 2019/04/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6058367	N/A	2019/04/11	Automated Statchk
Moisture	BAL	6061606	N/A	2019/04/09	Mithunaa Sasitheepan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6062873	2019/04/10	2019/04/10	Mitesh Raj

Maxxam ID: JJY048
Sample ID: BH6-SS3
Matrix: Soil

Collected: 2019/02/13
Shipped:
Received: 2019/04/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	6062983	2019/04/10	2019/04/11	Jolly John
Hexavalent Chromium in Soil by IC	IC/SPEC	6061386	2019/04/09	2019/04/10	Sally Norouz
Strong Acid Leachable Metals by ICPMS	ICP/MS	6062660	2019/04/10	2019/04/10	Viviana Canzonieri
Moisture	BAL	6060670	N/A	2019/04/09	Mithunaa Sasitheepan

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Maxxam Job #: B991442
Report Date: 2019/04/12

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your P.O. #: HAM-ENV
Sampler Initials: DB

GENERAL COMMENTS

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

Package 1	3.7°C

CR6ALKIC-S: Analysis was performed past sample holding time. This may increase the variability associated with these results.

Results relate only to the items tested.

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Maxxam Job #: B991442
Report Date: 2019/04/12

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your P.O. #: HAM-ENV
Sampler Initials: DB

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6062873	D10-Anthracene	2019/04/10	87	50 - 130	90	50 - 130	87	%		
6062873	D14-Terphenyl (FS)	2019/04/10	106	50 - 130	103	50 - 130	87	%		
6062873	D8-Acenaphthylene	2019/04/10	86	50 - 130	89	50 - 130	82	%		
6060670	Moisture	2019/04/09							2.2	20
6061386	Chromium (VI)	2019/04/10	62 (1)	70 - 130	85	80 - 120	<0.2	ug/g	NC	35
6061606	Moisture	2019/04/09							2.8	20
6062660	Acid Extractable Antimony (Sb)	2019/04/10	93	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
6062660	Acid Extractable Arsenic (As)	2019/04/10	98	75 - 125	104	80 - 120	<1.0	ug/g	3.6	30
6062660	Acid Extractable Barium (Ba)	2019/04/10	97	75 - 125	100	80 - 120	<0.50	ug/g	0.62	30
6062660	Acid Extractable Beryllium (Be)	2019/04/10	95	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
6062660	Acid Extractable Boron (B)	2019/04/10	93	75 - 125	99	80 - 120	<5.0	ug/g	NC	30
6062660	Acid Extractable Cadmium (Cd)	2019/04/10	95	75 - 125	100	80 - 120	<0.10	ug/g	NC	30
6062660	Acid Extractable Chromium (Cr)	2019/04/10	97	75 - 125	101	80 - 120	<1.0	ug/g	1.1	30
6062660	Acid Extractable Cobalt (Co)	2019/04/10	95	75 - 125	100	80 - 120	<0.10	ug/g	1.2	30
6062660	Acid Extractable Copper (Cu)	2019/04/10	93	75 - 125	101	80 - 120	<0.50	ug/g	2.0	30
6062660	Acid Extractable Lead (Pb)	2019/04/10	93	75 - 125	101	80 - 120	<1.0	ug/g	0.68	30
6062660	Acid Extractable Mercury (Hg)	2019/04/10	91	75 - 125	92	80 - 120	<0.050	ug/g	NC	30
6062660	Acid Extractable Molybdenum (Mo)	2019/04/10	97	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
6062660	Acid Extractable Nickel (Ni)	2019/04/10	94	75 - 125	104	80 - 120	<0.50	ug/g	9.2	30
6062660	Acid Extractable Selenium (Se)	2019/04/10	97	75 - 125	102	80 - 120	<0.50	ug/g	NC	30
6062660	Acid Extractable Silver (Ag)	2019/04/10	94	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
6062660	Acid Extractable Sodium (Na)	2019/04/10	103	75 - 125	104	80 - 120	<50	ug/g		
6062660	Acid Extractable Thallium (Tl)	2019/04/10	95	75 - 125	99	80 - 120	<0.050	ug/g	NC	30
6062660	Acid Extractable Uranium (U)	2019/04/10	95	75 - 125	100	80 - 120	<0.050	ug/g	3.4	30
6062660	Acid Extractable Vanadium (V)	2019/04/10	98	75 - 125	102	80 - 120	<5.0	ug/g	6.3	30
6062660	Acid Extractable Zinc (Zn)	2019/04/10	87	75 - 125	106	80 - 120	<5.0	ug/g	3.6	30
6062873	1-Methylnaphthalene	2019/04/10	98	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
6062873	2-Methylnaphthalene	2019/04/10	87	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
6062873	Acenaphthene	2019/04/10	83	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
6062873	Acenaphthylene	2019/04/10	83	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
6062873	Anthracene	2019/04/10	79	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6062873	Benzo(a)anthracene	2019/04/10	85	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
6062873	Benzo(a)pyrene	2019/04/10	81	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
6062873	Benzo(b/j)fluoranthene	2019/04/10	83	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
6062873	Benzo(g,h,i)perylene	2019/04/10	80	50 - 130	81	50 - 130	<0.0050	ug/g	NC	40
6062873	Benzo(k)fluoranthene	2019/04/10	76	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40
6062873	Chrysene	2019/04/10	82	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
6062873	Dibenz(a,h)anthracene	2019/04/10	78	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
6062873	Fluoranthene	2019/04/10	99	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
6062873	Fluorene	2019/04/10	83	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
6062873	Indeno(1,2,3-cd)pyrene	2019/04/10	78	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
6062873	Naphthalene	2019/04/10	79	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
6062873	Phenanthrene	2019/04/10	80	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
6062873	Pyrene	2019/04/10	101	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
6062983	Hot Water Ext. Boron (B)	2019/04/11	107	75 - 125	97	75 - 125	<0.050	ug/g	2.6	40

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.

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 (absolute difference <= 2x RDL).

(1) The matrix spike recovery was below the lower control limit. This may be due in part to the reducing environment of the sample. The sample was reanalyzed with the same results.

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Maxxam Job #: B991442
Report Date: 2019/04/12

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK ST
Your P.O. #: HAM-ENV
Sampler Initials: DB

VALIDATION SIGNATURE PAGE

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

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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.

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Your P.O. #: HAM-ENV
Your Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your C.O.C. #: 712033-01-01

Attention: Stephanie Hsia

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/06/10
Report #: R5747368
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9F0926
Received: 2019/06/04, 16:00

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	2	N/A	2019/06/07	CAM SOP-00301	EPA 8270D m
Chloride by Automated Colourimetry	4	N/A	2019/06/07	CAM SOP-00463	SM 4500-Cl E m
Petroleum Hydro. CCME F1 & BTEX in Water	6	N/A	2019/06/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Water	3	N/A	2019/06/07	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	9	2019/06/07	2019/06/07	CAM SOP-00316	CCME PHC-CWS m
Dissolved Metals Analysis by ICP	4	2019/06/06	2019/06/07	CAM SOP-00408	EPA 6010D m
Dissolved Metals by ICPMS	1	N/A	2019/06/07	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	2	2019/06/07	2019/06/07	CAM SOP-00318	EPA 8270D m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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.

Your P.O. #: HAM-ENV
Your Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your C.O.C. #: 712033-01-01

Attention: Stephanie Hsia

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/06/10
Report #: R5747368
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9F0926
Received: 2019/06/04, 16:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Christine Gripton, Senior Project Manager
Email: Christine.Gripton@bvlabs.com
Phone# (519)652-9444

==========

BV Labs 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.

BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

RESULTS OF ANALYSES OF WATER

BV Labs ID		JXB809	JXB810	JXB811	JXB811		JXB814		
Sampling Date		2019/06/03 12:00	2019/06/03 12:00	2019/06/03 11:00	2019/06/03 11:00		2019/06/03 13:30		
COC Number		712033-01-01	712033-01-01	712033-01-01	712033-01-01		712033-01-01		
	UNITS	**MW09-14**	**MW09-144**	**MW09-22**	**MW09-22 Lab-Dup**	**RDL**	**MW09-33**	**RDL**	**QC Batch**
Inorganics									
Dissolved Chloride (Cl-)	mg/L	180	180	130	130	2.0	19	1.0	6162145

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID		JXB809	JXB810	JXB811	JXB811	JXB814		
Sampling Date		2019/06/03 12:00	2019/06/03 12:00	2019/06/03 11:00	2019/06/03 11:00	2019/06/03 13:30		
COC Number		712033-01-01	712033-01-01	712033-01-01	712033-01-01	712033-01-01		
	UNITS	**MW09-14**	**MW09-144**	**MW09-22**	**MW09-22 Lab-Dup**	**MW09-33**	**RDL**	**QC Batch**
Metals								
Dissolved Sodium (Na)	mg/L	360	350	260	260	62	0.5	6163070

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 DISSOLVED ICPMS METALS (WATER)

BV Labs ID		JXB816		
Sampling Date		2019/06/03 14:35		
COC Number		712033-01-01		
	UNITS	**BH-06**	**RDL**	**QC Batch**
Metals				
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	6163101
Dissolved Arsenic (As)	ug/L	<1.0	1.0	6163101
Dissolved Barium (Ba)	ug/L	6.3	2.0	6163101
Dissolved Beryllium (Be)	ug/L	<0.50	0.50	6163101
Dissolved Boron (B)	ug/L	480	10	6163101
Dissolved Cadmium (Cd)	ug/L	<0.10	0.10	6163101
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	6163101
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	6163101
Dissolved Copper (Cu)	ug/L	1.2	1.0	6163101
Dissolved Lead (Pb)	ug/L	<0.50	0.50	6163101
Dissolved Molybdenum (Mo)	ug/L	2.2	0.50	6163101
Dissolved Nickel (Ni)	ug/L	1.9	1.0	6163101
Dissolved Selenium (Se)	ug/L	<2.0	2.0	6163101
Dissolved Silver (Ag)	ug/L	<0.10	0.10	6163101
Dissolved Sodium (Na)	ug/L	570000	100	6163101
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	6163101
Dissolved Uranium (U)	ug/L	57	0.10	6163101
Dissolved Vanadium (V)	ug/L	<0.50	0.50	6163101
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	6163101

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 PAHS (WATER)

