Phase Two Environmental Site Assessment
2584-2600 Bank Street, Ottawa, Ontario

Upper Hunt Club Centre Inc.
2626 Bank Street
Ottawa, Ontario K1T 1K9

July 2021

DST File No.: TS-SO-032782

DST, A Division of Englobe

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EXECUTIVE SUMMARY

DST, A Division of Englobe (DST) was retained by Upper Hunt Club Centre Inc. (herein referred to as the "Client"), to conduct a Phase Two Environmental Site Assessment (ESA) for the property located at 2584-2600 Bank Street in Ottawa, Ontario (herein referred to collectively as the "Site"). The purpose of this assessment was to establish the environmental condition of the Site, at the time of report issuance, in support of a City of Ottawa Site Plan Application (SPA).

DST has completed this Phase Two ESA in general accordance with *Ontario Regulation 153/04 Records of Site Condition – Part XV.1 of the Act* under the *Ontario Environmental Protection Act, R.S.O. 1990, chapter E.19* (O. Reg. 153/04), as amended. DST understands that this Phase Two ESA has been completed for the purpose to support a site development application, and therefore this report was not prepared to support the filing of a Record of Site Condition.

The Phase Two ESA investigation looked at the properties located at the municipal address of 2584-2600 Bank Street. The Site can be broken down as follows: 2584 (2582) Bank Street (1.036 hectares) and 2600 Bank Street (0.23 hectares).

2600 Bank Street is currently developed with a single storey slab on grade commercial building, with two occupants. The primary occupant is Knight Motors Ottawa, and the secondary occupant is Joud's Auto Centre. The Site building was reportedly constructed in approximately 1992.

The parcel of land at 2584 (2582) Bank Street is devoid of any structures and is utilized for parking area for 2600 Bank. The parking area is covered in gravel.

In April 2018, DST completed a Phase One ESA at the Site. As part of the Phase One ESA investigation, DST completed a Site reconnaissance and a historical records review. Based on the environmental records review, several areas of potential environmental concern (APEC) were identified at the Site, as summarized in the table below.

Areas of Potential Environmental Concern

APEC	Area of Potential Environmental Concern (APEC)	Potential Contaminants of Potential Concern (PCOCs)
APEC 1 Former on-site UST and unidentified access ports and current active automotive repair facility	Potential contamination due to the presence of the former 15,000L UST and potential current unknown UST located on site.	Petroleum hydrocarbons (PHCs) and Volatile Organic Compounds (VOCs)
APEC 2 Several car dealerships, retail fuel outlets and a former dry cleaner	Potential contamination due to the presence of several car dealership with associated vehicle repairs facilities and the presence of a retail fuel outlet (2536 Bank Street)	PHC and VOCs
APEC 3 Wood's Cemetery	Potential contamination due to the long-term presence of Wood's Cemetery.	Nitrites, nitrates, Biological Oxygen Demand (BOD), Volatile Organic Compounds (VOCs), formaldehyde, ammonia, and metals

Based on the presence of the above noted APECs, DST recommended further investigation in the form of a Phase Two ESA.

The field program of the Phase Two ESA consisted of the following activities:

- Obtaining underground utility clearances and locates;
- Conduct a ground penetration survey of the area of the unidentified access ports on the south side of 2600 Bank Street;

- The advancement of six boreholes, three of which were instrumented with groundwater monitoring wells (BHMW18-2 through BHMW18-4), at strategic locations on Site. These locations were determined based on the findings of the Phase One ESA;
- The collection of soil samples from each of the six advanced boreholes, and the collection of groundwater samples from two of the three (BHMW18-2 and BHMW18-3) monitoring wells on Site (BHMW18-4 was observed to be dry);
- Conducting environmental testing on collected samples. Please see below for a summary of analytical testing.

Summary of Soil Samples Submitted for Laboratory Analysis

Sampling Date (dd/mm/yyy)	Sample ID/Location	Sample Depth (mbgs)	Laboratory Analysis
10/11/2018	BHMW18-4 SS8	4.30 – 4.90	Formaldehyde, VOCs, metals, ammonia, nitrites, and nitrates
10/11/2018	BHMW18-1 SS3	1.21 – 1.82	PHCs F1 – F4, VOCs
10/11/2018	BHMW18-1 SS4	1.82 – 2.40	PHCs F2 – F4
10/11/2018	BHMW18-2 SS6	3.04 – 3.65	PHCs F1 – F4, VOCs
10/12/2018	BHMW18-3 SS14	7.90 – 8.50	PHCs F1 – F4, VOCs
03/10/2021	BH21-1 SS2	0.75 – 1.50	PHCs/BTEX F1 – F4
03/10/2021	BH21-1 SS4	2.35 – 2.92	PHCs/BTEX F1 – F4
03/10/2021	BH21-2 SS3	1.60 – 2.16	PHCs/BTEX F1 – F4
03/10/2021	BH21-2 SS4	2.35 – 2.92	PHCs/BTEX F1 – F4

Summary of Groundwater Samples Submitted for Laboratory Analysis

Sampling Date (dd/mm/yyyy)	Sample ID/Location	Laboratory Analysis
15/10/2018	BHMW18-2	PHCs F1 – F4, and VOCs
15/10/2018	BHMW18-3	PHCs F1 – F4, and VOCs

Soil and groundwater analytical results were compared against applicable provincial standards, as set out in the following document:

- Ontario Ministry of the Environment, Conservation, and Parks (MECP) "*Soil, ground water and sediment standards" for use under Part XV.1 of the Environmental Protection Act, Ministry of Environment, Conservation and Parks (MECP) - Table 3: Generic Site Condition Standards for* Industrial/Commercial/Community *Property use Non-Potable Groundwater Condition, April 2011 (coarse-grained soils).*

Based on the laboratory analytical results, all laboratory-submitted samples (soil and groundwater) were in compliance with the applicable MECP Table 3 standards (for commercial/industrial property use) for the analyzed parameters.

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APPENDICES

1. INTRODUCTION

1.1 General

DST, A Division of Englobe (DST), was retained by Upper Hunt Club Centre Inc. (herein referred to as the "Client"), to conduct a Phase Two Environmental Site Assessment (ESA) for the property located at 2584-2600 Bank Street in Ottawa, Ontario (herein referred to collectively as the "Site"). The purpose of this assessment was to establish the environmental condition of the Site at the time of report issuance, in support of a City of Ottawa Site Plan Application (SPA). A Site Location Map is included in Appendix A.

DST has completed this Phase Two ESA in general accordance with *Ontario Regulation 153/04 Records of Site Condition – Part XV.1 of the Act* under the *Ontario Environmental Protection Act, R.S.O. 1990, chapter E.19* (O. Reg. 153/04), as amended. DST understands that this Phase Two ESA has been completed for the purpose to support a site development application, and therefore this report was not prepared to support the filing of a Record of Site Condition.

1.2 Site Description

The Phase Two ESA investigation included the properties located at the municipal addresses of 2584-2600 Bank Street. The Site is described as follows: 2584 (2582) Bank Street (1.035 hectares) and 2600 Bank Street (0.23 hectares). A Site Plan is included in Appendix A.

2600 Bank Street is developed with a single storey slab on grade commercial building, with two occupants. The primary occupant is Knight Motors Ottawa, and the secondary occupant is Joud's Auto Centre. The Site building was reportedly constructed in approximately 1992.

The parcel of land at 2582-2584 Bank Street is devoid of any structures and is utilized for parking area for 2600 Bank. The parking area is covered in gravel.

The Site properties are located within areas zoned as AM H (30) – Arterial Main Street Zone (2584 and 2600 Bank Street).

The Site is surrounded by the following:

Table 1-1: Surrounding Property Activities

Direction	Surrounding Property Activities
North	- Bank Street and Sieveright Avenue, followed by residential and commercial developments (Mazda dealership)
East	- Alta Vista Animal Hospital and Wood's Cemetery
South	- A forested area (2626 Bank Street).
West	- Commercial buildings (Splash and Dash Car Wash, Petro Canada)

1.3 Previous Reports

DST was retained by the Client in April 2018 to conduct a Phase One ESA at the Site. Based on the findings of the Phase One ESA (DST, 2018), three areas of potential environmental concern (APECs) were identified, summarized in the table below. A map showing the APECS can be seen in Appendix A, Figure 2.

Table 1-2: Areas of Potential Environmental Concern

APEC	Area of Potential Environmental Concern (APEC)	Potential Contaminants of Potential Concern (PCOCs)
APEC 1 Former on-site UST and unidentified access ports and current active automotive repair facility	Potential contamination due to the presence of the former 15,000L UST and potential current unknown UST located on site.	Petroleum hydrocarbons (PHCs) and Volatile Organic Compounds (VOCs)
APEC 2 Several car dealerships, retail fuel outlets and a former dry cleaner	Potential contamination due to the presence of several car dealership with associated vehicle repairs facilities and the presence of a retail fuel outlet (2536 Bank Street)	PHC and VOCs
APEC 3 Wood's Cemetery	Potential contamination due to the long-term presence of Wood's Cemetery.	Nitrites, nitrates, Biological Oxygen Demand (BOD), Volatile Organic Compounds (VOCs), formaldehyde, ammonia, and metals

Based on the identified environmental concerns, a Phase Two ESA was recommended to further evaluate the environmental risks at the Site.

1.4 Site Condition Standards

Based on the Site conditions at the time of the Phase Two ESA, the following Site Condition Standards (SCSs) were considered applicable to the Site:

SOIL:

- MECP "Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", April 15, 2011. Table 3: Full Depth Generic Site Condition Standards for soil in a Non-Potable Groundwater Condition (Industrial/Commercial/Community Property Use, coarse textured soils).

GROUNDWATER:

- MECP "Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", April 15, 2011. Table 3: Full Depth Generic Site Condition Standards for groundwater in a Non-Potable Groundwater Condition (All Types of Property Use, coarse textured soils).

The rationale for the selection of the above-referenced SCSs was as follows:

- The Site and surrounding properties are supplied with potable water through the City of Ottawa's municipal drinking water system, which is not derived from groundwater sources;
- The land use for the Site is a commercial/industrial land use;
- A coarse-grained soil texture was selected for comparison of analytical data to applicable provincial standards as this represents the 'worst-case' scenario;
- No shallow bedrock conditions were encountered during the investigation; and,
- The portions of the Site included in this investigation are located further than 30 metres from the nearest surface water body, which is Sawmill Creek, located approximately 90 m south of the Site.

2. SCOPE OF THE INVESTIGATION

The Phase Two ESA scope of work consisted of the following activities:

- Obtaining underground utility clearances and locates;
- Conducting a ground penetrating radar (GPR) survey of the area of the unidentified access ports on the south side of 2600 Bank Street;
- The advancement of six boreholes, three of which were instrumented with groundwater monitoring wells (BHMW18-2 through BHMW18-4), at strategic locations on Site. See the Borehole Location Plan in Appendix A, Figure 3. These locations were determined based on the findings of the Phase One ESA;
- The collection of soil samples from each of the six advanced boreholes on Site;
- The collection of groundwater samples from two of the three monitoring wells (BHMW18-2 and BHMW18-3) on Site (BHMW18-4 was observed to be dry);
- Conducting environmental testing on collected soil and groundwater samples; and,
- A factual report summarizing the results and findings of the Phase Two ESA.

3. INVESTIGATION METHODS

3.1 Ground Penetrating Radar Survey (GPR)

On October 2, 2018, USL-1 was contracted by DST to conduct a GPR survey of the area south of the building at 2600 Bank Street. This area was observed to have two unidentified access ports, typical of an Underground Storage Tank (UST), identified within the Phase One ESA. Using the GPR equipment by setting up grid squares over the investigation area, the area in the vicinity of the access ports was surveyed. No USTs were detected on the southern portion of the Site. Two small diameter pipes were detected running from the access ports going south for 1 m, after which the signal disappeared, indicating that the pipes have been cut and are no longer in use. A copy of the GPR report is included in Appendix C.

3.2 Borehole Drilling

The drilling program was completed in two stages.

The first stage commenced with OGS Inc., on October 3, 2018, with a CME45C track mounted drill rig. Under the supervision of DST, one borehole was advanced on the small northeast portion of 2626 Bank Street. The borehole was instrumented with a groundwater monitoring well (BHMW18-4). Due to mechanical difficulties encountered by OGS, the remaining boreholes/monitoring wells (BHMW18-1, BHMW18-2, and BHMW18-3) were advanced by CCC Geotechnical and Environmental Drilling Ltd. (CCC), on October 11th and 12th using a CME-75 truck mounted drill rig.

The second stage of drilling was completed on March 10, 2021 where two boreholes (BH21-1 and BH21-2) were advanced by CCC Geotechnical and Environmental Drilling Ltd. (CCC), using a CME-75 truck mounted drill rig.

All drilling was completed under the supervision of DST field personnel.

- BH18-1 was advanced to a depth of 9.1 meters below grade surface (mbgs);
- BHMW18-2 was advanced to a depth of 11.6 mbgs;
- BHMW18-3 was advanced to a depth of 10.4 mbgs;
- BHMW18-4 was advanced to a depth of 4.9 mbgs;
- BH21-1 was advanced to a depth of 3.7 mbgs; and,
- BH21-2 was advanced to a depth of 3.7 mbgs.

A Site Plan illustrating the borehole / monitoring well locations is provided as Figure 3 in Appendix A. Photographs are included in Appendix B.

3.3 Soil Sampling

Soil sampling was carried out using a 60 cm split spoon, which allowed for continuous sampling of overburden soils. Soil samples were placed directly into laboratory-supplied sample jars and vials. The sample jars were filled completely with soil to reduce the amount of headspace vapour within the jars. Samples that were to be submitted for laboratory analysis of metals and PHC F2 – F4 were placed in unpreserved 120 mL clear glass jars with Teflon lids, while samples to be submitted for laboratory analysis of volatile compounds (PHC F1 / BTEX and VOCs) were collected using disposable soil plug sample collectors supplied by the laboratory. The soil plugs were placed in laboratory-supplied vials charged with measured volumes of methanol for sample preservation. All other soil parameters (formaldehyde, nitrates, nitrites, and metals) were placed into 250 ml glass jars.

Soil samples were logged in the field for texture, odour, moisture and visual appearance (staining). Borehole logs are provided in Appendix D.

3.4 Field Screening Methods

Where sample recovery was sufficient, a portion of each collected soil sample from the advanced boreholes was placed in a polyethylene bag and was allowed to equilibrate in a warm environment prior to being screened for combustible vapour concentrations (CVCs). CVCs of soil samples were measured using an RKI Eagle™ portable vapour meter equipped with a catalytic combustible gas detector (CCGD), with a detection limit of 5 parts per million (ppm). The vapour meter was operated in methane elimination mode and was calibrated by DST field personnel prior to use.

CVC readings can be found in the attached borehole logs in Appendix D.