BV Labs ID		JXB816	JXB817		
Sampling Date		2019/06/03 14:35	2019/06/03 14:35		
COC Number		712033-01-01	712033-01-01		
	UNITS	**BH-06**	**BH-066**	**RDL**	**QC Batch**
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	<0.071	<0.071	0.071	6158996
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	<0.050	<0.050	0.050	6163959
Acenaphthylene	ug/L	<0.050	<0.050	0.050	6163959
Anthracene	ug/L	<0.050	<0.050	0.050	6163959
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	6163959
Benzo(a)pyrene	ug/L	<0.010	<0.010	0.010	6163959
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	6163959
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	6163959
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	6163959
Chrysene	ug/L	<0.050	<0.050	0.050	6163959
Dibenz(a,h)anthracene	ug/L	<0.050	<0.050	0.050	6163959
Fluoranthene	ug/L	<0.050	<0.050	0.050	6163959
Fluorene	ug/L	<0.050	<0.050	0.050	6163959
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	6163959
1-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	6163959
2-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	6163959
Naphthalene	ug/L	<0.050	<0.050	0.050	6163959
Phenanthrene	ug/L	<0.030	<0.030	0.030	6163959
Pyrene	ug/L	<0.050	<0.050	0.050	6163959
Surrogate Recovery (%)					
D10-Anthracene	%	97	91		6163959
D14-Terphenyl (FS)	%	92	87		6163959
D8-Acenaphthylene	%	90	89		6163959

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		JXB808	JXB809	JXB811	JXB812	JXB813	JXB814		
Sampling Date		2019/06/03 14:00	2019/06/03 12:00	2019/06/03 11:00	2019/06/03 10:55	2019/06/03 14:30	2019/06/03 13:30		
COC Number		712033-01-01	712033-01-01	712033-01-01	712033-01-01	712033-01-01	712033-01-01		
	UNITS	**MW09-9**	**MW09-14**	**MW09-22**	**MW09-23**	**MW09-32**	**MW09-33**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons									
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6161782
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6161782
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6161782
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6161782
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	6161782
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	6161782
F1 (C6-C10)	ug/L	<25	<25	<25	<25	<25	<25	25	6161782
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	<25	<25	25	6161782
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	<100	<100	100	6163827
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	<200	200	6163827
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	<200	200	6163827
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes	Yes	Yes		6163827
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	101	102	102	101	101	103		6161782
4-Bromofluorobenzene	%	96	99	99	96	99	95		6161782
D10-Ethylbenzene	%	107	105	104	103	103	108		6161782
D4-1,2-Dichloroethane	%	104	98	98	98	99	100		6161782
o-Terphenyl	%	100	96	98	102	102	102		6163827

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		JXB815		JXB818	JXB819		
Sampling Date		2019/06/03 15:15		2019/06/03 11:00			
COC Number		712033-01-01		712033-01-01	712033-01-01		
	UNITS	**MW09-41**	**QC Batch**	**MW09-222**	**TRIP BLANK**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons							
Benzene	ug/L	<0.20	6161782	<0.20	<0.20	0.20	6163259
Toluene	ug/L	<0.20	6161782	<0.20	<0.20	0.20	6163259
Ethylbenzene	ug/L	<0.20	6161782	<0.20	<0.20	0.20	6163259
o-Xylene	ug/L	<0.20	6161782	<0.20	<0.20	0.20	6163259
p+m-Xylene	ug/L	<0.40	6161782	<0.40	<0.40	0.40	6163259
Total Xylenes	ug/L	<0.40	6161782	<0.40	<0.40	0.40	6163259
F1 (C6-C10)	ug/L	<25	6161782	<25	<25	25	6163259
F1 (C6-C10) - BTEX	ug/L	<25	6161782	<25	<25	25	6163259
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	<100	6163827	<100	<100	100	6163827
F3 (C16-C34 Hydrocarbons)	ug/L	<200	6163827	<200	<200	200	6163827
F4 (C34-C50 Hydrocarbons)	ug/L	<200	6163827	<200	<200	200	6163827
Reached Baseline at C50	ug/L	Yes	6163827	Yes	Yes		6163827
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	101	6161782	105	107		6163259
4-Bromofluorobenzene	%	99	6161782	95	96		6163259
D10-Ethylbenzene	%	104	6161782	97	100		6163259
D4-1,2-Dichloroethane	%	101	6161782	101	103		6163259
o-Terphenyl	%	99	6163827	101	103		6163827

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: JXB808
Sample ID: MW09-9
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/07	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz

BV Labs ID: JXB809
Sample ID: MW09-14
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	6162145	N/A	2019/06/07	Deonarine Ramnarine
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz
Dissolved Metals Analysis by ICP	ICP	6163070	2019/06/06	2019/06/07	Azita Fazaeli

BV Labs ID: JXB810
Sample ID: MW09-144
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	6162145	N/A	2019/06/07	Deonarine Ramnarine
Dissolved Metals Analysis by ICP	ICP	6163070	2019/06/06	2019/06/07	Azita Fazaeli

BV Labs ID: JXB811
Sample ID: MW09-22
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	6162145	N/A	2019/06/07	Deonarine Ramnarine
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz
Dissolved Metals Analysis by ICP	ICP	6163070	2019/06/06	2019/06/07	Azita Fazaeli

BV Labs ID: JXB811 Dup
Sample ID: MW09-22
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	6162145	N/A	2019/06/07	Deonarine Ramnarine
Dissolved Metals Analysis by ICP	ICP	6163070	2019/06/06	2019/06/07	Azita Fazaeli

BV Labs ID: JXB812
Sample ID: MW09-23
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/06	Georgeta Rusu

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: JXB812
Sample ID: MW09-23
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz

BV Labs ID: JXB813
Sample ID: MW09-32
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz

BV Labs ID: JXB814
Sample ID: MW09-33
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	6162145	N/A	2019/06/07	Deonarine Ramnarine
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz
Dissolved Metals Analysis by ICP	ICP	6163070	2019/06/06	2019/06/07	Azita Fazaeli

BV Labs ID: JXB815
Sample ID: MW09-41
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6161782	N/A	2019/06/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz

BV Labs ID: JXB816
Sample ID: BH-06
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6158996	N/A	2019/06/07	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	6163101	N/A	2019/06/07	Arefa Dabhad
PAH Compounds in Water by GC/MS (SIM)	GC/MS	6163959	2019/06/07	2019/06/07	Bibin Alias Paul

BV Labs ID: JXB817
Sample ID: BH-066
Matrix: Water
Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6158996	N/A	2019/06/07	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	6163959	2019/06/07	2019/06/07	Bibin Alias Paul

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: JXB818
Sample ID: MW09-222
Matrix: Water

Collected: 2019/06/03
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6163259	N/A	2019/06/07	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz

BV Labs ID: JXB819
Sample ID: TRIP BLANK
Matrix: Water

Collected:
Shipped:
Received: 2019/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6163259	N/A	2019/06/07	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6163827	2019/06/07	2019/06/07	Atoosa Keshavarz

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

GENERAL COMMENTS

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

Package 1	1.7°C

Results relate only to the items tested.

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6161782	1,4-Difluorobenzene	2019/06/06	100	70 - 130	103	70 - 130	102	%		
6161782	4-Bromofluorobenzene	2019/06/06	102	70 - 130	101	70 - 130	100	%		
6161782	D10-Ethylbenzene	2019/06/06	109	70 - 130	99	70 - 130	105	%		
6161782	D4-1,2-Dichloroethane	2019/06/06	99	70 - 130	104	70 - 130	99	%		
6163259	1,4-Difluorobenzene	2019/06/07	106	70 - 130	105	70 - 130	106	%		
6163259	4-Bromofluorobenzene	2019/06/07	97	70 - 130	98	70 - 130	95	%		
6163259	D10-Ethylbenzene	2019/06/07	99	70 - 130	96	70 - 130	95	%		
6163259	D4-1,2-Dichloroethane	2019/06/07	102	70 - 130	102	70 - 130	103	%		
6163827	o-Terphenyl	2019/06/07	105	60 - 130	101	60 - 130	97	%		
6163959	D10-Anthracene	2019/06/07	90	50 - 130	89	50 - 130	111	%		
6163959	D14-Terphenyl (FS)	2019/06/07	81	50 - 130	84	50 - 130	102	%		
6163959	D8-Acenaphthylene	2019/06/07	83	50 - 130	85	50 - 130	93	%		
6161782	Benzene	2019/06/06	113	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
6161782	Ethylbenzene	2019/06/06	106	70 - 130	98	70 - 130	<0.20	ug/L	16	30
6161782	F1 (C6-C10) - BTEX	2019/06/06					<25	ug/L	NC	30
6161782	F1 (C6-C10)	2019/06/06	91	70 - 130	97	70 - 130	<25	ug/L	NC	30
6161782	o-Xylene	2019/06/06	109	70 - 130	100	70 - 130	<0.20	ug/L	22	30
6161782	p+m-Xylene	2019/06/06	108	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
6161782	Toluene	2019/06/06	112	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
6161782	Total Xylenes	2019/06/06					<0.40	ug/L	NC	30
6162145	Dissolved Chloride (Cl-)	2019/06/07	NC	80 - 120	102	80 - 120	<1.0	mg/L	3.4	20
6163070	Dissolved Sodium (Na)	2019/06/07	NC	80 - 120	100	80 - 120	<0.5	mg/L	0.19	25
6163101	Dissolved Antimony (Sb)	2019/06/07	107	80 - 120	104	80 - 120	<0.50	ug/L	NC	20
6163101	Dissolved Arsenic (As)	2019/06/07	106	80 - 120	101	80 - 120	<1.0	ug/L	3.2	20
6163101	Dissolved Barium (Ba)	2019/06/07	104	80 - 120	106	80 - 120	<2.0	ug/L	0.36	20
6163101	Dissolved Beryllium (Be)	2019/06/07	103	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
6163101	Dissolved Boron (B)	2019/06/07	100	80 - 120	94	80 - 120	<10	ug/L	3.2	20
6163101	Dissolved Cadmium (Cd)	2019/06/07	106	80 - 120	103	80 - 120	<0.10	ug/L	NC	20
6163101	Dissolved Chromium (Cr)	2019/06/07	103	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
6163101	Dissolved Cobalt (Co)	2019/06/07	104	80 - 120	101	80 - 120	<0.50	ug/L	1.6	20
6163101	Dissolved Copper (Cu)	2019/06/07	104	80 - 120	104	80 - 120	<1.0	ug/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6163101	Dissolved Lead (Pb)	2019/06/07	101	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
6163101	Dissolved Molybdenum (Mo)	2019/06/07	103	80 - 120	96	80 - 120	<0.50	ug/L	2.7	20
6163101	Dissolved Nickel (Ni)	2019/06/07	99	80 - 120	99	80 - 120	<1.0	ug/L	5.2	20
6163101	Dissolved Selenium (Se)	2019/06/07	107	80 - 120	101	80 - 120	<2.0	ug/L	NC	20
6163101	Dissolved Silver (Ag)	2019/06/07	79 (1)	80 - 120	99	80 - 120	<0.10	ug/L	NC	20
6163101	Dissolved Sodium (Na)	2019/06/07	105	80 - 120	100	80 - 120	<100	ug/L	1.9	20
6163101	Dissolved Thallium (Tl)	2019/06/07	108	80 - 120	101	80 - 120	<0.050	ug/L	NC	20
6163101	Dissolved Uranium (U)	2019/06/07	109	80 - 120	101	80 - 120	<0.10	ug/L	2.1	20
6163101	Dissolved Vanadium (V)	2019/06/07	106	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
6163101	Dissolved Zinc (Zn)	2019/06/07	103	80 - 120	101	80 - 120	<5.0	ug/L	NC	20
6163259	Benzene	2019/06/07	112	70 - 130	111	70 - 130	<0.20	ug/L	NC	30
6163259	Ethylbenzene	2019/06/07	104	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
6163259	F1 (C6-C10) - BTEX	2019/06/07					<25	ug/L	NC	30
6163259	F1 (C6-C10)	2019/06/07	96	70 - 130	97	70 - 130	<25	ug/L	NC	30
6163259	o-Xylene	2019/06/07	103	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
6163259	p+m-Xylene	2019/06/07	107	70 - 130	105	70 - 130	<0.40	ug/L	NC	30
6163259	Toluene	2019/06/07	108	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
6163259	Total Xylenes	2019/06/07					<0.40	ug/L	NC	30
6163827	F2 (C10-C16 Hydrocarbons)	2019/06/07	101	50 - 130	102	60 - 130	<100	ug/L	NC	30
6163827	F3 (C16-C34 Hydrocarbons)	2019/06/07	98	50 - 130	107	60 - 130	<200	ug/L	NC	30
6163827	F4 (C34-C50 Hydrocarbons)	2019/06/07	89	50 - 130	95	60 - 130	<200	ug/L	NC	30
6163959	1-Methylnaphthalene	2019/06/07	96	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
6163959	2-Methylnaphthalene	2019/06/07	89	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
6163959	Acenaphthene	2019/06/07	91	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
6163959	Acenaphthylene	2019/06/07	85	50 - 130	88	50 - 130	<0.050	ug/L	NC	30
6163959	Anthracene	2019/06/07	88	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
6163959	Benzo(a)anthracene	2019/06/07	91	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
6163959	Benzo(a)pyrene	2019/06/07	90	50 - 130	97	50 - 130	<0.010	ug/L	NC	30
6163959	Benzo(b/j)fluoranthene	2019/06/07	90	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
6163959	Benzo(g,h,i)perylene	2019/06/07	88	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
6163959	Benzo(k)fluoranthene	2019/06/07	93	50 - 130	100	50 - 130	<0.050	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6163959	Chrysene	2019/06/07	90	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
6163959	Dibenz(a,h)anthracene	2019/06/07	90	50 - 130	97	50 - 130	<0.050	ug/L	NC	30
6163959	Fluoranthene	2019/06/07	96	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
6163959	Fluorene	2019/06/07	87	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
6163959	Indeno(1,2,3-cd)pyrene	2019/06/07	95	50 - 130	104	50 - 130	<0.050	ug/L	NC	30
6163959	Naphthalene	2019/06/07	82	50 - 130	84	50 - 130	<0.050	ug/L	NC	30
6163959	Phenanthrene	2019/06/07	91	50 - 130	95	50 - 130	<0.030	ug/L	NC	30
6163959	Pyrene	2019/06/07	93	50 - 130	99	50 - 130	<0.050	ug/L	NC	30