Based on visual and olfactory observations, CVC measurements, and the position of the collected soil samples with respect to the inferred groundwater table, 9 soil samples were submitted for laboratory analysis. Soil sample locations and analysis are presented in Table 3-1.

Table 3-1: Summary of Soil Samples Submitted for Laboratory Analysis

Sampling Date (dd/mm/yyy)	Sample ID/Location	Sample Depth (mbgs)	Laboratory Analysis
10/11/2018	BHMW18-4 SS8	4.30 – 4.90	Formaldehyde, VOCs, metals, ammonia, nitrites, and nitrates
10/11/2018	BHMW18-1 SS3	1.21 – 1.82	PHCs F1 – F4, VOCs
10/11/2018	BHMW18-1 SS4	1.82 – 2.40	PHCs F2 – F4
10/11/2018	BHMW18-2 SS6	3.04 – 3.65	PHCs F1 – F4, VOCs
10/12/2018	BHMW18-3 SS14	7.90 – 8.50	PHCs F1 – F4, VOCs
03/10/2021	BH21-1 SS2	0.75 – 1.50	PHCs/BTEX F1 – F4
03/10/2021	BH21-1 SS4	2.35 – 2.92	PHCs/BTEX F1 – F4
03/10/2021	BH21-2 SS3	1.60 – 2.16	PHCs/BTEX F1 – F4
03/10/2021	BH21-2 SS4	2.35 – 2.92	PHCs/BTEX F1 – F4

3.5 Monitoring Well Installation

Monitoring wells were installed by CCC within the advanced boreholes using the same drilling equipment described in Section 3.1. The wells were constructed of a 50 mm diameter polyvinyl chloride (PVC) pipe and a #10 slotted PVC well screen, placed to intercept the inferred groundwater table. A sand-pack consisting of clean silica sand was placed within the annular space surrounding the screened section of the wells (up to 60 cm above the top of the screen), and bentonite chips or grout was added from the top of the sand up to surface, to minimize the potential for cross-contamination between aquifers. A PVC cap was placed at the top of each well pipe, and a protective flush-mount steel casing was cemented at surface to protect each well, with the exception of BHMW18-4, which was instrumented with a monument style

protective style casing. Well construction details are illustrated in the borehole logs provided in Appendix D.

Following monitoring well installation activities, the wells were equipped with dedicated Waterra™ tubing (approximately 1.25 cm in diameter) and inertial lift foot valves for well development purposes. The monitoring wells were developed to remove any groundwater impacted by drilling activities and to reduce the amount of sediment within the wells.

3.6 Groundwater Level Measurements

DST field personnel collected groundwater level measurements from the installed monitoring wells prior to groundwater sampling activities. The water levels were measured using a Solinst Canada Ltd. Model 122 oil/water interface meter which is also used to confirm the presence/absence and thickness of free (petroleum) product that may potentially be residing on the surface of the groundwater table. The electronic interface probe was decontaminated (washed with phosphorous-free soap and rinsed with distilled water) prior to the collection of each groundwater level measurement.

3.7 Groundwater Sampling

In order to remove any stagnant groundwater prior to sampling, each monitoring well was purged of approximately three well volumes of groundwater, using dedicated Waterra™ tubing and inertial lift foot valves.

Groundwater samples were collected from monitoring wells BHMW18-2 and BHMW18-3 on October 15, 2018, using the dedicated Waterra™ tubing and inertial lift foot valves in each of the wells. During groundwater sampling activities, BHMW18-4 was found to be dry. Groundwater samples from BHMW18-2 and BHMW18-3 were collected directly into laboratory-supplied containers, for analysis of PCOCs. Groundwater sample locations and analyses are presented in Table 3-2.

Table 3-2: Summary of Groundwater Samples Submitted for Laboratory Analysis

Sampling Date (dd/mm/yyyy)	Sample ID/Location	Laboratory Analysis
15/10/2018	BHMW18-2	PHCs F1 – F4, and VOCs
15/10/2018	BHMW18-3	PHCs F1 – F4, and VOCs

3.8 Analytical Testing

Soil and groundwater samples were submitted to Maxxam Analytics Inc. (Maxxam) / Bureau Veritas (BV), of Ottawa, ON, for chemical analysis. Maxxam/BV is a Canadian Association for Laboratory Accreditation Inc. (CALA) accredited laboratory. Please note, between 2018 and 2021, Maxxam Analytics Inc. (Maxxam) changed its name to Bureau Veritas (BV).

3.9 Residue Management

All soil cuttings resulting from drilling activities, purge water resulting from well development and purging activities, and fluids resulting from equipment decontamination were appropriately contained and secured on Site. Proper disposal is to be coordinated at a later date by a licensed waste hauler.

3.10 Quality Assurance / Quality Control

DST maintains a standard Quality Assurance / Quality Control (QA/QC) program for environmental assessments. The field sampling and QA/QC program was completed in general accordance with the applicable Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario (MECP, 1996). All project documentation was maintained and controlled by the appointed field supervisor. All borehole advancement and soil and groundwater sampling was completed in accordance with industry standards, and applicable provincial standards/guidelines.

Collected soil and groundwater samples collected during the investigation were placed in ice-packed coolers. Samples were shipped under a Chain of Custody protocol to Maxxam/BV for chemical analysis.

The potential for cross-contamination between samples was minimized by, where applicable, washing sampling tools with phosphorous-free soap and water, followed by rinsing with distilled water, and by wearing new disposable nitrile gloves prior to the handling of each sample.

4. RESULTS AND EVALUATION

4.1 Stratigraphy

Based on the soil data collected during the advancement of the boreholes, the general soil stratigraphy at the Site is characterized by a layer of fill material, mainly consisting of sand and gravel, underlain by layers of silty sand and sand. Borehole logs are provided in Appendix D.

4.2 Groundwater Levels

As noted in Section 3.5, DST field personnel collected groundwater level measurements from the newly installed monitoring wells prior to groundwater sampling activities. The groundwater levels are provided in Table 4-1 below.

Table 4-1: Groundwater Levels

Monitoring Well ID	Groundwater Depth (1) (October 15, 2018)
BHMW18-2	10.1
BHMW18-3	8.37

Note: (1) Groundwater depths measured in metres below ground surface.

4.3 Field Observations

Visual and olfactory evidence of petroleum impacts (staining and petroleum odours) were not observed during drilling and soil sampling activities.

4.4 Soil Texture

DST did not complete a grain size analysis on soil samples collected during the investigation. As described in Section 2, a coarse-grained soil texture was selected for comparison of the analytical results to the applicable provincial site condition standards as it represents the 'worst-case' scenario.

4.5 Soil Quality

Analytical results of the soil samples submitted for laboratory analysis were compared to the applicable MECP Table 3 SCS for Industrial/Commercial/Community Property Use and coarse textured soils. Based on the laboratory analytical results, all soil samples collected met the applicable MECP Table 3 SCS for all analyzed parameters.

The laboratory certificates of analysis are provided in Appendix F.

4.6 Groundwater Quality

Analytical results of the groundwater samples submitted for laboratory analysis were compared against the applicable MECP Table 3 SCS for All Types of Property Use and coarse textured soils. Based on the laboratory analytical results, all groundwater samples collected from the monitoring wells met the applicable MECP Table 3 SCS for all analyzed parameters.

The laboratory certificates of analysis are provided in Appendix F.

5. CONCLUSIONS AND RECOMMENDATIONS

DST conducted a Phase Two ESA at the property located at 2584-2600 Bank Street, in Ottawa, Ontario to evaluate the environmental quality of soils and groundwater at the Site.

The field program for the Phase Two ESA consisted of a GPR survey of the area of the suspected UST, the advancement of six boreholes, three of which were instrumented with groundwater monitoring wells at strategic locations across the Site.

A GPR survey was completed on October 2, 2018. No USTs were detected on the southern portion of the Site in the vicinity of the access ports.

A total of nine soil samples and two groundwater samples were collected from the advanced boreholes/monitoring wells were submitted for laboratory analysis of COPCs, including PHCs F1–F4, BTEX, VOCs and inorganics.

Based on the laboratory analytical results, all soil and groundwater samples submitted to the laboratory met the applicable MECP Table 3 SCS for commercial/industrial property use and coarse textured soils.

6. CLOSURE

This report was prepared for the exclusive use of Upper Hunt Club Centre Inc. Any use of this report by any third party, or any reliance on or decisions to be made based on it, are the responsibility of such parties. DST accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We trust the information herein meets your present requirements. Should you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

DST, A Division of Englobe

Colette Robitaille
Environmental Technician

Andrew Naoum, *P.Eng.*
Director of Operations, Engineering

7. REFERENCES

DST Consulting Engineers Inc. April 2018. Phase One Environmental Site Assessment – 2584-2600 Bank Street, Ottawa, Ontario. File No. TS-SO-034880.

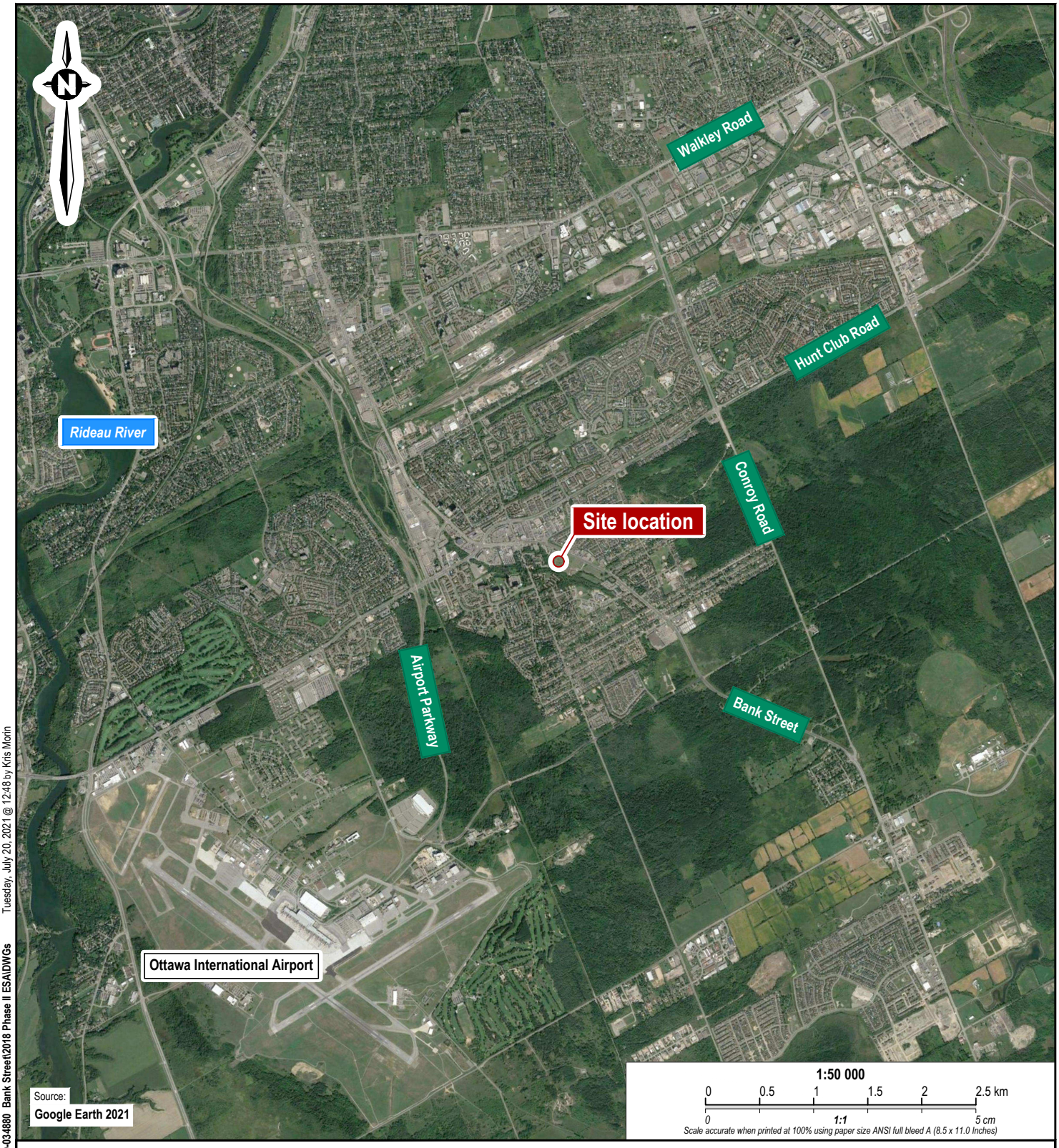
Ontario Ministry of the Environment, Conservation and Parks, December 1996. Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario.

Ontario Ministry of the Environment, Conservation and Parks, 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act.

Ontario Ministry of the Environment, Conservation and Parks, as amended January 2014. Ontario Resources Act R.R.O. 1990, Regulation 903 – Wells.

APPENDIX A

Figures



Note

1. This drawing shall be read in conjunction with the associated technical report.

Revision	Date	Issue	Approval
0	07/20/2021	Original	AN

Client: Upper Hunt Club Centre Inc.

Site: 2584-2600 Bank Street, Ottawa, ON

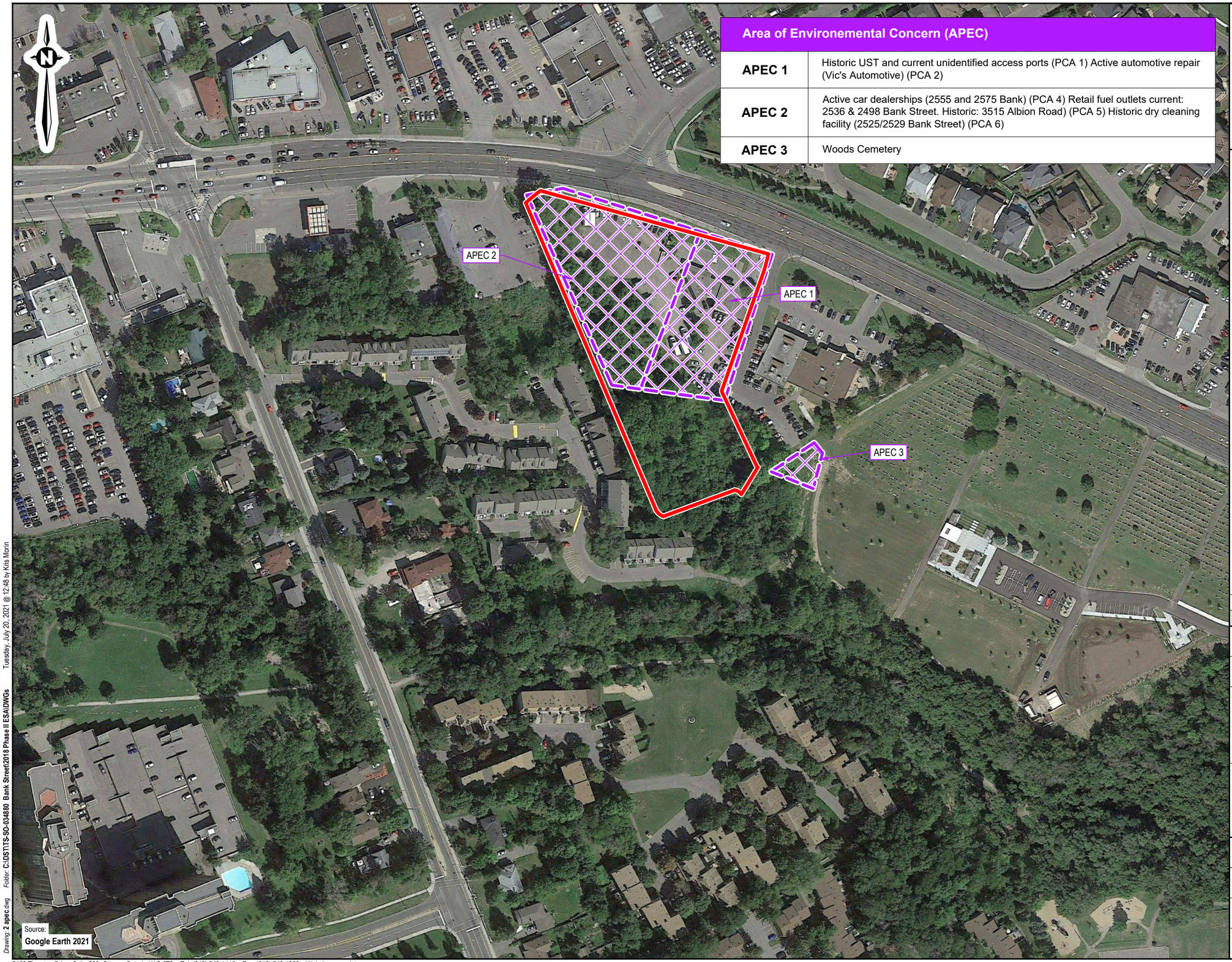
DST a division of Englobe

Report Title: Phase Two Environmental Site Assessment

Drawing Title: Site Location Map

Designed By: C.R.	Date: July 2021
Drawn By: K.M.	Project No.: TS-SO-032782
Approved By: A.N.	Figure No.: 1
Scale: As shown	

2150 Thurston Drive, Suite 203, Ottawa, Ontario K1G 5T9 Tel: (613) 748-1415 Fax: (613) 748-1356 Website: www.dstgroup.com



Area of Environemental Concern (APEC)	
APEC 1	Historic UST and current unidentified access ports (PCA 1) Active automotive repair (Vic's Automotive) (PCA 2)
APEC 2	Active car dealerships (2555 and 2575 Bank) (PCA 4) Retail fuel outlets current: 2536 & 2498 Bank Street. Historic: 3515 Albion Road) (PCA 5) Historic dry cleaning facility (2525/2529 Bank Street) (PCA 6)
APEC 3	Woods Cemetery

DST a division of Englobe

Note

1. This drawing shall be read in conjunction with the associated technical report.

Legend

- Site boundary
- Area of Potential Environemental Concern

1:2 000

0 20 40 60 80 100 m

0 1:1 5 cm

Scale accurate when printed at 100% using paper size ANSI full bleed B (11.0 x 17.0 Inches)

Revision	Date	Issue	Approval
0	07/20/2021	Original	AN

Client
Upper Hunt Club Centre Inc.

Site
2584-2600 Bank Street, Ottawa, ON

Report Title
Phase Two Environmental Site Assessment

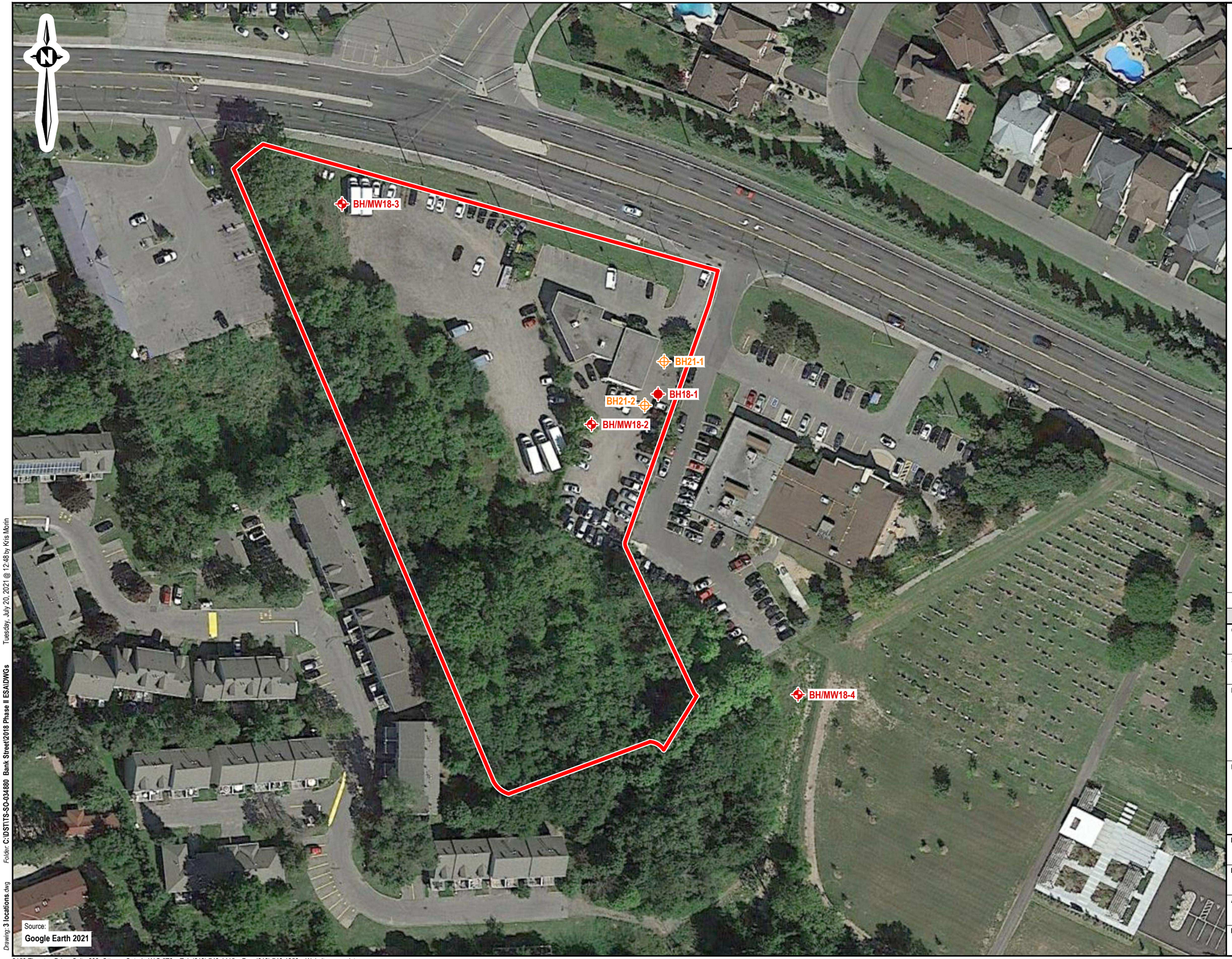
Drawing Title
Areas of Potential Environmental Concern (APEC)

Designed By	Scale
C.R.	As shown
Drawn By	**Date**
K.M.	July 2021
Approved By	**Project No.**
A.N.	TS-SO-032782

Figure No. **2**

Drawing: 2 apec.dwg Folder: C:\DST\TS-SO-034580 Bank Street\2018 Phase II ESA\DWGs Tuesday, July 20, 2021 @ 12:48 by Kris Morin

2150 Thurston Drive, Suite 203, Ottawa, Ontario K1G 5T9 Tel: (613) 748-1415 Fax: (613) 748-1356 Website: www.dstgroup.com



a division of Englobe

Note

1. This drawing shall be read in conjunction with the associated technical report.

Legend

- Site boundary
- Approximate location of borehole (DST, 2018)
- Approximate location of monitoring well (DST, 2018)
- Approximate location of borehole (DST, 2021)

1:1 000

0 10 20 30 40 50 m

0 1:1 5 cm

Scale accurate when printed at 100% using paper size ANSI full bleed B (11.0 x 17.0 Inches)

0	07/20/2021	Original	AN
Revision	Date	Issue	Approval

Client
Upper Hunt Club Centre Inc.

Site
2584-2600 Bank Street, Ottawa, ON

Report Title
Phase Two Environmental Site Assessment

Drawing Title
Borehole Location Plan

Designed By	Scale
C.R.	As shown
Drawn By	**Date**
K.M.	July 2021
Approved By	**Project No.**
A.N.	TS-SO-032782

Figure No. 3

Drawing: 3 locations.dwg Folder: C:\DST\TS-SO-034880 Bank Street\2018 Phase II ESA\DWGs Tuesday, July 20, 2021 @ 12:48 by Kris Morin

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APPENDIX B

Site Photographs

Photograph 1: View of the advancement of borehole BHMW18-4, facing southeast (October 3, 2018)

Photograph 2: View of the advancement of BH18-1, facing southeast (October 11, 2018)

Photograph 3: View of soil sample BHMW18-1 SS4 (October 11, 2018)

Photograph 4: View of the advancement of BHMW18-2, facing southwest (October 11, 2018)

Photograph 5: View of soil sample BHMW18-2 SS6 (October 11, 2018)

Photograph 6: View of the advancement of BHMW18-3, facing northwest (October 12, 2018)

Photograph 7: View of the advancement of BH21-1, facing southeast (March 10, 2021)

Photograph 8: View of the filled BH21-1, facing North (March 10, 2021)

Photograph 9: View of the filled BH21-2, facing northeast (March 10, 2021)

APPENDIX C

Ground Penetrating Radar Survey

UNDERGROUND SERVICE LOCATORS INC.

Contractor: DST

Action requested: Geophysical survey.

Work site: 2600 Bank St, Ottawa, ON.

Areas of concern:

- Possible underground storage tank, (UST), on south side of building.

Information provided by contractor:

- Steel port covers installed in asphalt at south side of building.
- Port cover purpose is unknown present occupant.

Method

•Ground penetrating radar, (GPR), was used to detect UST.

USL-1 geophysical report

- UST was not detected.
- GPR indicated 2 pipes running south from port covers and ending approximately 3 feet away from the port covers.

Supporting documentation

- 2 Photos
- This written report is included within 1 page.

Mike Thivierge
Geophysical Surveyor

Date of report: 02 Oct 2018
Date of survey: 02 Oct 2018

USL-1
UNDERGROUND SERVICE LOCATORS INC.

UST scan area

N

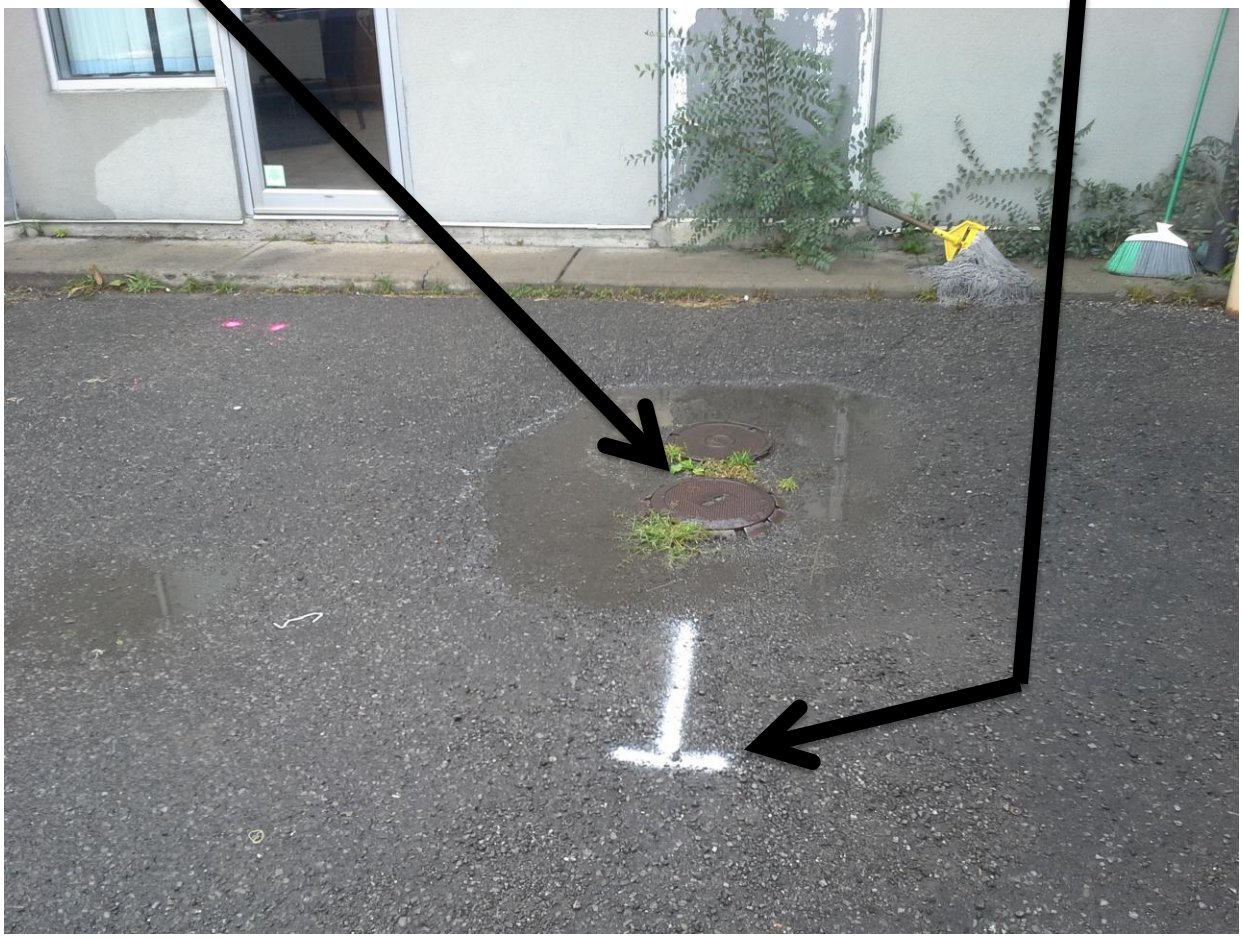
775 Taylor Creek Drive, Ottawa ON K1C 1T1 tel 613-226-8750 fax 613-226-8677 toll- free 877-248-3444 www.usl-1.com

USL-1
UNDERGROUND SERVICE LOCATORS INC.