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.

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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 (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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BV Labs Job #: B9F0926
Report Date: 2019/06/10

exp Services Inc
Client Project #: HAM-00801631-A0
Site Location: 555 CANAL BANK RD, WELLAND
Your P.O. #: HAM-ENV
Sampler Initials: PM

VALIDATION SIGNATURE PAGE

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

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs 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.

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Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your C.O.C. #: 726648-01-01

Attention: Samuel Lee

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/19
Report #: R5804165
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9J1053
Received: 2019/07/11, 17:00

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum	1	N/A	2019/07/15		EPA 8260C m
1,3-Dichloropropene Sum	2	N/A	2019/07/18		EPA 8260C m
Chromium (VI) in Water	1	N/A	2019/07/15	CAM SOP-00436	EPA 7199 m
Petroleum Hydro. CCME F1 & BTEX in Water	1	N/A	2019/07/16	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2019/07/17	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	5	2019/07/17	2019/07/18	CAM SOP-00316	CCME PHC-CWS m
Mercury	1	2019/07/16	2019/07/16	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	1	N/A	2019/07/17	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2019/07/18	CAM SOP-00447	EPA 6020B m
Volatile Organic Compounds and F1 PHCs	2	N/A	2019/07/18	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2019/07/13	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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

Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your C.O.C. #: 726648-01-01

Attention: Samuel Lee

exp Services Inc
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/19
Report #: R5804165
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9J1053
Received: 2019/07/11, 17:00

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.
Christine Gripton, Senior Project Manager
Email: Christine.Gripton@bvlabs.com
Phone# (519)652-9444
==========
This report has been generated and distributed using a secure automated process.
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 DISSOLVED ICPMS METALS (WATER)

BV Labs ID		KFZ375		
Sampling Date		2019/07/10 11:30		
COC Number		726648-01-01		
	UNITS	**MW1011**	**RDL**	**QC Batch**
Metals				
Dissolved Antimony (Sb)	ug/L	0.72	0.50	6226911
Dissolved Arsenic (As)	ug/L	2.0	1.0	6226911
Dissolved Barium (Ba)	ug/L	11	2.0	6226911
Dissolved Beryllium (Be)	ug/L	<0.50	0.50	6226911
Dissolved Boron (B)	ug/L	370	10	6226911
Dissolved Cadmium (Cd)	ug/L	<0.10	0.10	6226911
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	6226911
Dissolved Cobalt (Co)	ug/L	5.3	0.50	6226911
Dissolved Copper (Cu)	ug/L	<1.0	1.0	6226911
Dissolved Lead (Pb)	ug/L	<0.50	0.50	6226911
Dissolved Molybdenum (Mo)	ug/L	9.7	0.50	6226911
Dissolved Nickel (Ni)	ug/L	10	1.0	6226911
Dissolved Selenium (Se)	ug/L	<2.0	2.0	6226911
Dissolved Silver (Ag)	ug/L	<0.10	0.10	6226911
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	6226911
Dissolved Uranium (U)	ug/L	27	0.10	6226911
Dissolved Vanadium (V)	ug/L	0.57	0.50	6226911
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	6226911

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 METALS PACKAGE (WATER)

BV Labs ID		KFZ374			KFZ374		
Sampling Date		2019/07/10 11:30			2019/07/10 11:30		
COC Number		726648-01-01			726648-01-01		
	UNITS	**MW101**	**RDL**	**QC Batch**	**MW101 Lab-Dup**	**RDL**	**QC Batch**
Metals							
Chromium (VI)	ug/L	<0.50	0.50	6221417			
Mercury (Hg)	ug/L	<0.1	0.1	6230122			
Dissolved Antimony (Sb)	ug/L	0.82	0.50	6226911	0.91	0.50	6226911
Dissolved Arsenic (As)	ug/L	1.7	1.0	6226911	1.8	1.0	6226911
Dissolved Barium (Ba)	ug/L	10	2.0	6226911	10	2.0	6226911
Dissolved Beryllium (Be)	ug/L	<0.50	0.50	6226911	<0.50	0.50	6226911
Dissolved Boron (B)	ug/L	390	10	6226911	370	10	6226911
Dissolved Cadmium (Cd)	ug/L	<0.10	0.10	6226911	<0.10	0.10	6226911
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	6226911	<5.0	5.0	6226911
Dissolved Cobalt (Co)	ug/L	5.3	0.50	6226911	5.3	0.50	6226911
Dissolved Copper (Cu)	ug/L	<1.0	1.0	6226911	<1.0	1.0	6226911
Dissolved Lead (Pb)	ug/L	<0.50	0.50	6226911	<0.50	0.50	6226911
Dissolved Molybdenum (Mo)	ug/L	10	0.50	6226911	9.6	0.50	6226911
Dissolved Nickel (Ni)	ug/L	10	1.0	6226911	10	1.0	6226911
Dissolved Selenium (Se)	ug/L	2.1	2.0	6226911	<2.0	2.0	6226911
Dissolved Silver (Ag)	ug/L	<0.10	0.10	6226911	<0.10	0.10	6226911
Dissolved Thallium (Tl)	ug/L	0.062	0.050	6226911	<0.050	0.050	6226911
Dissolved Uranium (U)	ug/L	30	0.10	6226911	28	0.10	6226911
Dissolved Vanadium (V)	ug/L	0.60	0.50	6226911	0.63	0.50	6226911
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	6226911	<5.0	5.0	6226911

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		KFZ376			KFZ376			KFZ377	KFZ378		
Sampling Date		2019/07/10 10:30			2019/07/10 10:30			2019/07/10 09:00	2019/07/10 09:30		
COC Number		726648-01-01			726648-01-01			726648-01-01	726648-01-01		
	UNITS	**MW102**	**RDL**	**QC Batch**	**MW102 Lab-Dup**	**RDL**	**QC Batch**	**MW8-12**	**MW104**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons											
Benzene	ug/L	<0.20	0.20	6231416	<0.20	0.20	6231416	<0.20	<0.20	0.20	6231416
Toluene	ug/L	<0.20	0.20	6231416	<0.20	0.20	6231416	<0.20	<0.20	0.20	6231416
Ethylbenzene	ug/L	<0.20	0.20	6231416	<0.20	0.20	6231416	<0.20	0.22	0.20	6231416
o-Xylene	ug/L	<0.20	0.20	6231416	<0.20	0.20	6231416	<0.20	<0.20	0.20	6231416
p+m-Xylene	ug/L	<0.40	0.40	6231416	<0.40	0.40	6231416	<0.40	0.59	0.40	6231416
Total Xylenes	ug/L	<0.40	0.40	6231416	<0.40	0.40	6231416	<0.40	0.59	0.40	6231416
F1 (C6-C10)	ug/L	<25	25	6231416	<25	25	6231416	<25	<25	25	6231416
F1 (C6-C10) - BTEX	ug/L	<25	25	6231416	<25	25	6231416	<25	<25	25	6231416
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	6231956				<100	<100	100	6231956
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	6231956				<200	<200	200	6231956
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	6231956				<200	<200	200	6231956
Reached Baseline at C50	ug/L	Yes		6231956				Yes	Yes		6231956
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	100		6231416	100		6231416	101	103		6231416
4-Bromofluorobenzene	%	97		6231416	96		6231416	96	99		6231416
D10-Ethylbenzene	%	109		6231416	106		6231416	109	107		6231416
D4-1,2-Dichloroethane	%	101		6231416	101		6231416	99	101		6231416
o-Terphenyl	%	96		6231956				93	95		6231956