2600 Bank St.

Steel port covers

End of pipe signature



APPENDIX D

Borehole Logs

BH18-1

a division of Englobe

DST Project No.	TS-SO-032782	Date	October 11, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022391.9 m N, 449941.8 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
				0		SAND WITH GRAVEL - coarse grained, dry	SS1		25	0 ppm							
0.5																	
							SS2		18	0 ppm							
1.0																	
							SS3		39	0 ppm			✓		✓		
1.5																	
							SS4		33	0 ppm			✓				
2.0																	
							SS5		60	0 ppm							
2.5																	
							SS6		37	0 ppm							
3.0																	
							SS7		35	0 ppm							
3.5																	
							SS8		38	0 ppm							
4.0																	
							SS9		35	0 ppm							
4.5																	
							SS10		35	0 ppm							
5.0																	
5.5																	
6.0																	

BH18-1

DST a division of Englobe

DST Project No.	TS-SO-032782	Date	October 11, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022391.9 m N, 449941.8 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
6.5						SAND WITH GRAVEL - coarse grained, dry	SS11		68	0 ppm							
7.0							SS12		77	0 ppm							
				7.2		Sand - coarse grained, some gravel, dry	SS13		38	0 ppm							
7.5																	
8.0							SS14		49	0 ppm							
8.5																	
							SS15		55	0 ppm							
9.0																	
						End of Borehole at 9.1 m.											
9.5																	
10.0																	
10.5																	
11.0																	
11.5																	
12.0																	

Analysis: Submitted for laboratory analysis

Template: DST - ENVIRONMENTAL LOG SHEET A1 Date: July 21, 2021
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BH/MW18-2

a division of Englobe

DST Project No.	TS-SO-032782	Date	October 11, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022383.6 m N, 449923.5 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
0				0		SAND WITH GRAVEL - followed by stiff gravelly clay	SS1		12	0 ppm							
0.5				0.6		SILTY SAND - some gravel, brown, dry	SS2		11	0 ppm							
1.0				1.2		SAND WITH GRAVEL - brown, dry	SS3		6	0 ppm							
1.5							SS4		34	0 ppm							
2.0							SS5		53	0 ppm							
2.5				2.4		- coarse grained	SS6		24	0 ppm			✓		✓		
3.0							SS7		45	0 ppm							
3.5							SS8		26	0 ppm							
4.0							SS9		37	0 ppm							
4.5							SS10		31	0 ppm							
5.0																	
5.5																	
6.0																	

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BH/MW18-2

DST a division of Englobe

DST Project No.	TS-SO-032782	Date	October 11, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022383.6 m N, 449923.5 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
6.5				6.1		SAND - some gravel, dry	SS11		46	0 ppm							
7.0							SS12		38	0 ppm							
7.5							SS13		19	0 ppm							
8.0							SS14		43	0 ppm							
8.5				8.4		- coarse grained, brown	SS15		35	0 ppm							
9.0							SS16		31	0 ppm							
9.5				9.7		- moist	SS17		68	0 ppm							Groundwater level at 10.10 mbgs
10.0				10.3		- wet	SS18		54	0 ppm							
10.5							SS19			0 ppm							
11.0																	
11.5						End of Borehole at 11.6 m.											
12.0																	

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BH/MW18-3

DST a division of Englobe

DST Project No.	TS-SO-032782	Date	October 12, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022444.1 m N, 449855 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
0				0		SAND WITH GRAVEL - trace organics	SS1		14	0 ppm							
0.5																	
1.0							SS2		10	0 ppm							
				1.1		ORGANIC											
				1.2		PEAT - some silt, dark brown	SS3		5	0 ppm							
1.5																	
2.0							SS4		7	0 ppm							
				2.4		SANDY SILT - moist											
2.5							SS5		24	0 ppm							
3.0																	
				3.1		SAND - some gravel, medium grained, light brown	SS6		17	0 ppm							
3.5																	
				3.6		- interbedded with sandy clay layer	SS7		16	320 ppm							
4.0																	
				4.3		- brown, dry	SS8		21	0 ppm							
4.5																	
5.0							SS9		28	80 ppm							
5.5																	
6.0							SS10		18	0 ppm							

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BH/MW18-3

a division of Englobe

DST Project No.	TS-SO-032782	Date	October 12, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022444.1 m N, 449855 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
6.5						SAND - some gravel, medium grained, light brown	SS11		28	0 ppm							
7.0							SS12		15	0 ppm							
7.5				7.3		- moist	SS13		11	0 ppm							
8.0				7.8		- wet	SS14		13	260 ppm			✓		✓		Groundwater level at 8.37 mbgs
8.5				8.4		- coarse grained	SS15		18	0 ppm							
9.0							SS16		32	5 ppm							
9.5							SS17			95 ppm							
10.0						End of Borehole at 10.4 m.											
10.5																	
11.0																	
11.5																	
12.0																	

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BH/MW18-4

a division of Englobe

DST Project No.	TS-SO-032782	Date	October 3, 2018
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022309.4 m N, 449980.2 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
0				0		TOPSOIL - sand and silt, brown	SS1		8	0 ppm							
0.5				0.6		SILTY SAND - trace organics, brown	SS2		14	0 ppm							
1.0				1.2		SAND - some silt, trace organics, medium grained, brown	SS3		8	0 ppm							
1.5							SS4		15	0 ppm							
2.0							SS5		13	0 ppm							
2.5				3		- moist											
3.0				3.1		SILTY SAND - trace clay, wet	SS6		8	0 ppm							
3.5				3.7		SANDY SILTY CLAY - trace coarse sand, trace clay, wet	SS7		11	0 ppm							
4.0							SS8		15	0 ppm				✓	✓		
4.5						End of Borehole at 4.9 m.											
5.0																	
5.5																	
6.0																	

Analysis: Submitted for laboratory analysis

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BH21-1

a division of Englobe

DST Project No.	TS-SO-032782	Date	March 10, 2021
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022402 m N, 449940.9 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis (Submitted for laboratory analysis): PAHs	PHC/BTEX	Metals / Inorganics	VOCs	Others	Remarks
				0		SAND WITH GRAVEL - with gravelly clay, very dense											
0.5							SS1		100	15 ppm							
				0.75		SILTY GRAVELLY SAND - very dense, brown, damp	SS2		80	0 ppm			✓				
1.0																	
1.5				1.5		- with some gravel, compact, brown, damp	SS3		45	0 ppm							
2.0																	
2.5				2.5		SANDY GRAVEL - compact, brown, damp	SS4		60	0 ppm			✓				
				2.92		SAND WITH GRAVEL - compact, brown, damp											
3.0																	
3.5							SS5		55	0 ppm							
						End of Borehole at 3.7 m.											
4.0																	
4.5																	
5.0																	
5.5																	
6.0																	

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BH21-2

a division of Englobe

DST Project No.	TS-SO-032782	Date	March 10, 2021
Client	Upper Hunt Club Centre Inc.	Method	CME 75
Project	Phase Two ESA	Diameter	50.8mm
Address	2584-2600 Bank Street, Ottawa, ON	Coordinates	5022389.5 m N, 449936.7 m E

Depth (m)	Elevation (m)	Water level	Well construction	Depth (m) / Elevation (m)	Symbol	Material Description	Sample #	Sample Type	% Samp. Recov	CCGD / PID Reading: CCGD	CCGD / PID Reading: PID	Analysis: PAHs	Analysis: PHC/BTEX	Analysis: Metals / Inorganics	Analysis: VOCs	Analysis: Others	Remarks
				0		SAND WITH GRAVEL - very dense, brown, damp											
							SS1		80	20 ppm							
0.5																	
				0.75		SILTY SAND - dark brown, wet	SS2		87	5 ppm							
1.0																	
				1.3		SAND WITH GRAVEL - very dense, brown, dry											
1.5				1.5		SILTY SAND & GRAVEL - compact, brown, damp											
							SS3		41	15 ppm			✓				
2.0				2.16													
							SS4		50	20 ppm			✓				
2.5																	
				2.92		- dense											
3.0																	
							SS5		50	10 ppm							
3.5																	
						End of Borehole at 3.7 m.											
4.0																	
4.5																	
5.0																	
5.5																	
6.0																	

Analysis: Submitted for laboratory analysis

Template: DST - ENVIRONMENTAL LOG SHEET A1 Date: July 21, 2021
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APPENDIX E

Analytical Tables

TABLE E-1: SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS (PHCs)

Parameters	Standards	Analytical Results (Sample ID / Depth / Sampling Date d/m/y)								
	MECP Table 3	BH18-1 SS3 (1.21-1.82 mbgs) 11/10/2018	BH18-1 SS4 (1.82-2.4 mbgs) 11/10/2018	BHMW18-2 SS6 (3.04-3.65 mbgs) 11/10/2016	BHMW18-3 SS14 (7.9-8.5 mbgs) 11/10/2016	BHMW18-4 SS8 (4.3-4.9 mbgs) 10/03/2018	BH21-1 SS2 (0.75-1.50 mbgs) 10/03/2021	BH21-1 SS4 (2.35-2.92 mbgs) 10/03/2021	BH21-2 SS3 (1.60-2.16 mbgs) 10/03/2021	BH21-2 SS4 (2.35-2.92 mbgs) 10/03/2021
Benzene	0.32	<0.20	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	9.5	<0.020	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	68	<0.020	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
m-Xylene & p-Xylene	NG	<0.020	NA	<0.020	<0.020	<0.020	<0.040	<0.040	<0.040	<0.040
o-Xylene	NG	<0.020	NA	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Xylenes	26	<0.020	NA	<0.020	<0.020	<0.020	<0.040	<0.040	<0.040	<0.040
F1 (C6-C10)	55	<10	NA	<10	<10	NA	<10	<10	<10	<10
F1 (C6-C10) - BTEX	55	<10	NA	<10	<10	NA	<10	<10	<10	<10
F2 (C10-C16)	230	<10	<10	<10	<10	NA	<10	<10	11	<10
F3 (C16-C34)	1700	68	64	<50	<50	NA	99	<50	220	<50
F4 (C34-C50)	3300	180	190	<50	<50	NA	200	<50	370	<50
F4G-sg (Gravimetric)	3300	900	610	NA	NA	NA	410	NA	1300	NA
Reached Baseline at C50	NG	No	No	Yes	Yes	NA	No	Yes	No	Yes

Notes:

All units are expressed in micrograms per gram (µg/g).

MECP Table 3 — Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", July 2011. Table 3: Full Depth Generic Site Condition Standards in a NonPotable Ground Water Condition (Industrial/Commercial/Community Property Use). Coarse textured soils.

mbgs — Metres below ground surface

< — Less than laboratory reportable detection limit (value indicated)

NG — No guideline/standard available

NA — Not Applicable

TABLE E2: SOIL ANALYTICAL RESULTS VOLATILE ORGANIC COMPOUNDS (VOCs)

Parameters	Standards	Analytical Results (Sample ID / Depth / Sampling Date)			
	MECP Table 3	BH181 SS3 (1.211.82 mbgs) 11/10/2018	BHMW182 SS6 (3.043.65 mbgs) 11/10/2016	BHMW183 SS14 (7.98.5 mbgs) 12/10/2016	BHMW184 SS8 (4.34.9 mbgs) 10/03/2018
Acetone	16	<0.50	<0.50	<0.50	<0.50
Benzene	0.32	<0.020	<0.020	<0.020	<0.020
Bromodichloromethane	18	<0.050	<0.050	<0.050	<0.050
Bromoform	0.61	<0.050	<0.050	<0.050	<0.050
Bromomethane	0.05	<0.050	<0.050	<0.050	<0.050
Carbon Tetrachloride	0.21	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	2.4	<0.050	<0.050	<0.050	<0.050
Chloroform	0.47	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	13	<0.050	<0.050	<0.050	<0.050
1,2Dichlorobenzene	6.8	<0.050	<0.050	<0.050	<0.050
1,3Dichlorobenzene	9.6	<0.050	<0.050	<0.050	<0.050
1,4Dichlorobenzene	0.2	<0.050	<0.050	<0.050	<0.050
1,1Dichloroethane	17	<0.050	<0.050	<0.050	<0.050
1,2Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050
1,1Dichloroethylene	0.064	<0.050	<0.050	<0.050	<0.050
Cis1,2Dichloroethylene	55	<0.050	<0.050	<0.050	<0.050
Trans1,2Dichloroethylene	1.3	<0.050	<0.050	<0.050	<0.050
1,2Dichloropropane	0.16	<0.050	<0.050	<0.050	<0.050
Cis1,3Dichloropropylene	NG	<0.030	<0.030	<0.030	<0.030
Trans1,3Dichloropropylene	NG	<0.040	<0.040	<0.040	<0.040
Ethylbenzene	9.5	<0.020	<0.020	<0.020	<0.020
Ethylene Dibromide	0.05	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	70	<0.50	<0.50	<0.50	<0.50
Methylene Chloride	1.6	<0.050	<0.050	<0.050	<0.050
Methyl Isobutyl Ketone	31	<0.50	<0.50	<0.50	<0.50
MethyltButyl Ether	11	<0.050	<0.050	<0.050	<0.050
Styrene	34	<0.050	<0.050	<0.050	<0.050
1,1,1,2Tetrachloroethane	0.087	<0.050	<0.050	<0.050	<0.050
1,1,2,2Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050
Toluene	68	<0.020	<0.020	<0.020	<0.020
Tetrachloroethylene	4.5	<0.050	<0.050	<0.050	<0.050
1,1,1Trichloroethane	6.1	<0.050	<0.050	<0.050	<0.050
1,1,2Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	0.91	<0.050	<0.050	<0.050	<0.050
Vinyl Chloride	0.032	<0.020	<0.020	<0.020	<0.020
mXylene & pXylene	NG	<0.020	<0.020	<0.020	<0.020
oXylene	NG	<0.020	<0.020	<0.020	<0.020
Total Xylenes	26	<0.020	<0.020	<0.020	<0.020
Dichlorodifluoromethane	16	<0.050	<0.050	<0.050	<0.050
Hexane(n)	46	<0.050	<0.050	<0.050	<0.050
Trichlorofluoromethane	4	<0.050	<0.050	<0.050	<0.050
1,3Dichloropropene (cis + trans)	0.18	<0.050	<0.050	<0.050	<0.050

Notes:

All units are expressed in micrograms per gram (µg/g).