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Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID		KFZ374			KFZ374			KFZ375		
Sampling Date		2019/07/10 11:30			2019/07/10 11:30			2019/07/10 11:30		
COC Number		726648-01-01			726648-01-01			726648-01-01		
	UNITS	**MW101**	**RDL**	**QC Batch**	**MW101 Lab-Dup**	**RDL**	**QC Batch**	**MW1011**	**RDL**	**QC Batch**
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	6224761				<0.50	0.50	6224761
Volatile Organics										
Acetone (2-Propanone)	ug/L	10	10	6229921	10	10	6229921	11	10	6229921
Benzene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Bromodichloromethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Bromoform	ug/L	<1.0	1.0	6229921	<1.0	1.0	6229921	<1.0	1.0	6229921
Bromomethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Carbon Tetrachloride	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Chlorobenzene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Chloroform	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Dibromochloromethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
1,2-Dichlorobenzene	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
1,3-Dichlorobenzene	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
1,4-Dichlorobenzene	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	6229921	<1.0	1.0	6229921	<1.0	1.0	6229921
1,1-Dichloroethane	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
1,2-Dichloroethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
1,1-Dichloroethylene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
1,2-Dichloropropane	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	6229921	<0.30	0.30	6229921	<0.30	0.30	6229921
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	6229921	<0.40	0.40	6229921	<0.40	0.40	6229921
Ethylbenzene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Ethylene Dibromide	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Hexane	ug/L	<1.0	1.0	6229921	<1.0	1.0	6229921	<1.0	1.0	6229921
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	6229921	<2.0	2.0	6229921	<2.0	2.0	6229921
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	6229921	<10	10	6229921	<10	10	6229921
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	6229921	<5.0	5.0	6229921	<5.0	5.0	6229921
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Styrene	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID		KFZ374			KFZ374			KFZ375		
Sampling Date		2019/07/10 11:30			2019/07/10 11:30			2019/07/10 11:30		
COC Number		726648-01-01			726648-01-01			726648-01-01		
	UNITS	**MW101**	**RDL**	**QC Batch**	**MW101 Lab-Dup**	**RDL**	**QC Batch**	**MW1011**	**RDL**	**QC Batch**
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Tetrachloroethylene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Toluene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
1,1,1-Trichloroethane	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
1,1,2-Trichloroethane	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Trichloroethylene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	6229921	<0.50	0.50	6229921	<0.50	0.50	6229921
Vinyl Chloride	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
p+m-Xylene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
o-Xylene	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
Total Xylenes	ug/L	<0.20	0.20	6229921	<0.20	0.20	6229921	<0.20	0.20	6229921
F1 (C6-C10)	ug/L	<25	25	6229921	<25	25	6229921	<25	25	6229921
F1 (C6-C10) - BTEX	ug/L	<25	25	6229921	<25	25	6229921	<25	25	6229921
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	6231956				<100	100	6231956
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	6231956				<200	200	6231956
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	6231956				<200	200	6231956
Reached Baseline at C50	ug/L	Yes		6231956				Yes		6231956
Surrogate Recovery (%)										
o-Terphenyl	%	94		6231956				95		6231956
4-Bromofluorobenzene	%	87		6229921	87		6229921	86		6229921
D4-1,2-Dichloroethane	%	115		6229921	119		6229921	119		6229921
D8-Toluene	%	90		6229921	90		6229921	90		6229921

RDL = Reportable Detection Limit
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exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 VOCS BY HS (WATER)

BV Labs ID		KFZ379		
Sampling Date				
COC Number		726648-01-01		
	UNITS	**TRIP BANK**	**RDL**	**QC Batch**
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	6224761
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	6225071
Benzene	ug/L	<0.20	0.20	6225071
Bromodichloromethane	ug/L	<0.50	0.50	6225071
Bromoform	ug/L	<1.0	1.0	6225071
Bromomethane	ug/L	<0.50	0.50	6225071
Carbon Tetrachloride	ug/L	<0.20	0.20	6225071
Chlorobenzene	ug/L	<0.20	0.20	6225071
Chloroform	ug/L	<0.20	0.20	6225071
Dibromochloromethane	ug/L	<0.50	0.50	6225071
1,2-Dichlorobenzene	ug/L	<0.50	0.50	6225071
1,3-Dichlorobenzene	ug/L	<0.50	0.50	6225071
1,4-Dichlorobenzene	ug/L	<0.50	0.50	6225071
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	6225071
1,1-Dichloroethane	ug/L	<0.20	0.20	6225071
1,2-Dichloroethane	ug/L	<0.50	0.50	6225071
1,1-Dichloroethylene	ug/L	<0.20	0.20	6225071
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	6225071
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	6225071
1,2-Dichloropropane	ug/L	<0.20	0.20	6225071
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	6225071
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	6225071
Ethylbenzene	ug/L	<0.20	0.20	6225071
Ethylene Dibromide	ug/L	<0.20	0.20	6225071
Hexane	ug/L	<1.0	1.0	6225071
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	6225071
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	6225071
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	6225071
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	6225071
Styrene	ug/L	<0.50	0.50	6225071
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	6225071
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	6225071
Tetrachloroethylene	ug/L	<0.20	0.20	6225071

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

O.REG 153 VOCS BY HS (WATER)

BV Labs ID		KFZ379		
Sampling Date				
COC Number		726648-01-01		
	UNITS	**TRIP BANK**	**RDL**	**QC Batch**
Toluene	ug/L	<0.20	0.20	6225071
1,1,1-Trichloroethane	ug/L	<0.20	0.20	6225071
1,1,2-Trichloroethane	ug/L	<0.50	0.50	6225071
Trichloroethylene	ug/L	<0.20	0.20	6225071
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	6225071
Vinyl Chloride	ug/L	<0.20	0.20	6225071
p+m-Xylene	ug/L	<0.20	0.20	6225071
o-Xylene	ug/L	<0.20	0.20	6225071
Total Xylenes	ug/L	<0.20	0.20	6225071
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	98		6225071
D4-1,2-Dichloroethane	%	103		6225071
D8-Toluene	%	96		6225071

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KFZ374
Sample ID: MW101
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6224761	N/A	2019/07/18	Automated Statchk
Chromium (VI) in Water	IC	6221417	N/A	2019/07/15	Lang Le
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6231956	2019/07/17	2019/07/18	(Kent) Maolin Li
Mercury	CV/AA	6230122	2019/07/16	2019/07/16	Medhat Nasr
Dissolved Metals by ICPMS	ICP/MS	6226911	N/A	2019/07/18	Matthew Ritenburg
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6229921	N/A	2019/07/18	Manpreet Sarao

BV Labs ID: KFZ374 Dup
Sample ID: MW101
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	6226911	N/A	2019/07/17	Matthew Ritenburg
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6229921	N/A	2019/07/18	Manpreet Sarao

BV Labs ID: KFZ375
Sample ID: MW1011
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6224761	N/A	2019/07/18	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6231956	2019/07/17	2019/07/18	(Kent) Maolin Li
Dissolved Metals by ICPMS	ICP/MS	6226911	N/A	2019/07/17	Matthew Ritenburg
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6229921	N/A	2019/07/18	Manpreet Sarao

BV Labs ID: KFZ376
Sample ID: MW102
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6231416	N/A	2019/07/16	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6231956	2019/07/17	2019/07/18	(Kent) Maolin Li

BV Labs ID: KFZ376 Dup
Sample ID: MW102
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6231416	N/A	2019/07/16	Georgeta Rusu

BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

TEST SUMMARY

BV Labs ID: KFZ377
Sample ID: MW8-12
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6231416	N/A	2019/07/17	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6231956	2019/07/17	2019/07/18	(Kent) Maolin Li

BV Labs ID: KFZ378
Sample ID: MW104
Matrix: Water

Collected: 2019/07/10
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6231416	N/A	2019/07/17	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6231956	2019/07/17	2019/07/18	(Kent) Maolin Li

BV Labs ID: KFZ379
Sample ID: TRIP BANK
Matrix: Water

Collected:
Shipped:
Received: 2019/07/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6224761	N/A	2019/07/15	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6225071	N/A	2019/07/13	Chandni Khawas

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

GENERAL COMMENTS

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

Package 1	3.0°C

Results relate only to the items tested.