MECP Table 3: Ontario Ministry of the Environment, Conservation and Parks (MECP) , "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", July 2011. Table 3: Full Depth Generic Site Condition Standards in a NonPotable Ground Water Condition (Industrial/Commercial/Community Property Use). Coarse textured soils.

mbgs: Metres below ground surface

<: Less than laboratory reportable dection limit (value indicated)

NG: No guideline/standard available

TABLE E-3: SOIL ANALYTICAL RESULTS - METALS

Parameters	Standards	Analytical Results (Sample ID / Depth / Sampling Date d/m/y)
	MECP Table 3	BHMW18-4 SS8 (4.3-4.9 mbgs) 10/03/2018
Antimony (Sb)	40	<0.20
Arsenic (As)	18	1.1
Barium (Ba)	670	62.0
Beryllium (Be)	8	0.26
Boron (B)	120	<5.0
Cadmium (Cd)	1.9	<0.10
Chromium (Cr)	160	18.0
Cobalt (Co)	80	6.2
Copper (Cu)	230	13.0
Lead (Pb)	120	3.7
Molybdenum (Mo)	40	<0.50
Nickel (Ni)	270	14.0
Selenium (Se)	5.5	<0.50
Silver (Ag)	40	<0.20
Thallium (Tl)	3.3	0.079
Uranium (U)	33	0.55
Vanadium (V)	86	28.0
Zinc (Zn)	340	23.0

Notes:

All units are expressed in micrograms per gram (µg/g).

MECP Table 3 — Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", July 2011. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial/Commercial/Community Property Use). Coarse textured soils.

mbgs — Metres below ground surface

< — Less than laboratory reportable detection limit (value indicated)

NG — No guideline/standard available

TABLE E-4: SOIL ANALYTICAL RESULTS - INORGANICS

Parameters	Standards	Analytical Results (Sample ID / Depth / Sampling Date d/m/y)
	MECP Table 3	BHMW18-4 SS8 (4.3-4.9 mbgs) 10/03/2018
Total Ammonia-N	NG	<20
Moisture	NG	11
Nitrite (N)	NG	<0.5
Nitrate (N)	NG	<2
Nitrate + Nitrite (N)	NG	<3
Formaldehyde	NG	<1.0

Notes:

All units are expressed in micrograms per gram (µg/g).

MECP Table 3 — Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", July 2011. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (Industrial/Commercial/Community Property Use). Coarse textured soils.

mbgs — Metres below ground surface

< — Less than laboratory reportable detection limit (value indicated)

NG — No guideline/standard available

TABLE E-5: GROUNDWATER ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS (PHCs)

Parameters	Standards	Analytical Results (Sample ID / Sampling Date d/m/y)	
	MECPTable 3	BHMW18-2 15/10/2018	BHMW18-3 15/10/2018
F1 (C6-C10)	750	<25	<25
F1 (C6-C10) - BTEX	750	<25	<25
F2 (C10-C16)	150	<100	<100
F3 (C16-C34)	500	<200	<200
F4 (C34-C50)	500	<200	<200
Reached Basline at C50	NG	Yes	Yes

Notes:

All units are expressed in micrograms per litre (µg/L).

MECP Table 3 — Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Pr 2011. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use). Coarse textured soils.

mbgs — Metres below ground surface

< — Less than laboratory reportable detection limit (value indicated)

NG — No guideline/standard available

TABLE E-6: GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS (VOCs)

Parameters	Standards	Analytical Results (Sample ID / Sampling Date)	
	MECP Table 3	BHMW18-2 15/10/2018	BHMW18-3 15/10/2018
Acetone (2-Propanone)	130,000	<10	<10
Benzene	44	<0.20	<0.20
Bromodichloromethane	85,000	<0.50	<0.50
Bromoform	380	<1.0	<1.0
Bromomethane	5.6	<0.50	<0.50
Carbon Tetrachloride	0.79	<0.20	<0.20
Chlorobenzene	630	<0.20	<0.20
Chloroform	2.4	1.3	<0.20
Dibromochloromethane	82,000	<0.50	<0.50
1,2-Dichlorobenzene	4,600	<0.50	<0.50
1,3-Dichlorobenzene	9,600	<0.50	<0.50
1,4-Dichlorobenzene	8	<0.50	<0.50
Dichlorodifluoromethane (FREON 12)	4,400	<1.0	<1.0
1,1-Dichloroethane	320	<0.20	<0.20
1,2-Dichloroethane	1.6	<0.50	<0.50
1,1-Dichloroethylene	1.6	<0.20	<0.20
cis-1,2-Dichloroethylene	1.6	<0.50	<0.50
trans-1,2-Dichloroethylene	1.6	<0.50	<0.50
1,2-Dichloropropane	16	<0.20	<0.20
cis-1,3-Dichloropropene	NG	<0.30	<0.30
trans-1,3-Dichloropropene	NG	<0.40	<0.40
1,3-Dichloropropene (cis + trans)	5.2	<0.50	<0.50
Ethylbenzene	2,300	<0.20	<0.20
Ethylene Dibromide	0.25	<0.20	<0.20
Hexane	51	<1.0	<1.0
Methylene Chloride (Dichloromethane)	610	<2.0	<2.0
Methyl Isobutyl Ketone	140,000	<5.0	<5.0
Methyl Ethyl Ketone (2-Butanone)	470,000	<10	<10
Methyl t-butyl ether (MTBE)	190	<0.50	<0.50
Styrene	1,300	<0.50	<0.50
1,1,1,2-Tetrachloroethane	3.3	<0.50	<0.50
1,1,2,2-Tetrachloroethane	3.2	<0.50	<0.50
Tetrachloroethylene	1.6	<0.20	<0.20
Toluene	18,000	<0.20	<0.20
1,1,1-Trichloroethane	640	<0.20	<0.20
1,1,2-Trichloroethane	4.7	<0.50	<0.50
Trichloroethylene	1.6	<0.20	<0.20
Vinyl Chloride	0.5	<0.20	<0.20
p+m-Xylene	NG	<0.20	<0.20
o-Xylene	NG	<0.20	<0.20
Xylene (Total)	4,200	<0.20	<0.20
Trichlorofluoromethane (FREON 11)	2,500	<0.50	<0.50

Notes:

All units are expressed in micrograms per litre (µg/L).

MECP Table 3 — Ontario Ministry of the Environment, Conservation and Parks (MECP), "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Enviro 2011. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition (All Types of Property Use). Coarse textured soils.

mbgs — Metres below ground surface

< — Less than laboratory reportable detection limit (value indicated)

NG — No guideline/standard available

APPENDIX F

Laboratory Certificates of Analysis

Maxxam
A Bureau Veritas Group Company

Your Project #: TS-SO-032782
Your C.O.C. #: 117422

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/19
Report #: R5448313
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8R1437
Received: 2018/10/15, 11:50

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum	2	N/A	2018/10/19	OTT SOP-00002	EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2018/10/16	2018/10/17	OTT SOP-00001	CCME Hydrocarbons
Volatile Organic Compounds and F1 PHCs	2	N/A	2018/10/18	OTT SOP-00002	EPA 8260C m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 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) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Your Project #: TS-SO-032782
Your C.O.C. #: 117422

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/19
Report #: R5448313
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8R1437
Received: 2018/10/15, 11:50

Encryption Key

Alisha Williamson
Project Manager
19 Oct 2018 16:14:28

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: AWilliamson@maxxam.ca
Phone# (613) 274-0573
==========
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.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B8R1437
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

O.REG 153 VOCS BY HS & F1-F4 (WATER)

Maxxam ID		IAD412			IAD412			IAD413		
Sampling Date		2018/10/15 10:20			2018/10/15 10:20			2018/10/15 10:45		
COC Number		117422			117422			117422		
	UNITS	BHMW 18-2	RDL	QC Batch	BHMW 18-2 Lab-Dup	RDL	QC Batch	BHMW 18-3	RDL	QC Batch
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	5783453				<0.50	0.50	5783453
Volatile Organics										
Acetone (2-Propanone)	ug/L	<10	10	5790672	<10	10	5790672	<10	10	5790672
Benzene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Bromodichloromethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Bromoform	ug/L	<1.0	1.0	5790672	<1.0	1.0	5790672	<1.0	1.0	5790672
Bromomethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Carbon Tetrachloride	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Chlorobenzene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Chloroform	ug/L	1.3	0.20	5790672	1.3	0.20	5790672	<0.20	0.20	5790672
Dibromochloromethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
1,2-Dichlorobenzene	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
1,3-Dichlorobenzene	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
1,4-Dichlorobenzene	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	5790672	<1.0	1.0	5790672	<1.0	1.0	5790672
1,1-Dichloroethane	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
1,2-Dichloroethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
1,1-Dichloroethylene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
1,2-Dichloropropane	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	5790672	<0.30	0.30	5790672	<0.30	0.30	5790672
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	5790672	<0.40	0.40	5790672	<0.40	0.40	5790672
Ethylbenzene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Ethylene Dibromide	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Hexane	ug/L	<1.0	1.0	5790672	<1.0	1.0	5790672	<1.0	1.0	5790672
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	5790672	<2.0	2.0	5790672	<2.0	2.0	5790672
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	5790672	<10	10	5790672	<10	10	5790672
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	5790672	<5.0	5.0	5790672	<5.0	5.0	5790672
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Styrene	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672

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

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Maxxam Job #: B8R1437
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

O.REG 153 VOCS BY HS & F1-F4 (WATER)

Maxxam ID		IAD412			IAD412			IAD413		
Sampling Date		2018/10/15 10:20			2018/10/15 10:20			2018/10/15 10:45		
COC Number		117422			117422			117422		
	UNITS	BHMW 18-2	RDL	QC Batch	BHMW 18-2 Lab-Dup	RDL	QC Batch	BHMW 18-3	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Tetrachloroethylene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Toluene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
1,1,1-Trichloroethane	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
1,1,2-Trichloroethane	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Trichloroethylene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	5790672	<0.50	0.50	5790672	<0.50	0.50	5790672
Vinyl Chloride	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
p+m-Xylene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
o-Xylene	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
Total Xylenes	ug/L	<0.20	0.20	5790672	<0.20	0.20	5790672	<0.20	0.20	5790672
F1 (C6-C10)	ug/L	<25	25	5790672	<25	25	5790672	<25	25	5790672
F1 (C6-C10) - BTEX	ug/L	<25	25	5790672	<25	25	5790672	<25	25	5790672
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	5785556				<100	100	5785556
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	5785556				<200	200	5785556
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	5785556				<200	200	5785556
Reached Baseline at C50	ug/L	Yes		5785556				Yes		5785556
Surrogate Recovery (%)										
o-Terphenyl	%	114		5785556				113		5785556
4-Bromofluorobenzene	%	94		5790672	94		5790672	91		5790672
D4-1,2-Dichloroethane	%	102		5790672	104		5790672	96		5790672
D8-Toluene	%	99		5790672	97		5790672	101		5790672

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

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B8R1437
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

TEST SUMMARY

Maxxam ID: IAD412
Sample ID: BHMW 18-2
Matrix: Water

Collected: 2018/10/15
Shipped:
Received: 2018/10/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5783453	N/A	2018/10/19	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5785556	2018/10/16	2018/10/17	Mariana Vascan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5790672	N/A	2018/10/18	Liliana Gaburici

Maxxam ID: IAD412 Dup
Sample ID: BHMW 18-2
Matrix: Water

Collected: 2018/10/15
Shipped:
Received: 2018/10/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5790672	N/A	2018/10/18	Liliana Gaburici

Maxxam ID: IAD413
Sample ID: BHMW 18-3
Matrix: Water

Collected: 2018/10/15
Shipped:
Received: 2018/10/15

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5783453	N/A	2018/10/19	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	5785556	2018/10/16	2018/10/17	Mariana Vascan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5790672	N/A	2018/10/18	Liliana Gaburici

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Maxxam Job #: B8R1437
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

GENERAL COMMENTS

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

Package 1	10.0°C

Results relate only to the items tested.

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Maxxam Job #: B8R1437
Report Date: 2018/10/19

QUALITY ASSURANCE REPORT

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5785556	o-Terphenyl	2018/10/16	112	30 - 130	114	30 - 130	112	%		
5790672	4-Bromofluorobenzene	2018/10/18	103	70 - 130	106	70 - 130	94	%		
5790672	D4-1,2-Dichloroethane	2018/10/18	99	70 - 130	107	70 - 130	111	%		
5790672	D8-Toluene	2018/10/18	107	70 - 130	102	70 - 130	95	%		
5785556	F2 (C10-C16 Hydrocarbons)	2018/10/17	99	50 - 130	102	80 - 120	<100	ug/L	NC	50
5785556	F3 (C16-C34 Hydrocarbons)	2018/10/17	99	50 - 130	102	80 - 120	<200	ug/L	NC	50
5785556	F4 (C34-C50 Hydrocarbons)	2018/10/17	99	50 - 130	102	80 - 120	<200	ug/L	NC	50
5790672	1,1,1,2-Tetrachloroethane	2018/10/18	97	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
5790672	1,1,1-Trichloroethane	2018/10/18	88	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
5790672	1,1,2,2-Tetrachloroethane	2018/10/18	94	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
5790672	1,1,2-Trichloroethane	2018/10/18	93	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
5790672	1,1-Dichloroethane	2018/10/18	84	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
5790672	1,1-Dichloroethylene	2018/10/18	86	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
5790672	1,2-Dichlorobenzene	2018/10/18	98	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
5790672	1,2-Dichloroethane	2018/10/18	85	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
5790672	1,2-Dichloropropane	2018/10/18	81	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
5790672	1,3-Dichlorobenzene	2018/10/18	101	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
5790672	1,4-Dichlorobenzene	2018/10/18	101	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
5790672	Acetone (2-Propanone)	2018/10/18	77	60 - 140	84	60 - 140	<10	ug/L	NC	30
5790672	Benzene	2018/10/18	91	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
5790672	Bromodichloromethane	2018/10/18	93	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
5790672	Bromoform	2018/10/18	85	70 - 130	96	70 - 130	<1.0	ug/L	NC	30
5790672	Bromomethane	2018/10/18	74	60 - 140	83	60 - 140	<0.50	ug/L	NC	30
5790672	Carbon Tetrachloride	2018/10/18	90	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
5790672	Chlorobenzene	2018/10/18	95	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
5790672	Chloroform	2018/10/18	93	70 - 130	91	70 - 130	<0.20	ug/L	2.1	30
5790672	cis-1,2-Dichloroethylene	2018/10/18	88	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
5790672	cis-1,3-Dichloropropene	2018/10/18	85	70 - 130	94	70 - 130	<0.30	ug/L	NC	30
5790672	Dibromochloromethane	2018/10/18	92	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
5790672	Dichlorodifluoromethane (FREON 12)	2018/10/18	86	60 - 140	91	60 - 140	<1.0	ug/L	NC	30
5790672	Ethylbenzene	2018/10/18	98	70 - 130	99	70 - 130	<0.20	ug/L	NC	30

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Maxxam Job #: B8R1437
Report Date: 2018/10/19

QUALITY ASSURANCE REPORT(CONT'D)

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5790672	Ethylene Dibromide	2018/10/18	87	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
5790672	F1 (C6-C10) - BTEX	2018/10/18					<25	ug/L	NC	30
5790672	F1 (C6-C10)	2018/10/18	103	60 - 140	111	60 - 140	<25	ug/L	NC	30
5790672	Hexane	2018/10/18	95	70 - 130	95	70 - 130	<1.0	ug/L	NC	30
5790672	Methyl Ethyl Ketone (2-Butanone)	2018/10/18	77	60 - 140	91	60 - 140	<10	ug/L	NC	30
5790672	Methyl Isobutyl Ketone	2018/10/18	76	70 - 130	88	70 - 130	<5.0	ug/L	NC	30
5790672	Methyl t-butyl ether (MTBE)	2018/10/18	85	70 - 130	91	70 - 130	<0.50	ug/L	NC	30
5790672	Methylene Chloride(Dichloromethane)	2018/10/18	79	70 - 130	88	70 - 130	<2.0	ug/L	NC	30
5790672	o-Xylene	2018/10/18	96	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
5790672	p+m-Xylene	2018/10/18	98	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
5790672	Styrene	2018/10/18	98	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
5790672	Tetrachloroethylene	2018/10/18	97	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
5790672	Toluene	2018/10/18	95	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
5790672	Total Xylenes	2018/10/18					<0.20	ug/L	NC	30
5790672	trans-1,2-Dichloroethylene	2018/10/18	82	70 - 130	88	70 - 130	<0.50	ug/L	NC	30
5790672	trans-1,3-Dichloropropene	2018/10/18	87	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
5790672	Trichloroethylene	2018/10/18	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
5790672	Trichlorofluoromethane (FREON 11)	2018/10/18	89	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
5790672	Vinyl Chloride	2018/10/18	81	70 - 130	89	70 - 130	<0.20	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 (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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Maxxam Job #: B8R1437
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

VALIDATION SIGNATURE PAGE

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

Steve Roberts, Ottawa Lab Manager

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
A Bureau Veritas Group Company

Your Project #: TS-SO-32782
Your C.O.C. #: 117417

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/22
Report #: R5451248
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q2865
Received: 2018/10/04, 13:50

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum (1)	1	N/A	2018/10/12		EPA 8260C m
Formaldehyde (HPLC) (1)	1	2018/10/06	2018/10/09	CAM SOP-00310	EPA 8315A m
Strong Acid Leachable Metals by ICPMS (1)	1	2018/10/09	2018/10/11	CAM SOP-00447	EPA 6020B m
Moisture (1)	1	N/A	2018/10/05	CAM SOP-00445	Carter 2nd ed 51.2 m
Ammonia-N (1)	1	2018/10/10	2018/10/11	CAM SOP-00441	Carter, SS&A
Nitrate (NO3) and Nitrite (NO2) in Soil (1)	1	N/A	2018/10/10	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Volatile Organic Compounds in Soil (1)	1	N/A	2018/10/11	CAM SOP-00228	EPA 8260C m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 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) This test was performed by Maxxam Analytics Mississauga

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Your Project #: TS-SO-32782
Your C.O.C. #: 117417

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/22
Report #: R5451248
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q2865
Received: 2018/10/04, 13:50

Encryption Key

Alisha Williamson
Project Manager
22 Oct 2018 14:34:58

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: AWilliamson@maxxam.ca
Phone# (613) 274-0573
==========
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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

O.REG 153 ICPMS METALS (SOIL)

Maxxam ID		HYE252		
Sampling Date		2018/10/03 11:30		
COC Number		117417		
	UNITS	BH MW18-4 SS8	RDL	QC Batch
Metals				
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	5773324
Acid Extractable Arsenic (As)	ug/g	1.1	1.0	5773324
Acid Extractable Barium (Ba)	ug/g	62	0.50	5773324
Acid Extractable Beryllium (Be)	ug/g	0.26	0.20	5773324
Acid Extractable Boron (B)	ug/g	<5.0	5.0	5773324
Acid Extractable Cadmium (Cd)	ug/g	<0.10	0.10	5773324
Acid Extractable Chromium (Cr)	ug/g	18	1.0	5773324
Acid Extractable Cobalt (Co)	ug/g	6.2	0.10	5773324
Acid Extractable Copper (Cu)	ug/g	13	0.50	5773324
Acid Extractable Lead (Pb)	ug/g	3.7	1.0	5773324
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	5773324
Acid Extractable Nickel (Ni)	ug/g	14	0.50	5773324
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	5773324
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	5773324
Acid Extractable Thallium (Tl)	ug/g	0.079	0.050	5773324
Acid Extractable Uranium (U)	ug/g	0.55	0.050	5773324
Acid Extractable Vanadium (V)	ug/g	28	5.0	5773324
Acid Extractable Zinc (Zn)	ug/g	23	5.0	5773324

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

O.REG 153 VOCS BY HS (SOIL)

Maxxam ID		HYE252		
Sampling Date		2018/10/03 11:30		
COC Number		117417		
	UNITS	BH MW18-4 SS8	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	0.050	5770159
Volatile Organics				
Acetone (2-Propanone)	ug/g	<0.50	0.50	5772883
Benzene	ug/g	<0.020	0.020	5772883
Bromodichloromethane	ug/g	<0.050	0.050	5772883
Bromoform	ug/g	<0.050	0.050	5772883
Bromomethane	ug/g	<0.050	0.050	5772883
Carbon Tetrachloride	ug/g	<0.050	0.050	5772883
Chlorobenzene	ug/g	<0.050	0.050	5772883
Chloroform	ug/g	<0.050	0.050	5772883
Dibromochloromethane	ug/g	<0.050	0.050	5772883
1,2-Dichlorobenzene	ug/g	<0.050	0.050	5772883
1,3-Dichlorobenzene	ug/g	<0.050	0.050	5772883
1,4-Dichlorobenzene	ug/g	<0.050	0.050	5772883
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	0.050	5772883
1,1-Dichloroethane	ug/g	<0.050	0.050	5772883
1,2-Dichloroethane	ug/g	<0.050	0.050	5772883
1,1-Dichloroethylene	ug/g	<0.050	0.050	5772883
cis-1,2-Dichloroethylene	ug/g	<0.050	0.050	5772883
trans-1,2-Dichloroethylene	ug/g	<0.050	0.050	5772883
1,2-Dichloropropane	ug/g	<0.050	0.050	5772883
cis-1,3-Dichloropropene	ug/g	<0.030	0.030	5772883
trans-1,3-Dichloropropene	ug/g	<0.040	0.040	5772883
Ethylbenzene	ug/g	<0.020	0.020	5772883
Ethylene Dibromide	ug/g	<0.050	0.050	5772883
Hexane	ug/g	<0.050	0.050	5772883
Methylene Chloride(Dichloromethane)	ug/g	<0.050	0.050	5772883
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	0.50	5772883
Methyl Isobutyl Ketone	ug/g	<0.50	0.50	5772883
Methyl t-butyl ether (MTBE)	ug/g	<0.050	0.050	5772883
Styrene	ug/g	<0.050	0.050	5772883
1,1,1,2-Tetrachloroethane	ug/g	<0.050	0.050	5772883
1,1,2,2-Tetrachloroethane	ug/g	<0.050	0.050	5772883
Tetrachloroethylene	ug/g	<0.050	0.050	5772883

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 VOCS BY HS (SOIL)

Maxxam ID		HYE252		
Sampling Date		2018/10/03 11:30		
COC Number		117417		
	UNITS	BH MW18-4 SS8	RDL	QC Batch
Toluene	ug/g	<0.020	0.020	5772883
1,1,1-Trichloroethane	ug/g	<0.050	0.050	5772883
1,1,2-Trichloroethane	ug/g	<0.050	0.050	5772883
Trichloroethylene	ug/g	<0.050	0.050	5772883
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	0.050	5772883
Vinyl Chloride	ug/g	<0.020	0.020	5772883
p+m-Xylene	ug/g	<0.020	0.020	5772883
o-Xylene	ug/g	<0.020	0.020	5772883
Total Xylenes	ug/g	<0.020	0.020	5772883
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	96		5772883
D10-o-Xylene	%	110		5772883
D4-1,2-Dichloroethane	%	98		5772883
D8-Toluene	%	98		5772883

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

RESULTS OF ANALYSES OF SOIL

Maxxam ID		HYE252			HYE252		
Sampling Date		2018/10/03 11:30			2018/10/03 11:30		
COC Number		117417			117417		
	UNITS	BH MW18-4 SS8	RDL	QC Batch	BH MW18-4 SS8 Lab-Dup	RDL	QC Batch
Inorganics							
Total Ammonia-N	ug/g	<20	20	5774685	<20	20	5774685
Moisture	%	11	1.0	5770480			
Nitrite (N)	ug/g	<0.5	0.5	5773099			
Nitrate (N)	ug/g	<2	2	5773099			
Nitrate + Nitrite (N)	ug/g	<3	3	5773099			
Miscellaneous Parameters							
Formaldehyde	ug/g	<1.0	1.0	5771508	<1.0	1.0	5771508

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

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

TEST SUMMARY

Maxxam ID: HYE252
Sample ID: BH MW18-4 SS8
Matrix: Soil

Collected: 2018/10/03
Shipped:
Received: 2018/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5770159	N/A	2018/10/12	Automated Statchk
Formaldehyde (HPLC)	LC/DAD	5771508	2018/10/06	2018/10/09	Chanli Hu
Strong Acid Leachable Metals by ICPMS	ICP/MS	5773324	2018/10/09	2018/10/11	Daniel Teclu
Moisture	BAL	5770480	N/A	2018/10/05	Nilam Borole
Ammonia-N	LACH/NH4	5774685	2018/10/10	2018/10/11	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Soil	LACH	5773099	N/A	2018/10/10	Chandra Nandlal
Volatile Organic Compounds in Soil	GC/MS	5772883	N/A	2018/10/11	Juan Pangilinan

Maxxam ID: HYE252 Dup
Sample ID: BH MW18-4 SS8
Matrix: Soil

Collected: 2018/10/03
Shipped:
Received: 2018/10/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Formaldehyde (HPLC)	LC/DAD	5771508	2018/10/06	2018/10/09	Chanli Hu
Ammonia-N	LACH/NH4	5774685	2018/10/10	2018/10/11	Charles Opoku-Ware

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

GENERAL COMMENTS

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

Package 1	9.3°C

Results relate only to the items tested.

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

QUALITY ASSURANCE REPORT

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
5772883	4-Bromofluorobenzene	2018/10/11	100	60 - 140	100	60 - 140	99	%				
5772883	D10-o-Xylene	2018/10/11	129	60 - 130	103	60 - 130	98	%				
5772883	D4-1,2-Dichloroethane	2018/10/11	92	60 - 140	102	60 - 140	103	%				
5772883	D8-Toluene	2018/10/11	103	60 - 140	103	60 - 140	96	%				
5770480	Moisture	2018/10/05							2.2	20		
5771508	Formaldehyde	2018/10/09	88	40 - 130	95	40 - 130	<1.0	ug/g	NC	50		
5772883	1,1,1,2-Tetrachloroethane	2018/10/11	94	60 - 140	100	60 - 130	<0.050	ug/g	NC	50		
5772883	1,1,1-Trichloroethane	2018/10/11	95	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
5772883	1,1,2,2-Tetrachloroethane	2018/10/11	87	60 - 140	103	60 - 130	<0.050	ug/g	NC	50		
5772883	1,1,2-Trichloroethane	2018/10/11	90	60 - 140	101	60 - 130	<0.050	ug/g	NC	50		
5772883	1,1-Dichloroethane	2018/10/11	94	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
5772883	1,1-Dichloroethylene	2018/10/11	96	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
5772883	1,2-Dichlorobenzene	2018/10/11	95	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
5772883	1,2-Dichloroethane	2018/10/11	89	60 - 140	100	60 - 130	<0.050	ug/g	NC	50		
5772883	1,2-Dichloropropane	2018/10/11	91	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
5772883	1,3-Dichlorobenzene	2018/10/11	100	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
5772883	1,4-Dichlorobenzene	2018/10/11	100	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
5772883	Acetone (2-Propanone)	2018/10/11	80	60 - 140	98	60 - 140	<0.50	ug/g	NC	50		
5772883	Benzene	2018/10/11	92	60 - 140	94	60 - 130	<0.020	ug/g	NC	50		
5772883	Bromodichloromethane	2018/10/11	91	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
5772883	Bromoform	2018/10/11	86	60 - 140	101	60 - 130	<0.050	ug/g	NC	50		
5772883	Bromomethane	2018/10/11	94	60 - 140	97	60 - 140	<0.050	ug/g	NC	50		
5772883	Carbon Tetrachloride	2018/10/11	96	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
5772883	Chlorobenzene	2018/10/11	94	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
5772883	Chloroform	2018/10/11	92	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
5772883	cis-1,2-Dichloroethylene	2018/10/11	92	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
5772883	cis-1,3-Dichloropropene	2018/10/11	92	60 - 140	100	60 - 130	<0.030	ug/g	NC	50		
5772883	Dibromochloromethane	2018/10/11	90	60 - 140	101	60 - 130	<0.050	ug/g	NC	50		
5772883	Dichlorodifluoromethane (FREON 12)	2018/10/11	100	60 - 140	96	60 - 140	<0.050	ug/g	NC	50		
5772883	Ethylbenzene	2018/10/11	110	60 - 140	96	60 - 130	<0.020	ug/g	41	50		
5772883	Ethylene Dibromide	2018/10/11	89	60 - 140	101	60 - 130	<0.050	ug/g	NC	50		

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

QUALITY ASSURANCE REPORT(CONT'D)