BV Labs Job #: B9J1053
Report Date: 2019/07/19

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6225071	4-Bromofluorobenzene	2019/07/13	104	70 - 130	104	70 - 130	102	%		
6225071	D4-1,2-Dichloroethane	2019/07/13	97	70 - 130	97	70 - 130	96	%		
6225071	D8-Toluene	2019/07/13	100	70 - 130	100	70 - 130	98	%		
6229921	4-Bromofluorobenzene	2019/07/18	100	70 - 130	100	70 - 130	88	%		
6229921	D4-1,2-Dichloroethane	2019/07/18	109	70 - 130	107	70 - 130	112	%		
6229921	D8-Toluene	2019/07/18	105	70 - 130	107	70 - 130	92	%		
6231416	1,4-Difluorobenzene	2019/07/16	101	70 - 130	103	70 - 130	101	%		
6231416	4-Bromofluorobenzene	2019/07/16	100	70 - 130	101	70 - 130	98	%		
6231416	D10-Ethylbenzene	2019/07/16	103	70 - 130	103	70 - 130	106	%		
6231416	D4-1,2-Dichloroethane	2019/07/16	101	70 - 130	100	70 - 130	103	%		
6231956	o-Terphenyl	2019/07/18	109	60 - 130	98	60 - 130	100	%		
6221417	Chromium (VI)	2019/07/15	105	80 - 120	105	80 - 120	<0.50	ug/L	NC	20
6225071	1,1,1,2-Tetrachloroethane	2019/07/13	100	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6225071	1,1,1-Trichloroethane	2019/07/13	95	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
6225071	1,1,2,2-Tetrachloroethane	2019/07/13	99	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
6225071	1,1,2-Trichloroethane	2019/07/13	96	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
6225071	1,1-Dichloroethane	2019/07/13	90	70 - 130	88	70 - 130	<0.20	ug/L	0.74	30
6225071	1,1-Dichloroethylene	2019/07/13	100	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
6225071	1,2-Dichlorobenzene	2019/07/13	93	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
6225071	1,2-Dichloroethane	2019/07/13	96	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
6225071	1,2-Dichloropropane	2019/07/13	87	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
6225071	1,3-Dichlorobenzene	2019/07/13	94	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
6225071	1,4-Dichlorobenzene	2019/07/13	99	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6225071	Acetone (2-Propanone)	2019/07/13	91	60 - 140	93	60 - 140	<10	ug/L	1.3	30
6225071	Benzene	2019/07/13	93	70 - 130	92	70 - 130	<0.20	ug/L	0.43	30
6225071	Bromodichloromethane	2019/07/13	91	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
6225071	Bromoform	2019/07/13	103	70 - 130	104	70 - 130	<1.0	ug/L	NC	30
6225071	Bromomethane	2019/07/13	129	60 - 140	116	60 - 140	<0.50	ug/L	NC	30
6225071	Carbon Tetrachloride	2019/07/13	94	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
6225071	Chlorobenzene	2019/07/13	92	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
6225071	Chloroform	2019/07/13	90	70 - 130	88	70 - 130	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6225071	cis-1,2-Dichloroethylene	2019/07/13	89	70 - 130	88	70 - 130	<0.50	ug/L	0.53	30
6225071	cis-1,3-Dichloropropene	2019/07/13	101	70 - 130	91	70 - 130	<0.30	ug/L	NC	30
6225071	Dibromochloromethane	2019/07/13	101	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
6225071	Dichlorodifluoromethane (FREON 12)	2019/07/13	91	60 - 140	88	60 - 140	<1.0	ug/L	NC	30
6225071	Ethylbenzene	2019/07/13	NC	70 - 130	93	70 - 130	<0.20	ug/L	0.26	30
6225071	Ethylene Dibromide	2019/07/13	99	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
6225071	Hexane	2019/07/13	101	70 - 130	98	70 - 130	<1.0	ug/L	NC	30
6225071	Methyl Ethyl Ketone (2-Butanone)	2019/07/13	92	60 - 140	97	60 - 140	<10	ug/L	0.054	30
6225071	Methyl Isobutyl Ketone	2019/07/13	95	70 - 130	100	70 - 130	<5.0	ug/L	NC	30
6225071	Methyl t-butyl ether (MTBE)	2019/07/13	87	70 - 130	89	70 - 130	<0.50	ug/L	NC	30
6225071	Methylene Chloride(Dichloromethane)	2019/07/13	87	70 - 130	85	70 - 130	<2.0	ug/L	NC	30
6225071	o-Xylene	2019/07/13	95	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
6225071	p+m-Xylene	2019/07/13	102	70 - 130	100	70 - 130	<0.20	ug/L	1.2	30
6225071	Styrene	2019/07/13	97	70 - 130	98	70 - 130	<0.50	ug/L	1.1	30
6225071	Tetrachloroethylene	2019/07/13	93	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
6225071	Toluene	2019/07/13	91	70 - 130	91	70 - 130	<0.20	ug/L	0.82	30
6225071	Total Xylenes	2019/07/13					<0.20	ug/L	1.2	30
6225071	trans-1,2-Dichloroethylene	2019/07/13	95	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
6225071	trans-1,3-Dichloropropene	2019/07/13	110	70 - 130	92	70 - 130	<0.40	ug/L	NC	30
6225071	Trichloroethylene	2019/07/13	98	70 - 130	96	70 - 130	<0.20	ug/L	0.35	30
6225071	Trichlorofluoromethane (FREON 11)	2019/07/13	102	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6225071	Vinyl Chloride	2019/07/13	95	70 - 130	92	70 - 130	<0.20	ug/L	0.39	30
6226911	Dissolved Antimony (Sb)	2019/07/17	97	80 - 120	99	80 - 120	<0.50	ug/L	11	20
6226911	Dissolved Arsenic (As)	2019/07/17	98	80 - 120	100	80 - 120	<1.0	ug/L	7.7	20
6226911	Dissolved Barium (Ba)	2019/07/17	96	80 - 120	99	80 - 120	<2.0	ug/L	1.1	20
6226911	Dissolved Beryllium (Be)	2019/07/17	110	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
6226911	Dissolved Boron (B)	2019/07/17	83	80 - 120	99	80 - 120	<10	ug/L	6.0	20
6226911	Dissolved Cadmium (Cd)	2019/07/17	94	80 - 120	99	80 - 120	<0.10	ug/L	NC	20
6226911	Dissolved Chromium (Cr)	2019/07/17	97	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
6226911	Dissolved Cobalt (Co)	2019/07/17	95	80 - 120	96	80 - 120	<0.50	ug/L	1.2	20
6226911	Dissolved Copper (Cu)	2019/07/17	99	80 - 120	99	80 - 120	<1.0	ug/L	NC	20

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6226911	Dissolved Lead (Pb)	2019/07/17	87	80 - 120	94	80 - 120	<0.50	ug/L	NC	20
6226911	Dissolved Molybdenum (Mo)	2019/07/17	104	80 - 120	101	80 - 120	<0.50	ug/L	4.2	20
6226911	Dissolved Nickel (Ni)	2019/07/17	91	80 - 120	95	80 - 120	<1.0	ug/L	0.12	20
6226911	Dissolved Selenium (Se)	2019/07/17	101	80 - 120	102	80 - 120	<2.0	ug/L	4.4	20
6226911	Dissolved Silver (Ag)	2019/07/17	75 (1)	80 - 120	98	80 - 120	<0.10	ug/L	NC	20
6226911	Dissolved Thallium (Tl)	2019/07/17	87	80 - 120	94	80 - 120	<0.050	ug/L	NC	20
6226911	Dissolved Uranium (U)	2019/07/17	85	80 - 120	90	80 - 120	<0.10	ug/L	10	20
6226911	Dissolved Vanadium (V)	2019/07/17	99	80 - 120	97	80 - 120	<0.50	ug/L	4.7	20
6226911	Dissolved Zinc (Zn)	2019/07/17	88	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
6229921	1,1,1,2-Tetrachloroethane	2019/07/18	97	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
6229921	1,1,1-Trichloroethane	2019/07/18	90	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
6229921	1,1,2,2-Tetrachloroethane	2019/07/18	108	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
6229921	1,1,2-Trichloroethane	2019/07/18	105	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
6229921	1,1-Dichloroethane	2019/07/18	95	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
6229921	1,1-Dichloroethylene	2019/07/18	95	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
6229921	1,2-Dichlorobenzene	2019/07/18	87	70 - 130	86	70 - 130	<0.50	ug/L	NC	30
6229921	1,2-Dichloroethane	2019/07/18	104	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
6229921	1,2-Dichloropropane	2019/07/18	90	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
6229921	1,3-Dichlorobenzene	2019/07/18	83	70 - 130	83	70 - 130	<0.50	ug/L	NC	30
6229921	1,4-Dichlorobenzene	2019/07/18	90	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
6229921	Acetone (2-Propanone)	2019/07/18	115	60 - 140	109	60 - 140	<10	ug/L	0.93	30
6229921	Benzene	2019/07/18	92	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
6229921	Bromodichloromethane	2019/07/18	95	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
6229921	Bromoform	2019/07/18	101	70 - 130	96	70 - 130	<1.0	ug/L	NC	30
6229921	Bromomethane	2019/07/18	124	60 - 140	119	60 - 140	<0.50	ug/L	NC	30
6229921	Carbon Tetrachloride	2019/07/18	88	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
6229921	Chlorobenzene	2019/07/18	83	70 - 130	82	70 - 130	<0.20	ug/L	NC	30
6229921	Chloroform	2019/07/18	89	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
6229921	cis-1,2-Dichloroethylene	2019/07/18	89	70 - 130	87	70 - 130	<0.50	ug/L	NC	30
6229921	cis-1,3-Dichloropropene	2019/07/18	94	70 - 130	88	70 - 130	<0.30	ug/L	NC	30
6229921	Dibromochloromethane	2019/07/18	101	70 - 130	97	70 - 130	<0.50	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6229921	Dichlorodifluoromethane (FREON 12)	2019/07/18	86	60 - 140	84	60 - 140	<1.0	ug/L	NC	30
6229921	Ethylbenzene	2019/07/18	77	70 - 130	76	70 - 130	<0.20	ug/L	NC	30
6229921	Ethylene Dibromide	2019/07/18	103	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
6229921	F1 (C6-C10) - BTEX	2019/07/18					<25	ug/L	NC	30
6229921	F1 (C6-C10)	2019/07/18	90	60 - 140	92	60 - 140	<25	ug/L	NC	30
6229921	Hexane	2019/07/18	96	70 - 130	96	70 - 130	<1.0	ug/L	NC	30
6229921	Methyl Ethyl Ketone (2-Butanone)	2019/07/18	116	60 - 140	109	60 - 140	<10	ug/L	NC	30
6229921	Methyl Isobutyl Ketone	2019/07/18	109	70 - 130	105	70 - 130	<5.0	ug/L	NC	30
6229921	Methyl t-butyl ether (MTBE)	2019/07/18	84	70 - 130	82	70 - 130	<0.50	ug/L	NC	30
6229921	Methylene Chloride(Dichloromethane)	2019/07/18	108	70 - 130	105	70 - 130	<2.0	ug/L	NC	30
6229921	o-Xylene	2019/07/18	83	70 - 130	83	70 - 130	<0.20	ug/L	NC	30
6229921	p+m-Xylene	2019/07/18	82	70 - 130	82	70 - 130	<0.20	ug/L	NC	30
6229921	Styrene	2019/07/18	67 (2)	70 - 130	67 (2)	70 - 130	<0.50	ug/L	NC	30
6229921	Tetrachloroethylene	2019/07/18	80	70 - 130	81	70 - 130	<0.20	ug/L	NC	30
6229921	Toluene	2019/07/18	88	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
6229921	Total Xylenes	2019/07/18					<0.20	ug/L	NC	30
6229921	trans-1,2-Dichloroethylene	2019/07/18	88	70 - 130	89	70 - 130	<0.50	ug/L	NC	30
6229921	trans-1,3-Dichloropropene	2019/07/18	105	70 - 130	96	70 - 130	<0.40	ug/L	NC	30
6229921	Trichloroethylene	2019/07/18	87	70 - 130	87	70 - 130	<0.20	ug/L	NC	30
6229921	Trichlorofluoromethane (FREON 11)	2019/07/18	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
6229921	Vinyl Chloride	2019/07/18	95	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
6230122	Mercury (Hg)	2019/07/16	106	75 - 125	103	80 - 120	<0.1	ug/L	NC	20
6231416	Benzene	2019/07/16	96	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
6231416	Ethylbenzene	2019/07/16	96	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
6231416	F1 (C6-C10) - BTEX	2019/07/16					<25	ug/L	NC	30
6231416	F1 (C6-C10)	2019/07/16	84	70 - 130	100	70 - 130	<25	ug/L	NC	30
6231416	o-Xylene	2019/07/16	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
6231416	p+m-Xylene	2019/07/16	96	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
6231416	Toluene	2019/07/16	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
6231416	Total Xylenes	2019/07/16					<0.40	ug/L	NC	30
6231956	F2 (C10-C16 Hydrocarbons)	2019/07/18	114	50 - 130	103	60 - 130	<100	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6231956	F3 (C16-C34 Hydrocarbons)	2019/07/18	NC	50 - 130	109	60 - 130	<200	ug/L	NC	30
6231956	F4 (C34-C50 Hydrocarbons)	2019/07/18	122	50 - 130	108	60 - 130	<200	ug/L	NC	30

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.

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 (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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 (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) The recovery was below the lower control limit. This may represent a low bias in some results for this specific analyte.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

BV Labs Job #: B9J1053
Report Date: 2019/07/19

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: PM

VALIDATION SIGNATURE PAGE

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

Brad Newman, Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your C.O.C. #: N/A

Attention: Stephanie Hsia

exp Services Inc
Hamilton Branch
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/23
Report #: R5809709
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9J9287
Received: 2019/07/19, 13:10

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Methylnaphthalene Sum	1	N/A	2019/07/23	CAM SOP-00301	EPA 8270D m
PAH Compounds in Water by GC/MS (SIM)	1	2019/07/21	2019/07/22	CAM SOP-00318	EPA 8270D m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

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.