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
5772883	Hexane	2018/10/11	102	60 - 140	99	60 - 130	<0.050	ug/g	21	50		
5772883	Methyl Ethyl Ketone (2-Butanone)	2018/10/11	83	60 - 140	104	60 - 140	<0.50	ug/g	NC	50		
5772883	Methyl Isobutyl Ketone	2018/10/11	85	60 - 140	106	60 - 130	<0.50	ug/g	NC	50		
5772883	Methyl t-butyl ether (MTBE)	2018/10/11	90	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
5772883	Methylene Chloride(Dichloromethane)	2018/10/11	87	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
5772883	o-Xylene	2018/10/11	102	60 - 140	97	60 - 130	<0.020	ug/g	35	50		
5772883	p+m-Xylene	2018/10/11	125	60 - 140	95	60 - 130	<0.020	ug/g	39	50		
5772883	Styrene	2018/10/11	99	60 - 140	100	60 - 130	<0.050	ug/g	NC	50		
5772883	Tetrachloroethylene	2018/10/11	99	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
5772883	Toluene	2018/10/11	99	60 - 140	95	60 - 130	<0.020	ug/g	43	50		
5772883	Total Xylenes	2018/10/11					<0.020	ug/g	38	50		
5772883	trans-1,2-Dichloroethylene	2018/10/11	95	60 - 140	91	60 - 130	<0.050	ug/g	NC	50		
5772883	trans-1,3-Dichloropropene	2018/10/11	96	60 - 140	105	60 - 130	<0.040	ug/g	NC	50		
5772883	Trichloroethylene	2018/10/11	96	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
5772883	Trichlorofluoromethane (FREON 11)	2018/10/11	96	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
5772883	Vinyl Chloride	2018/10/11	94	60 - 140	92	60 - 130	<0.020	ug/g	NC	50		
5773099	Nitrate (N)	2018/10/10	101	75 - 125			<2	ug/g	NC	25		
5773099	Nitrate + Nitrite (N)	2018/10/10	102	75 - 125			<3	ug/g	NC	25	90	75 - 125
5773099	Nitrite (N)	2018/10/10	109	75 - 125			<0.5	ug/g	NC	25		
5773324	Acid Extractable Antimony (Sb)	2018/10/11	93	75 - 125	102	80 - 120	<0.20	ug/g	NC	30		
5773324	Acid Extractable Arsenic (As)	2018/10/11	97	75 - 125	104	80 - 120	<1.0	ug/g	NC	30		
5773324	Acid Extractable Barium (Ba)	2018/10/11	NC	75 - 125	106	80 - 120	<0.50	ug/g	4.8	30		
5773324	Acid Extractable Beryllium (Be)	2018/10/11	100	75 - 125	102	80 - 120	<0.20	ug/g	1.4	30		
5773324	Acid Extractable Boron (B)	2018/10/11	99	75 - 125	101	80 - 120	<5.0	ug/g	NC	30		
5773324	Acid Extractable Cadmium (Cd)	2018/10/11	95	75 - 125	97	80 - 120	<0.10	ug/g	NC	30		
5773324	Acid Extractable Chromium (Cr)	2018/10/11	85	75 - 125	102	80 - 120	<1.0	ug/g	5.3	30		
5773324	Acid Extractable Cobalt (Co)	2018/10/11	95	75 - 125	102	80 - 120	<0.10	ug/g	2.4	30		
5773324	Acid Extractable Copper (Cu)	2018/10/11	91	75 - 125	102	80 - 120	<0.50	ug/g	4.6	30		
5773324	Acid Extractable Lead (Pb)	2018/10/11	103	75 - 125	104	80 - 120	<1.0	ug/g	21	30		
5773324	Acid Extractable Molybdenum (Mo)	2018/10/11	97	75 - 125	104	80 - 120	<0.50	ug/g	NC	30		
5773324	Acid Extractable Nickel (Ni)	2018/10/11	95	75 - 125	106	80 - 120	<0.50	ug/g	3.7	30		

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Maxxam Job #: B8Q2865
Report Date: 2018/10/22

QUALITY ASSURANCE REPORT(CONT'D)

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
5773324	Acid Extractable Selenium (Se)	2018/10/11	101	75 - 125	105	80 - 120	<0.50	ug/g	2.1	30		
5773324	Acid Extractable Silver (Ag)	2018/10/11	95	75 - 125	102	80 - 120	<0.20	ug/g	NC	30		
5773324	Acid Extractable Thallium (Tl)	2018/10/11	97	75 - 125	104	80 - 120	<0.050	ug/g	9.9	30		
5773324	Acid Extractable Uranium (U)	2018/10/11	96	75 - 125	101	80 - 120	<0.050	ug/g	4.9	30		
5773324	Acid Extractable Vanadium (V)	2018/10/11	NC	75 - 125	101	80 - 120	<5.0	ug/g	3.6	30		
5773324	Acid Extractable Zinc (Zn)	2018/10/11	NC	75 - 125	103	80 - 120	<5.0	ug/g	3.4	30		
5774685	Total Ammonia-N	2018/10/11	105	80 - 120	97	80 - 120	<20	ug/g	NC	35		

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

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

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

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

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

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

NC (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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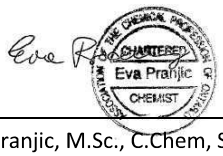
Maxxam Job #: B8Q2865
Report Date: 2018/10/22

DST Consulting Engineers Inc
Client Project #: TS-SO-32782
Sampler Initials: KS

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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Maxxam
A Bureau Veritas Group Company

Your Project #: TS-SO-032782
Site Location: 2600 BANK ST
Your C.O.C. #: 117423

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/19
Report #: R5448251
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q9845
Received: 2018/10/12, 13:35

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
1,3-Dichloropropene Sum	3	N/A	2018/10/19	OTT SOP-00002	EPA 8260C m
Petroleum Hydrocarbons F2-F4 in Soil (1)	3	2018/10/15	2018/10/15	OTT SOP-00001	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	1	2018/10/16	2018/10/18	OTT SOP-00001	CCME CWS
Moisture	3	N/A	2018/10/16	CAM SOP-00445	McKeague 2nd ed 1978
Volatile Organic Compounds and F1 PHCs	3	N/A	2018/10/18	OTT SOP-00002	EPA 8260C m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 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) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

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Your Project #: TS-SO-032782
Site Location: 2600 BANK ST
Your C.O.C. #: 117423

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/19
Report #: R5448251
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q9845
Received: 2018/10/12, 13:35

Encryption Key

Alisha Williamson
Project Manager
19 Oct 2018 15:28:34

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: AWilliamson@maxxam.ca
Phone# (613) 274-0573
==========
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Maxxam Job #: B8Q9845
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Maxxam ID		HZT928	HZT929	HZT930		
Sampling Date		2018/10/11	2018/10/11	2018/10/12		
COC Number		117423	117423	117423		
	UNITS	BH18-1 SS3	BH MW18-2 SS6	BH MW18-3 SS14	RDL	QC Batch
Inorganics						
Moisture	%	7.8	6.2	26	0.2	5783202
Calculated Parameters						
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	0.050	5780799
Volatile Organics						
Acetone (2-Propanone)	ug/g	<0.50	<0.50	<0.50	0.50	5790667
Benzene	ug/g	<0.020	<0.020	<0.020	0.020	5790667
Bromodichloromethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Bromoform	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Bromomethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Carbon Tetrachloride	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Chlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Chloroform	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Dibromochloromethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,1-Dichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,2-Dichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,1-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,2-Dichloropropane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	0.030	5790667
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	0.040	5790667
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	0.020	5790667
Ethylene Dibromide	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Hexane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	<0.50	0.50	5790667
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	<0.50	0.50	5790667
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Styrene	ug/g	<0.050	<0.050	<0.050	0.050	5790667

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8Q9845
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

O.REG 153 VOCS BY HS & F1-F4 (SOIL)

Maxxam ID		HZT928	HZT929	HZT930		
Sampling Date		2018/10/11	2018/10/11	2018/10/12		
COC Number		117423	117423	117423		
	UNITS	BH18-1 SS3	BH MW18-2 SS6	BH MW18-3 SS14	RDL	QC Batch
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Tetrachloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Toluene	ug/g	<0.020	<0.020	<0.020	0.020	5790667
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Trichloroethylene	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	<0.050	0.050	5790667
Vinyl Chloride	ug/g	<0.020	<0.020	<0.020	0.020	5790667
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	5790667
o-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	5790667
Total Xylenes	ug/g	<0.020	<0.020	<0.020	0.020	5790667
F1 (C6-C10)	ug/g	<10	<10	<10	10	5790667
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	10	5790667
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	10	5783196
F3 (C16-C34 Hydrocarbons)	ug/g	68	<50	<50	50	5783196
F4 (C34-C50 Hydrocarbons)	ug/g	180	<50	<50	50	5783196
Reached Baseline at C50	ug/g	No	Yes	Yes		5783196
Surrogate Recovery (%)						
o-Terphenyl	%	91	94	98		5783196
4-Bromofluorobenzene	%	94	94	95		5790667
D10-o-Xylene	%	117	88	95		5790667
D4-1,2-Dichloroethane	%	104	97	102		5790667
D8-Toluene	%	96	101	99		5790667

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8Q9845
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		HZT928		
Sampling Date		2018/10/11		
COC Number		117423		
	UNITS	**BH18-1 SS3**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons				
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	900	100	5785876

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

TEST SUMMARY

Maxxam ID: HZT928
Sample ID: BH18-1 SS3
Matrix: Soil

Collected: 2018/10/11
Shipped:
Received: 2018/10/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5780799	N/A	2018/10/19	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5783196	2018/10/15	2018/10/15	Mariana Vascan
F4G (CCME Hydrocarbons Gravimetric)	BAL	5785876	2018/10/16	2018/10/18	Mariana Vascan
Moisture	BAL	5783202	N/A	2018/10/16	Samantha Arachchige
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5790667	N/A	2018/10/18	Liliana Gaburici

Maxxam ID: HZT929
Sample ID: BH MW18-2 SS6
Matrix: Soil

Collected: 2018/10/11
Shipped:
Received: 2018/10/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5780799	N/A	2018/10/19	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5783196	2018/10/15	2018/10/15	Mariana Vascan
Moisture	BAL	5783202	N/A	2018/10/16	Samantha Arachchige
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5790667	N/A	2018/10/18	Liliana Gaburici

Maxxam ID: HZT930
Sample ID: BH MW18-3 SS14
Matrix: Soil

Collected: 2018/10/12
Shipped:
Received: 2018/10/12

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	5780799	N/A	2018/10/19	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5783196	2018/10/15	2018/10/15	Mariana Vascan
Moisture	BAL	5783202	N/A	2018/10/16	Samantha Arachchige
Volatile Organic Compounds and F1 PHCs	GC/MSFD	5790667	N/A	2018/10/18	Liliana Gaburici

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Maxxam Job #: B8Q9845
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

GENERAL COMMENTS

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

Package 1	6.7°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B8Q9845
Report Date: 2018/10/19

QUALITY ASSURANCE REPORT

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5783196	o-Terphenyl	2018/10/15	92	30 - 130	91	30 - 130	102	%		
5790667	4-Bromofluorobenzene	2018/10/18			102	60 - 140	95	%		
5790667	D10-o-Xylene	2018/10/18			83	60 - 130	77	%		
5790667	D4-1,2-Dichloroethane	2018/10/18			119	60 - 140	108	%		
5790667	D8-Toluene	2018/10/18			103	60 - 140	98	%		
5783196	F2 (C10-C16 Hydrocarbons)	2018/10/15	83	50 - 130	80	80 - 120	<10	ug/g	NC	50
5783196	F3 (C16-C34 Hydrocarbons)	2018/10/15	83	50 - 130	80	80 - 120	<50	ug/g	NC	50
5783196	F4 (C34-C50 Hydrocarbons)	2018/10/15	83	50 - 130	80	80 - 120	<50	ug/g	NC	50
5783202	Moisture	2018/10/16							5.7	50
5785876	F4G-sg (Grav. Heavy Hydrocarbons)	2018/10/18			107	65 - 135	<100	ug/g	0	50
5790667	1,1,1,2-Tetrachloroethane	2018/10/18			91	60 - 130	<0.050	ug/g	3.4	50
5790667	1,1,1-Trichloroethane	2018/10/18			88	60 - 130	<0.050	ug/g	5.1	50
5790667	1,1,2,2-Tetrachloroethane	2018/10/18			99	60 - 130	<0.050	ug/g	3.0	50
5790667	1,1,2-Trichloroethane	2018/10/18			92	60 - 130	<0.050	ug/g	2.2	50
5790667	1,1-Dichloroethane	2018/10/18			87	60 - 130	<0.050	ug/g	5.6	50
5790667	1,1-Dichloroethylene	2018/10/18			84	60 - 130	<0.050	ug/g	2.5	50
5790667	1,2-Dichlorobenzene	2018/10/18			90	60 - 130	<0.050	ug/g	5.1	50
5790667	1,2-Dichloroethane	2018/10/18			94	60 - 130	<0.050	ug/g	6.0	50
5790667	1,2-Dichloropropane	2018/10/18			87	60 - 130	<0.050	ug/g	4.9	50
5790667	1,3-Dichlorobenzene	2018/10/18			89	60 - 130	<0.050	ug/g	5.0	50
5790667	1,4-Dichlorobenzene	2018/10/18			90	60 - 130	<0.050	ug/g	4.9	50
5790667	Acetone (2-Propanone)	2018/10/18			91	60 - 140	<0.50	ug/g	7.6	50
5790667	Benzene	2018/10/18			93	60 - 130	<0.020	ug/g	5.3	50
5790667	Bromodichloromethane	2018/10/18			99	60 - 130	<0.050	ug/g	6.2	50
5790667	Bromoform	2018/10/18			88	60 - 130	<0.050	ug/g	3.6	50
5790667	Bromomethane	2018/10/18			77	60 - 140	<0.050	ug/g	6.9	50
5790667	Carbon Tetrachloride	2018/10/18			89	60 - 130	<0.050	ug/g	5.4	50
5790667	Chlorobenzene	2018/10/18			86	60 - 130	<0.050	ug/g	6.2	50
5790667	Chloroform	2018/10/18			96	60 - 130	<0.050	ug/g	5.4	50
5790667	cis-1,2-Dichloroethylene	2018/10/18			91	60 - 130	<0.050	ug/g	5.5	50
5790667	cis-1,3-Dichloropropene	2018/10/18			88	60 - 130	<0.030	ug/g	4.9	50

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B8Q9845
Report Date: 2018/10/19

QUALITY ASSURANCE REPORT(CONT'D)

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5790667	Dibromochloromethane	2018/10/18			90	60 - 130	<0.050	ug/g	2.9	50
5790667	Dichlorodifluoromethane (FREON 12)	2018/10/18			87	60 - 140	<0.050	ug/g	5.2	50
5790667	Ethylbenzene	2018/10/18			85	60 - 130	<0.020	ug/g	6.1	50
5790667	Ethylene Dibromide	2018/10/18			90	60 - 130	<0.050	ug/g	3.2	50
5790667	F1 (C6-C10) - BTEX	2018/10/18					<10	ug/g		
5790667	F1 (C6-C10)	2018/10/18			102	80 - 120	<10	ug/g	2.8	30
5790667	Hexane	2018/10/18			94	60 - 130	<0.050	ug/g	5.3	50
5790667	Methyl Ethyl Ketone (2-Butanone)	2018/10/18			97	60 - 140	<0.50	ug/g	7.2	50
5790667	Methyl Isobutyl Ketone	2018/10/18			91	60 - 130	<0.50	ug/g	6.7	50
5790667	Methyl t-butyl ether (MTBE)	2018/10/18			92	60 - 130	<0.050	ug/g	5.9	50
5790667	Methylene Chloride(Dichloromethane)	2018/10/18			86	60 - 130	<0.050	ug/g	6.7	50
5790667	o-Xylene	2018/10/18			86	60 - 130	<0.020	ug/g	7.6	50
5790667	p+m-Xylene	2018/10/18			85	60 - 130	<0.020	ug/g	7.7	50
5790667	Styrene	2018/10/18			91	60 - 130	<0.050	ug/g	5.9	50
5790667	Tetrachloroethylene	2018/10/18			83	60 - 130	<0.050	ug/g	6.5	50
5790667	Toluene	2018/10/18			86	60 - 130	<0.020	ug/g	4.6	50
5790667	Total Xylenes	2018/10/18					<0.020	ug/g		
5790667	trans-1,2-Dichloroethylene	2018/10/18			83	60 - 130	<0.050	ug/g	5.3	50
5790667	trans-1,3-Dichloropropene	2018/10/18			94	60 - 130	<0.040	ug/g	6.7	50
5790667	Trichloroethylene	2018/10/18			89	60 - 130	<0.050	ug/g	3.0	50
5790667	Trichlorofluoromethane (FREON 11)	2018/10/18			88	60 - 130	<0.050	ug/g	6.0	50
5790667	Vinyl Chloride	2018/10/18			82	60 - 130	<0.020	ug/g	4.0	50

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).