Your P.O. #: HAM-ENV
Your Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your C.O.C. #: N/A

Attention: Stephanie Hsia

exp Services Inc
Hamilton Branch
80 Bancroft St
Hamilton, ON
CANADA L8E 2W5

Report Date: 2019/07/23
Report #: R5809709
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9J9287
Received: 2019/07/19, 13:10

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BV Labs Job #: B9J9287
Report Date: 2019/07/23

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: HS

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

BV Labs ID		KHS539		
Sampling Date				
COC Number		N/A		
	UNITS	**MW101**	**RDL**	**QC Batch**
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.071	6236753
Polyaromatic Hydrocarbons				
Acenaphthene	ug/L	<0.050	0.050	6239474
Acenaphthylene	ug/L	<0.050	0.050	6239474
Anthracene	ug/L	<0.050	0.050	6239474
Benzo(a)anthracene	ug/L	<0.050	0.050	6239474
Benzo(a)pyrene	ug/L	<0.010	0.010	6239474
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	6239474
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	6239474
Benzo(k)fluoranthene	ug/L	<0.050	0.050	6239474
Chrysene	ug/L	<0.050	0.050	6239474
Dibenz(a,h)anthracene	ug/L	<0.050	0.050	6239474
Fluoranthene	ug/L	<0.050	0.050	6239474
Fluorene	ug/L	<0.050	0.050	6239474
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	6239474
1-Methylnaphthalene	ug/L	<0.050	0.050	6239474
2-Methylnaphthalene	ug/L	<0.050	0.050	6239474
Naphthalene	ug/L	<0.050	0.050	6239474
Phenanthrene	ug/L	<0.030	0.030	6239474
Pyrene	ug/L	<0.050	0.050	6239474
Surrogate Recovery (%)				
D10-Anthracene	%	103		6239474
D14-Terphenyl (FS)	%	71		6239474
D8-Acenaphthylene	%	94		6239474

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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TEST SUMMARY

BV Labs ID: KHS539
Sample ID: MW101
Matrix: Water

Collected:
Shipped:
Received: 2019/07/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6236753	N/A	2019/07/23	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	6239474	2019/07/21	2019/07/22	Jiaxuan (Simon) Xi

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GENERAL COMMENTS

Results relate only to the items tested.

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BV Labs Job #: B9J9287
Report Date: 2019/07/23

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: HAM-801631-A0 (200)
Site Location: JOHN DEERE- CANAL BANKS
Your P.O. #: HAM-ENV
Sampler Initials: HS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6239474	D10-Anthracene	2019/07/22	100	50 - 130	107	50 - 130	114	%		
6239474	D14-Terphenyl (FS)	2019/07/22	87	50 - 130	97	50 - 130	99	%		
6239474	D8-Acenaphthylene	2019/07/22	96	50 - 130	98	50 - 130	97	%		
6239474	1-Methylnaphthalene	2019/07/22	101	50 - 130	86	50 - 130	<0.050	ug/L	NC	30
6239474	2-Methylnaphthalene	2019/07/22	90	50 - 130	76	50 - 130	<0.050	ug/L	NC	30
6239474	Acenaphthene	2019/07/22	105	50 - 130	92	50 - 130	<0.050	ug/L	NC (1)	30
6239474	Acenaphthylene	2019/07/22	107	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
6239474	Anthracene	2019/07/22	100	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
6239474	Benzo(a)anthracene	2019/07/22	110	50 - 130	102	50 - 130	<0.050	ug/L		
6239474	Benzo(a)pyrene	2019/07/22	106	50 - 130	100	50 - 130	<0.010	ug/L		
6239474	Benzo(b/j)fluoranthene	2019/07/22	98	50 - 130	92	50 - 130	<0.050	ug/L		
6239474	Benzo(g,h,i)perylene	2019/07/22	107	50 - 130	100	50 - 130	<0.050	ug/L		
6239474	Benzo(k)fluoranthene	2019/07/22	116	50 - 130	103	50 - 130	<0.050	ug/L		
6239474	Chrysene	2019/07/22	104	50 - 130	97	50 - 130	<0.050	ug/L		
6239474	Dibenz(a,h)anthracene	2019/07/22	116	50 - 130	108	50 - 130	<0.050	ug/L		
6239474	Fluoranthene	2019/07/22	109	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
6239474	Fluorene	2019/07/22	105	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
6239474	Indeno(1,2,3-cd)pyrene	2019/07/22	110	50 - 130	102	50 - 130	<0.050	ug/L		
6239474	Naphthalene	2019/07/22	83	50 - 130	72	50 - 130	<0.050	ug/L	NC	30
6239474	Phenanthrene	2019/07/22	105	50 - 130	96	50 - 130	<0.030	ug/L	NC	30
6239474	Pyrene	2019/07/22	106	50 - 130	97	50 - 130	<0.050	ug/L		

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.

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 (absolute difference <= 2x RDL).

(1) DL was raised due to matrix interference.

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VALIDATION SIGNATURE PAGE

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

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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Appendix F – P2CSM

Phase Two Conceptual Site Model – 555 Canal Bank, Welland, Ontario

This section presents a Phase Two Conceptual Site Model (P2CSM) providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, the presence and distribution of potential contaminants of concern, contaminant fate and transport, and potential exposure pathways. These components are discussed in the following sections. The Phase Two CSM was completed in accordance with O. Reg.153/04 as defined by the Ministry of the Environment, Conservation, and Parks (MECP).

1. Introduction

The Site is situated on the east side of Canal Bank Street, east of the Old Welland Canal, at 555 Canal Bank Street. The Site measures approximately 75 hectares (185 acres) in size and is currently occupied by two (2) abandoned industrial buildings. The Site building formerly known as Building X and Y, measures approximately 16,945 m² (181,410 ft²) and the Site building formerly known as Building Z, measures approximately 8,062 m² (86,835 ft²). According to historical documents and previous reports, the Site was formerly occupied by John Deere, a farm equipment manufacturing operation, from 1911 to 2009. At the time of the Phase One ESA, the Site buildings were vacant.

At the time of this Phase One ESA, the Site buildings were vacant. The Phase One Study Area consists of properties within a distance of approximately 250 metres from the Site boundaries. The Phase One Study Area and a Surrounding Land Use Plan are shown on Figure 2.

A review of the historical records indicated that the Site was first developed for industrial land use in 1911.

Refer to Table 1 for the Site identification information.

Table 1: Site Identification Information

Municipal Address	475 Canal Bank Street / 555 Canal Bank Street / / 619 Canal Bank Street / 635 Canal Bank Street
Current Land Use	Industrial
Proposed Land Use	Residential
Legal Description	Parts of Lots 21, 22, & 23, Concession 5 Humberstone; Part of Road Allowance between Lots 22 and 23 Concession 5 Humberstone closed by By-Lay No. 1257, being Parts 1,2,3 on Plan 59R3608 and Part 1 on Plan 59R-3213; subject to HU20395, RO142639, RO385136; Welland
Property Identification Number (PIN)	64454-0080 (LT)
Approximate Universal Transverse Mercator (UTM) coordinates	Zone 17, 642815E 4757185N
Site Area	75 ha (185 acres)
Property Owners, Owner Contact and Address	555 Canal Bank Developments GP Inc.

2. Potentially Contaminating Activities and Areas of Potential Environmental Concern

2.1 Potentially Contaminating Activities

A Phase One ESA, in accordance with O.Reg.153/04, has been conducted by EXP for the Phase One Property. Several potentially contaminating activities (PCAs) were identified on-Site and within 250 m from the Phase One Property site boundaries. All PCAs that were identified within 250 m property are shown on Figure 2. Each PCA was further evaluated to determine if the activity may be contributing to an area of potential environmental concern (APEC) at the Phase One Property.

The QP determined that select PCAs may contribute to an APEC for the property, while several PCAs were determined to not contribute to an APEC at the Phase One Property/Site due to various factors including, but not limited to, relative distance to the Phase One Property/Site, orientation to the Phase One Property/Site; degree and nature of PCA operations, potentially impacted media, etc. Refer to Table 2 for the evaluation of the PCAs in the Phase One Study Area.

Table 2: Potentially Contaminating Activities in the Phase One Study Area

PCA Identifier	Address	Location of Activity (in relation to Site)[1]	Potentially Contaminating Activity (PCA)[2]	Description of PCA	Contributes to APEC (Yes or No)?
1A	555 Canal Bank Street	South of Building S at the Site	28- Gasoline and Associate Products Storage in Fixed Tank	Based on historic records and previous environmental investigation by CRA, an oily water UST was located south of the Building S. However, the capacity and age of the UST is unknown.	Yes
1B				Based on historic records and previous environmental investigation by CRA, an oily sludge UST was located south of the Building S. However, the capacity and age of the UST is unknown.	
1C		South of Building R at the Site		Based on historic records and previous environmental investigation by CRA, three (3) fuel oil USTs were located south of Building R. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1D					
1E					
1F		South of Building J-3 at the Site		Based on historic records and previous environmental investigation by CRA, three (3) fuel oil USTs were located south of Building J-3. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these	
1G					
1H					

PCA Identifier	Address	Location of Activity (in relation to Site)[1]	Potentially Contaminating Activity (PCA)[2]	Description of PCA	Contributes to APEC (Yes or No)?
				USTs were not documented in the CRA's report.	
1I		South of Building T at the Site		Based on historic records and previous environmental investigation by CRA, two (2) gasoline USTs were located at south of Building T. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1J					
1K		South of Building R at the Site		Based on historic records and previous environmental investigation by CRA, a diesel UST was located at south of Building R. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1L		North of Building C at the Site		Based on historic records and previous environmental investigation by CRA, a naptha UST was located at north of Building C. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1M		North of Building R at the Site		Based on historic records and previous environmental investigation by CRA, a quench UST was located at north of Building R. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1N		West of Building D at the Site		Based on historic records and previous environmental investigation by CRA, a waste oil UST was located at west of Building D. Based on the review of the	

PCA Identifier	Address	Location of Activity (in relation to Site)[1]	Potentially Contaminating Activity (PCA)[2]	Description of PCA	Contributes to APEC (Yes or No)?
				historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1O		North of Building L at the Site		Based on historic records and previous environmental investigation by CRA, a waste coolant UST was located at north of Building L. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
1P		North of Building S at the Site		Based on historic records and previous environmental investigation by CRA, a paint thinner UST was located at north of Building S. Based on the review of the historic documents by CRA, the USTs removal program was implemented at the Site in late 1980s and early 1990s. However, the capacity of size of these USTs were not documented in the CRA's report.	
2A	555 Canal Bank Street	West half of the Site	33. Metal Treatment, Coating, Plating and Finishing	Based on the record review, the Site was operated by rotary cutters, utility vehicles, and locaters manufacturing facility (John Deere) from early 1910s to late 2000s. In addition, this manufacturing facility associated with waste generator records, spill incidents and historic soil and groundwater exceedances.	Yes
2B			34. Metal Fabrication		
2C			52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems		
2D			57. Vehicles and Assoicated Parts Manufacturing		

PCA Identifier	Address	Location of Activity (in relation to Site)[1]	Potentially Contaminating Activity (PCA)[2]	Description of PCA	Contributes to APEC (Yes or No)?
2E			Other – Spill Incidents		
3	555 Canal Bank Street	Paved driveways and parking areas	Other – Salt Application	Based on the record review, it is likely that de-icing salt was applied on the paved driveways and parking areas on the Site.	Yes
4	555 Canal Bank Street	Western portion of the Site	30. Importation of Fill Material of Unknown Quality	Based on the previous environmental investigation by CRA, fill material of unknown quality was found at the western portion of the Site (developed portion of the Site)	Yes
5	555 Canal Bank	Southern portion of the Site	46. Rail Yards, Tracks and Spurs	Based on aerial photograph, railway tracks were located on the southern portion of the Site (from the woodlot to Buildings D and H)	Yes
6	555 Canal Bank Street	Off-site (Adjacent southeast of the Site)	58. Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	Based on the previous environmental investigation by CRA, the landfill area at the adjacent southeast of the Site was operated from 1931 to 1971. Furnaces pots, cyanide salts, and PCB sorbent material were disposed at this landfill area. Based on record review, historic PCBs, lead, copper, tetrachloroethylene and Hg were detected in groundwater.	Yes
7	No Municipal Address	Off-site (Adjacent east property)	46. Rail Yards, Tracks and Spurs	Railway tracks are located on the adjacent property to the east.	Yes
8	No Municipal Address	Off-site (Adjacent south property)	46. Rail Yards, Tracks and Spurs	Railway tracks are located on the adjacent property to the east. Based on the visual observation	No, given the trans-gradient location of the railway tracks.
8	No Municipal Address	Off-site (Adjacent north property)	46. Rail Yards, Tracks and Spurs	Railway tracks are located on the adjacent property to the north. Based on the visual observation, the railway tracks are located approximately 30 m north of the Site, and the tracks are located lower elevation from the Site.	No, given the trans-gradient location of the railway tracks, and the tracks are located at lower

PCA Identifier	Address	Location of Activity (in relation to Site)[1]	Potentially Contaminating Activity (PCA)[2]	Description of PCA	Contributes to APEC (Yes or No)?
					elevation from the Site.
9A	1 St. Clair Drive	Off-Site (Approximately 220 m east of the Site)	36. Oil Production	Based on record review, the property was formerly used as a rail yard prior to early 2000s. the property is occupied by oil production and distribution company. Diesel and gasoline spill incidents were recorded on the property	No, given the distance between the Site and the property
9B			46. Rail Yards, Tracks and Spurs		
9C			Other – Spill Incidents		
10	60 Colborne Street	Off-site (Approximately 220 southwest of the Site)	58. Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	A waste disposal site was registered at the property in 2001. The proponent was listed as Ontario Tire Recycling Inc. The proposal revoked the existing certificate of approval for a mobile waste disposal site (processing) as the company was no longer in business.	No, given the distance between the Site and the property and being down-gradient
11	4 to 6 Kingsway Street	Off-site (Approximately 140 m south of the Site)	28. Gasoline and Associated Products Storage in Fixed Tanks	Based on records review, the property has been occupied by gas station since 1970s.	No, given the distance between the Site and the property and being down-gradient
12	230 Colborne Street	Off-site (Approximately 200 m west of the Site)	52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Based on records review and visual observation, the property was occupied by auto repair shop.	No, given the distance between the Site and the property and being down-gradient
	(1) Distances are approximate. Precise distances are not possible due to the age of some listings and the aggregation and/or loss of addresses. (2) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D (O.Reg 153/04, as amended) that is occurring or has occurred in a phase one Study area.				

2.2 Areas of Potential Environmental Concern

Based on the evaluation of the PCAs located within the Phase One Study Area, areas of potential environmental concern (APECs) were identified, as presented in Figure 4, and summarized in Table 3 below.

Table 3: Areas of Potential Environmental Concern (APECs)

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)[1]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1A: Former Oily water UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1B: Former oily sludge UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1C: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1D: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1E: Fuel oil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1F: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1G: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1H: Fuel soil UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater

APEC 1I: Gasoline UST	Central portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1J: Gasoline UST	Central portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1K: Diesel UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1L: Naptha UST	Southern portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, Metals	Soil and Groundwater
APEC 1M: Quench UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, VOCs	Soil and Groundwater
APEC 1N: Waste oil UST	Southern portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	PHCs, BTEX, VOCs, metals	Soil and Groundwater
APEC 1O: Waste coolant UST	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	VOCs, metals	Soil and Groundwater
APEC 1P: Paint thinner	Central western portion of the Site	28- Gasoline and Associate Products Storage in Fixed Tank	On-Site	VOCs, metals	Soil and Groundwater
APEC 2A	Western half of the Site	33. Metal Treatment, Coating, Plating and Finishing	On-Site	VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2B	Western half of the Site	34. Metal Fabrication	On-Site	VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2C	Western half of the Site	52. Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	On-Site	PCBs, PHCs, BTEX, VOCs, PAHs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater

APEC 2D	Western half of the Site	57. Vehicles and Associated Parts Manufacturing	On-Site	PHCs, BTEX, VOCs, metals, As, Sb, Se, Cr (VI), Hg	Soil and Groundwater
APEC 2E	Western half of the Site	Other – Spill Incidents	On-Site	PCBs, PHCs, BTEX, VOCs, Metals	Soil and Groundwater
APEC 3	Paved driveways and parking areas	Other – Salt Application	On-Site	EC and SAR Sodium and chloride	Soil Ground Water
APEC 4	Western portion of the Site	30. Importation of Fill Material of Unknown Quality	On-site	Metals, As, Sb, Se, Cr (VI), Hg	Soil
APEC 5	Southern portion of the Site	46. Rail Yards, Tracks and Spurs	On-site	Metals, PAH	Soil
APEC 6	Southeastern portion of the Site	58. Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	Off-site	Metals, PCBs, Hg, VOCs	Groundwater
APEC 7	Eastern portion of the Site	46. Rail Yards, Tracks and Spurs	Off-site	Metals, PAH	Soil and Groundwater

VOCs = volatile organic compounds; PHCs = petroleum hydrocarbons ; BTEX = Benzene, toluene, ethylbenzene, xylene ; HG = Mercury, PCBs = Poylchlorinated Biphenyls ; PAH = Polycyclic Aromatic Hydrocarbons ; As= Arsenic ; Sb = Antimony ; Se = Selenium ; Cr(VI) = Chromium VI ; EC = Electrical Conductivity ; SAR = Sodium Adsorption Ratio

Area of Potential Environmental Concern means the area on, in or under a phase one study area where one or more contaminants are potentially present, as determined through the PI ESA, including through (a) identification of post or present uses on, in or under the phase one property, and (b) identification of potentially contaminating activities.

(1) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D (O.Reg.153/04, as amended) that is occurring or has occurred in a phase one Study area.

(2) Distances are approximately only. Precise distances are not possible due to the age of some listings and the aggregation and/or loss of addresses.

Refer to Figures 3 and 4B for the location of APECs on the Site. Boreholes/monitoring wells advanced on the Site to investigate the identified APECs are shown on Figures 4A and 4B.

2.3 Underground Utilities

The Site utilities and services were identified at the Site based on the survey plan provided by the client (provided in Appendix B) and relevant utility infrastructure observed during the Site reconnaissance. The Site utilities are shown on Figure 3, where available. The hydro is overhead along Guelph Line, and along the western perimeter, gas and communication utility lines are located north of the Site.

3. Physical Site Description

3.1 Geological and Hydrogeological Conditions

The Site and areas surrounding the Site are expected to consist of glaciolacustrine deep water deposits consisting of clay and silt. The physiography of the Site is listed as 'Haldimand Clay Plains'.

The bedrock in the general area consists of the Salina Formation, consisting of limestone, dolostone, shale, sandstone, gypsum, and salt, limestone, dolostone, and siltstone.

The Old Welland Canal is located approximately 45 m west of the Site and the Welland Canal is situated approximately 720 m east of the Site. Based on the information provided on the topographic map, regional groundwater is expected to flow to the west toward the Old Welland Canal. EXP notes that the direction of localized groundwater flow may be influenced by disturbed soil (fill), underground utilities and/or underground building structures in the area. As such, the measured groundwater flow direction may not be representative of the regional area.

Based on the review of available resources from the Ministry of Natural Resources, and MECP, no areas of natural significance were identified at the Site or within the Phase One Study Area. However, the Regional Municipality of Niagara has designated a woodland area at the southeast corner of the Site. This portion of the Site will be severed from the remaining property with a 30 m buffer prior to the filing of Record of Site Condition.

The general stratigraphy at the Site, as observed in the boreholes, consisted of asphalt/ concrete/ granular fill generally overlying layers of fill/till followed by silty clay. A brief description of the soil stratigraphy at the Site, in order of depth, is summarized in the following sections.

3.2 Hydrogeology

Based on the groundwater contour map delineated for the Site, the groundwater is anticipated to flow in a south/southeast direction. Refer to Table 4 for the Site hydrogeology characteristics based on groundwater monitoring observations.

Table 4: Site Hydrogeology Characteristics

Location	Observation
Depth to Groundwater	0.988 m bgs to 5.249 m bgs
Direction of Groundwater Flow	West (based on previous investigations)

3.3 Site Sensitivity

The Site Sensitivity classification with respect to the conditions set out under Section 41 and 43.1 of O.Reg.153/04 were evaluated to determine if the Site is sensitive, as presented in Table 5. It is noted that an environmental conservation area is situated at the north portion and southeast corner of the Site. Due to the presence of this feature, any lands situated within 30 m would be considered environmentally sensitive per Section 41 of O.Reg. 153/04, and therefore subject to the more stringent MECP Table 1 SCS. However, for the purpose of this assignment, only the lands situated beyond 30 m from the conservation

area are considered part of the Site, and would be subject to the future filing of the RSC. As such, the Site is not considered environmentally sensitive and the MECP Table 3 Site Condition Standards (SCS) has been applied to this Site.

Table 5: Site Sensitivity

Sensitivity	Classification	Does Sensitivity Apply to Site?
Section 41 applies if	(i) property is within an area of natural significance	No
	(ii) property includes or is adjacent to an area of natural significance or part of such an area	No
	(iii) property includes land that is within 30 m of an area of natural significance or part of such an area	No
	(iv) soil at property has a pH value for surface soil less than 5 or greater than 9	No
	(v) soil at property has a pH value for sub-surface soil less than 5 or greater than 11	No
	(vi) 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	No
Section 43.1 applies if	(i) property is a shallow soil property	No
	(ii) property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 m of a water body (Rowntree Creek)	No

3.3.1 Soil Importation

Fill material is typically brought to a property as a base for buildings and pavement areas. Fill can also be used to re-grade a property, and to backfill excavations.

Based on the information available, a Record of Site Condition (RSC) was filed by John Deere for industrial property use in 2012. The RSC indicated that approximately 27,500 m^3 of soil was removed from the property and approximately 24,000 m^3 of soil was imported to the Site. The remedial work was likely completed to address the PHC and metals impacts identified at the Site.

No fill material has been brought to the Site during the current Phase Two ESA.

3.4 Land Use

It is understood that the Site is intended to be further developed for residential land use.

4. Contaminants of Concern

For assessment purposes, EXP selected the MECP (2011) Table 3: Full depth Background Site condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use and medium/fine textured soil was considered applicable for determining contaminants of concern (COCs), based on the rationale presented in Table 6.

It is noted that an environmental conservation area is situated at the north portion and southeast corner of the Site. However, these portions of the Site will be severed with a 30 m buffer and not be included as part of the Site for the proposed "site" boundaries in support of filing of Record of Site Condition (RSC). Therefore, these portions of the lands (environmental conservation area with 30 m buffer zone) will not be included in the evaluation of the Site Sensitivity under Section 41 and 43.1 of O.Reg.153/04.

Table 6: Site specific Condition

Description	Site Specific Condition
Section 41 Site Sensitivity	Not applicable • The soil at the Site has pH values between 5 and 9 for surficial soil; and, between 5 and 11 for subsurface soil. • The Site is not located within a Significant Area, and/or located adjacent to an area of natural significance/an environmentally sensitive area.
Section 43.1 Site Sensitivity	Not applicable • The Site is not considered a shallow soil property, based on the recovered soil cores, which indicated that more than two-thirds of the Site has an overburden thickness in excess of 2 m. • The Site is not located within 30 m of a surface water body; the nearest surface water body, Old Welland Canal, is located approximately 45 m west of the Site.
Ground Water	Non-Potable • The Site and surrounding properties within 250 m of the Site are supplied by a municipal drinking water system, and no potable water wells for drinking water purposes are located on the Site or within 250 m of the Site. • However, the Site is located within a highly vulnerable aquifer, as identified in the Region's Source Water protection Planning under the Clean Water Act, 2006.
Land Use	Residential/Parkland/Institutional • The proposed future use of the Site is for residential use.
Soil Texture	Medium/Fine textured • The predominant texture of soils at the Site is considered to be medium/fine textured, based on soil characteristics identified in the borehole logs and 75 micron sieve.

A chemical constituent was selected as a COC if it was detected in soil or groundwater samples obtained from the Site at a concentration in excess of the applicable Table 3 SCS.

4.1 Soil and Groundwater Impacts

A chemical constituent was selected as a COC if it was detected in soil or groundwater samples obtained from the Site at a concentration in excess of the applicable Table 3 SCS.

Soil samples were submitted for the analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), electrical conductivity (EC) and sodium

adsorption ratio (SAR). Some parameters were measured above the Table 3 SCS, and the following COCs were identified in soil: PHC F1, PHC F2, PHC F3, VOCs, various metals, EC, and SAR.

All remaining tested parameters in the soil samples were either non-detected or detected below their applicable MECP (2011) Table 3 SCS.

Groundwater samples were submitted for the analysis of PHCs, BTEX, VOCs, PAHs, and metals. Some parameters were measured above the Table 3 SCS, and the following COCs were identified: PHC F2, PHC F3, and PHC F4.

The remaining samples were either non-detected or detected below their applicable Table 3 SCS.

Analytical results for COCs in identified soil and groundwater samples collected on the Site are presented for soil in plan view on Figures 7 to 14 and distribution of all impacts in groundwater are on Figures 5 to 17. The figures illustrate the exceedances from the current and previous investigations.

4.2 Contaminant Fate and Transport

4.2.1 Soil Media

Based on the 2009 Phase II ESA and current Phase II ESA, the soil COCs found at the Site comprised of PHC F1, PHC F2, PHC F3, various metals, CN-, EC, and SAR.

Based on the former activities on Site, the impacts in soil are considered to be generally associated with the former industrial operations at the Site and use of road salt for de-icing activities.

A variety of physical, chemical and biochemical mechanisms affect the fate and transport of the potential COCs in soil, the contribution of which is dependent on the soil conditions and the chemical/physical properties of the COCs. Relevant fate and transport mechanisms are natural attenuation mechanisms, including advection mixing, mechanical dispersion/molecular diffusion, phase partitions (*i.e.* sorption and volatilization), and possibly abiotic or biotic chemical reactions, which effectively reduce COC concentrations.

Concentrations of the COCs in soil will be reduced by the effects of molecular diffusion and the creation of concentration gradients. As volatile chemical constituents (i.e., moderately high Henry's Law Constant and saturated vapour pressure), PHC F1 can volatilize into soil gas and be transported through soil gas under the influence of pressure (e.g., water table fluctuations) and partial pressure gradients in the unsaturated zone. The transport of volatile COCs can also be retarded by sorption onto organic material that may be associated with the soil mineral particles through the overburden material. Non-volatile chemical constituents, may undergo abiotic or biotic chemical reactions associated with the soil mineral particles and the micro-organisms present in the overburden material.

As a result of the various natural attenuation mechanisms in the soil environment, the concentrations of COCs in soil are expected to reduce at the Site in the long-term.

Current and future on-Site utilities may create preferential pathways for contaminants present in soil media.

4.2.2 Groundwater Media

No COCs in groundwater has been found at the Site.

Based on the previous environmental investigation, the groundwater COCs found at the locations of MW09-9, MW09-14, MW09-22, MW09-23, MW09-28, MW09-29, MW09-33, and MW09-41 comprised of PHCs F2 to PHCs F4.

It is noted that the historic PHCs exceedance in groundwater at the locations of MW09-9, MW09-14, MW09-33, and MW09-41 may be a result of sediment in the samples during the groundwater sampling procedures. As such, these wells were sampled utilizing low flow sampling procedures to reduce the potential for sediment interference.. A review of the 2019 analytical results indicated that the concentrations of PHCs in the groundwater samples from MW09-9, MW09-14, MW09-33, and MW09-41 are below laboratory detection limits in this Phase Two ESA, and the laboratory detection limits are below Table 3 SCS. As such, the PHCs analytical results of groundwater samples from MW09-9, MW09-14, MW09-33, and MW09-41 in 2009 Phase II ESA have been superseded.

Based on the previous Phase II ESA, remediation was conducted at the location of MW09-22, MW09-23, MW09-28, and MW09-29. Therefore, it is likely that the PHC impacted groundwater has been remediated. The review of the analytical results indicated that the concentrations of PHCs in the groundwater samples MW09-22 and MW09-23 are below laboratory detection limits in this Phase Two ESA, and the laboratory detection limits are below Table 3 SCS. In addition, the monitoring wells MW09-28 and MW09-29 were decommissioned at the time of remedial excavation. Groundwater samples were retrieved from a newly installed monitoring well (MW104) and an existing well (MW8-12), which are in vicinity of MW09-28 and MW09-29, for PHC analysis. The review of the analytical results indicated that the concentrations of PHCs in the groundwater samples MW104 and MW8-12 are below laboratory detection limits in this Phase Two ESA, and the laboratory detection limits are below Table 3 SCS.

A review of the analytical results of the groundwater samples in this Phase Two ESA, no COCs in groundwater has been found at the Site.

4.2.2 Preferential Pathways

Based on the analytical results of the current Phase Two ESA investigation, there is no COCs in groundwater at the Site. Given the depth of the groundwater table (0.988 m bgs to 5.249 m bgs), it is possible that the contaminants in the soil media may be migrated via groundwater if the groundwater table is intercepted the contaminated soil layer. The preferential pathways for contaminants present in soil media include various underground utilities, building footings and subsurface features, if present.

Underground utilities were identified across the Site; as such, there is a potential for underground utilities to affect the distribution and transport of groundwater and soil vapour contaminants located on the Site. Future underground utilities should also be anticipated to affect the migration of soil vapour migration.

Details on the preferential pathways for the impacts are summarized in Table 7.

Table 7: Preferential Pathways

Anything known about migration of the contaminants present on, in or under the phase two property at a concentration greater than the applicable site condition standard away from any area of potential environmental concern, including the identification of any preferential pathways,	Utilities may affect groundwater and soil vapour migration creating preferential pathways in future buildings. Future utilities may affect groundwater and soil vapour migration.

The potential for preferential flow paths does not pose any significant environmental concern, given that no exceedances of the Table 3 Standards were identified in groundwater beneath the site.

4.2.3 Climatic Conditions

It is noted that climatic or meteorological conditions may influence the distribution and migration of COCs at the Site. Seasonal fluctuations in groundwater due to cyclical increases and decreases in precipitation can affect groundwater recharge.

Groundwater levels may be elevated in the spring and fall due to snow melt and/or increases in precipitation; and, groundwater levels may be lowered in the winter and summer due to snow storage and/or increased evaporation. Such fluctuations can increase the vertical distribution of COCs in the capillary zone, as well as alter the direction of groundwater flow paths based on changes in infiltration rates. However, based on the conditions observed at the Site, it is not anticipated that the climatic or meteorological changes will result in significant alterations in the distribution of contaminants.

4.2.4 Soil Vapour Migration

Soil vapour intrusion as a potential contaminant transport mechanism may be presented for volatile parameters. It is considered possibly that the PHC fractions 1 to 3 impacts measured in soil would contribute to soil vapour impacts.

5 Exposure Pathways

5.1 Human Health Receptors and Exposure Pathways

The human conceptual site models summarize the human receptors located on, in, under, and off the subject property, release mechanisms, contaminant transport, receptor exposure points and routes of exposure to contaminants present at the site at concentrations greater than the Table 3 SCS.

The Site is currently occupied by two buildings with the remainder of the Site vacant. The Site is proposed to be redeveloped for residential purposes and include including site residents (toddlers and adults), a child and adult visitor/ trespasser, an indoor worker, an outdoor maintenance worker and a construction worker. Given the only contaminant identified was PHC fraction F1 to F3, various metals, CN-, EC, and SAR in soil, relevant exposure routes for humans include soil particulate inhalation, direct contact with soil, incidental ingestion, inhalation of vapours both inside and outside buildings and garden produce ingestion.

5.2 Ecological Receptors and Exposure Pathways

The ecological conceptual site models summarize the ecological receptors located on, in, under, and off the subject property, release mechanisms, contaminant transport, receptor exposure points and routes of exposure to contaminants present at the site at concentrations greater than the Table 3 SCS.

The Site is located in an urban environment capable of supporting some terrestrial ecological receptors. There are no on-Site waterbodies. The nearest waterbody is the Old Welland Canal which is located approximately 45 m west of the Site. Relevant on-site ecological receptors consist of terrestrial valued ecological components (VECs) such as plants, soil invertebrates, mammals and birds. On-site exposure routes include direct contact with soil and uptake of PHC fraction F1 in soil by inhalation, ingestion and dermal contact, in addition to plant root uptake. Exposure via consumption of food items is also possible for soil invertebrates, mammals and birds.