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Maxxam Job #: B8Q9845
Report Date: 2018/10/19

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Site Location: 2600 BANK ST
Sampler Initials: KS

VALIDATION SIGNATURE PAGE

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

Steve Roberts, Ottawa Lab Manager

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
A Bureau Veritas Group Company

Your Project #: TS-SO-032782
Your C.O.C. #: 673829-02-01

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/26
Report #: R5458478
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8S0132
Received: 2018/10/23, 09:30

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Petroleum Hydrocarbons F2-F4 in Soil (1)	1	2018/10/24	2018/10/25	OTT SOP-00001	CCME CWS
F4G (CCME Hydrocarbons Gravimetric)	1	2018/10/25	2018/10/26	OTT SOP-00001	CCME CWS
Moisture	1	N/A	2018/10/25	CAM SOP-00445	McKeague 2nd ed 1978

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 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) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Maxxam conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Your Project #: TS-SO-032782
Your C.O.C. #: 673829-02-01

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2018/10/26
Report #: R5458478
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8S0132
Received: 2018/10/23, 09:30

Encryption Key

Alisha Williamson
Project Manager
26 Oct 2018 16:41:10

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: AWilliamson@maxxam.ca
Phone# (613) 274-0573
==========
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.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B8S0132
Report Date: 2018/10/26

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

RESULTS OF ANALYSES OF SOIL

Maxxam ID		ICA435	ICA435		
Sampling Date		2018/10/11	2018/10/11		
COC Number		673829-02-01	673829-02-01		
	UNITS	BH18-1 SS4	BH18-1 SS4 Lab-Dup	RDL	QC Batch
Inorganics					
Moisture	%	7.4	8.0	0.2	5800508

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

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Maxxam Job #: B8S0132
Report Date: 2018/10/26

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		ICA435		
Sampling Date		2018/10/11		
COC Number		673829-02-01		
	UNITS	BH18-1 SS4	RDL	QC Batch
F2-F4 Hydrocarbons				
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	610	100	5803405
F2 (C10-C16 Hydrocarbons)	ug/g	<10	10	5800488
F3 (C16-C34 Hydrocarbons)	ug/g	64	50	5800488
F4 (C34-C50 Hydrocarbons)	ug/g	190	50	5800488
Reached Baseline at C50	ug/g	No		5800488
Surrogate Recovery (%)				
o-Terphenyl	%	87		5800488

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8S0132
Report Date: 2018/10/26

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

TEST SUMMARY

Maxxam ID: ICA435
Sample ID: BH18-1 SS4
Matrix: Soil

Collected: 2018/10/11
Shipped:
Received: 2018/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	5800488	2018/10/24	2018/10/25	Mariana Vascan
F4G (CCME Hydrocarbons Gravimetric)	BAL	5803405	2018/10/25	2018/10/26	Mariana Vascan
Moisture	BAL	5800508	N/A	2018/10/25	Samantha Arachchige

Maxxam ID: ICA435 Dup
Sample ID: BH18-1 SS4
Matrix: Soil

Collected: 2018/10/11
Shipped:
Received: 2018/10/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	5800508	N/A	2018/10/25	Samantha Arachchige

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Maxxam Job #: B8S0132
Report Date: 2018/10/26

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

GENERAL COMMENTS

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

Package 1	1.0°C

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Maxxam Job #: B8S0132
Report Date: 2018/10/26

QUALITY ASSURANCE REPORT

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
5800488	o-Terphenyl	2018/10/24	87	30 - 130	95	30 - 130	95	%		
5800488	F2 (C10-C16 Hydrocarbons)	2018/10/24	92	50 - 130	105	80 - 120	<10	ug/g	NC	50
5800488	F3 (C16-C34 Hydrocarbons)	2018/10/24	92	50 - 130	105	80 - 120	<50	ug/g	NC	50
5800488	F4 (C34-C50 Hydrocarbons)	2018/10/24	92	50 - 130	105	80 - 120	<50	ug/g	NC	50
5800508	Moisture	2018/10/25							7.8	50
5803405	F4G-sg (Grav. Heavy Hydrocarbons)	2018/10/26			107	65 - 135	<100	ug/g	0.93	50

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).

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Maxxam Job #: B8S0132
Report Date: 2018/10/26

DST Consulting Engineers Inc
Client Project #: TS-SO-032782
Sampler Initials: KS

VALIDATION SIGNATURE PAGE

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

Steve Roberts, Ottawa Lab Manager

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.

Maxxam Analytics International Corporation o/a Maxxam Analytics 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.maxxam.ca

Your Project #: TS SO 032182
Site#: SUPP PHASE II ESA
Site Location: 2600 BANK STREET, OTTAWA
Your C.O.C. #: 815217-01-01

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2021/03/16
Report #: R6557074
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C164686
Received: 2021/03/10, 13:10

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	4	N/A	2021/03/12	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	1	2021/03/12	2021/03/15	CAM SOP-00316	CCME CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	3	2021/03/13	2021/03/15	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric) (1)	2	2021/03/15	2021/03/16	CAM SOP-00316	CCME PHC-CWS m
Moisture (1)	4	N/A	2021/03/12	CAM SOP-00445	Carter 2nd ed 51.2 m

Remarks:

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

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas 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.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas 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 Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas 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 Bureau Veritas, 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) This test was performed by Bureau Veritas Laboratories Mississauga
(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

Your Project #: TS SO 032182
Site#: SUPP PHASE II ESA
Site Location: 2600 BANK STREET, OTTAWA
Your C.O.C. #: 815217-01-01

Attention: Andrew Naoum

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2021/03/16
Report #: R6557074
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C164686
Received: 2021/03/10, 13:10

Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
16 Mar 2021 16:04:48

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

==========

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 #: C164686
Report Date: 2021/03/16

DST Consulting Engineers Inc
Client Project #: TS SO 032182
Site Location: 2600 BANK STREET, OTTAWA
Sampler Initials: CR

O.REG 153 PHCS, BTEX/F1-F4 (SOIL)

BV Labs ID		PAW404		PAW405		PAW406	PAW407		
Sampling Date		2021/03/10		2021/03/10		2021/03/10	2021/03/10		
COC Number		815217-01-01		815217-01-01		815217-01-01	815217-01-01		
	UNITS	BH21-1 SS2	QC Batch	BH21-1 SS4	QC Batch	BH21-2 SS3	BH21-2 SS4	RDL	QC Batch
Inorganics									
Moisture	%	9.4	7244521	5.7	7244521	12	7.3	1.0	7244521
BTEX & F1 Hydrocarbons									
Benzene	ug/g	<0.020	7244956	<0.020	7244956	<0.020	<0.020	0.020	7244956
Toluene	ug/g	<0.020	7244956	<0.020	7244956	<0.020	<0.020	0.020	7244956
Ethylbenzene	ug/g	<0.020	7244956	<0.020	7244956	<0.020	<0.020	0.020	7244956
o-Xylene	ug/g	<0.020	7244956	<0.020	7244956	<0.020	<0.020	0.020	7244956
p+m-Xylene	ug/g	<0.040	7244956	<0.040	7244956	<0.040	<0.040	0.040	7244956
Total Xylenes	ug/g	<0.040	7244956	<0.040	7244956	<0.040	<0.040	0.040	7244956
F1 (C6-C10)	ug/g	<10	7244956	<10	7244956	<10	<10	10	7244956
F1 (C6-C10) - BTEX	ug/g	<10	7244956	<10	7244956	<10	<10	10	7244956
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	<10	7245861	<10	7245606	11	<10	10	7245861
F3 (C16-C34 Hydrocarbons)	ug/g	99	7245861	<50	7245606	220	<50	50	7245861
F4 (C34-C50 Hydrocarbons)	ug/g	200	7245861	<50	7245606	370	<50	50	7245861
Reached Baseline at C50	ug/g	No	7245861	Yes	7245606	No	Yes		7245861
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	102	7244956	100	7244956	100	98		7244956
4-Bromofluorobenzene	%	95	7244956	98	7244956	97	97		7244956
D10-o-Xylene	%	91	7244956	99	7244956	101	108		7244956
D4-1,2-Dichloroethane	%	107	7244956	102	7244956	102	102		7244956
o-Terphenyl	%	92	7245861	94	7245606	98	98		7245861

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

BV Labs Job #: C164686
Report Date: 2021/03/16

DST Consulting Engineers Inc
Client Project #: TS SO 032182
Site Location: 2600 BANK STREET, OTTAWA
Sampler Initials: CR

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		PAW404	PAW406		
Sampling Date		2021/03/10	2021/03/10		
COC Number		815217-01-01	815217-01-01		
	UNITS	BH21-1 SS2	BH21-2 SS3	RDL	QC Batch
F2-F4 Hydrocarbons					
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	410	1300	100	7248762

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvlabs.com

BV Labs Job #: C164686
Report Date: 2021/03/16

DST Consulting Engineers Inc
Client Project #: TS SO 032182
Site Location: 2600 BANK STREET, OTTAWA
Sampler Initials: CR

TEST SUMMARY

BV Labs ID: PAW404
Sample ID: BH21-1 SS2
Matrix: Soil

Collected: 2021/03/10
Shipped:
Received: 2021/03/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7244956	N/A	2021/03/12	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7245861	2021/03/13	2021/03/15	Prabhjot Gulati
F4G (CCME Hydrocarbons Gravimetric)	BAL	7248762	2021/03/15	2021/03/16	Rashmi Dubey
Moisture	BAL	7244521	N/A	2021/03/12	Kruti Jitesh Patel

BV Labs ID: PAW405
Sample ID: BH21-1 SS4
Matrix: Soil

Collected: 2021/03/10
Shipped:
Received: 2021/03/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7244956	N/A	2021/03/12	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7245606	2021/03/12	2021/03/15	Prabhjot Gulati
Moisture	BAL	7244521	N/A	2021/03/12	Kruti Jitesh Patel

BV Labs ID: PAW406
Sample ID: BH21-2 SS3
Matrix: Soil

Collected: 2021/03/10
Shipped:
Received: 2021/03/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7244956	N/A	2021/03/12	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7245861	2021/03/13	2021/03/15	Prabhjot Gulati
F4G (CCME Hydrocarbons Gravimetric)	BAL	7248762	2021/03/15	2021/03/16	Rashmi Dubey
Moisture	BAL	7244521	N/A	2021/03/12	Kruti Jitesh Patel

BV Labs ID: PAW407
Sample ID: BH21-2 SS4
Matrix: Soil

Collected: 2021/03/10
Shipped:
Received: 2021/03/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	7244956	N/A	2021/03/12	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7245861	2021/03/13	2021/03/15	Prabhjot Gulati
Moisture	BAL	7244521	N/A	2021/03/12	Kruti Jitesh Patel

DST Consulting Engineers Inc
Client Project #: TS SO 032182
Site Location: 2600 BANK STREET, OTTAWA
Sampler Initials: CR

GENERAL COMMENTS

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

Package 1	2.7°C

Sample PAW406 [BH21-2 SS3] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample PAW407 [BH21-2 SS4] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

BV Labs Job #: C164686
Report Date: 2021/03/16

QUALITY ASSURANCE REPORT

DST Consulting Engineers Inc
Client Project #: TS SO 032182
Site Location: 2600 BANK STREET, OTTAWA
Sampler Initials: CR

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7244956	1,4-Difluorobenzene	2021/03/12	96	60 - 140	98	60 - 140	97	%		
7244956	4-Bromofluorobenzene	2021/03/12	99	60 - 140	97	60 - 140	98	%		
7244956	D10-o-Xylene	2021/03/12	98	60 - 140	109	60 - 140	93	%		
7244956	D4-1,2-Dichloroethane	2021/03/12	99	60 - 140	96	60 - 140	104	%		
7245606	o-Terphenyl	2021/03/14	95	60 - 130	94	60 - 130	89	%		
7245861	o-Terphenyl	2021/03/14	97	60 - 130	93	60 - 130	97	%		
7244521	Moisture	2021/03/12							10	20
7244956	Benzene	2021/03/12	86	50 - 140	98	50 - 140	<0.020	ug/g	NC	50
7244956	Ethylbenzene	2021/03/12	97	50 - 140	108	50 - 140	<0.020	ug/g	NC	50
7244956	F1 (C6-C10) - BTEX	2021/03/12					<10	ug/g	NC	30
7244956	F1 (C6-C10)	2021/03/12	79	60 - 140	91	80 - 120	<10	ug/g	NC	30
7244956	o-Xylene	2021/03/12	95	50 - 140	104	50 - 140	<0.020	ug/g	NC	50
7244956	p+m-Xylene	2021/03/12	103	50 - 140	117	50 - 140	<0.040	ug/g	NC	50
7244956	Toluene	2021/03/12	90	50 - 140	103	50 - 140	<0.020	ug/g	NC	50
7244956	Total Xylenes	2021/03/12					<0.040	ug/g	NC	50
7245606	F2 (C10-C16 Hydrocarbons)	2021/03/15	110	50 - 130	101	80 - 120	<10	ug/g	NC	30
7245606	F3 (C16-C34 Hydrocarbons)	2021/03/15	110	50 - 130	103	80 - 120	<50	ug/g	NC	30
7245606	F4 (C34-C50 Hydrocarbons)	2021/03/15	110	50 - 130	108	80 - 120	<50	ug/g	NC	30
7245861	F2 (C10-C16 Hydrocarbons)	2021/03/15	110	50 - 130	106	80 - 120	<10	ug/g	NC	30
7245861	F3 (C16-C34 Hydrocarbons)	2021/03/15	106	50 - 130	102	80 - 120	<50	ug/g	NC	30
7245861	F4 (C34-C50 Hydrocarbons)	2021/03/15	105	50 - 130	99	80 - 120	<50	ug/g	NC	30
7248762	F4G-sg (Grav. Heavy Hydrocarbons)	2021/03/16	69	65 - 135	101	65 - 135	<100	ug/g	1.2	50

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).

BV Labs Job #: C164686
Report Date: 2021/03/16

DST Consulting Engineers Inc
Client Project #: TS SO 032182
Site Location: 2600 BANK STREET, OTTAWA
Sampler Initials: CR

VALIDATION SIGNATURE PAGE

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

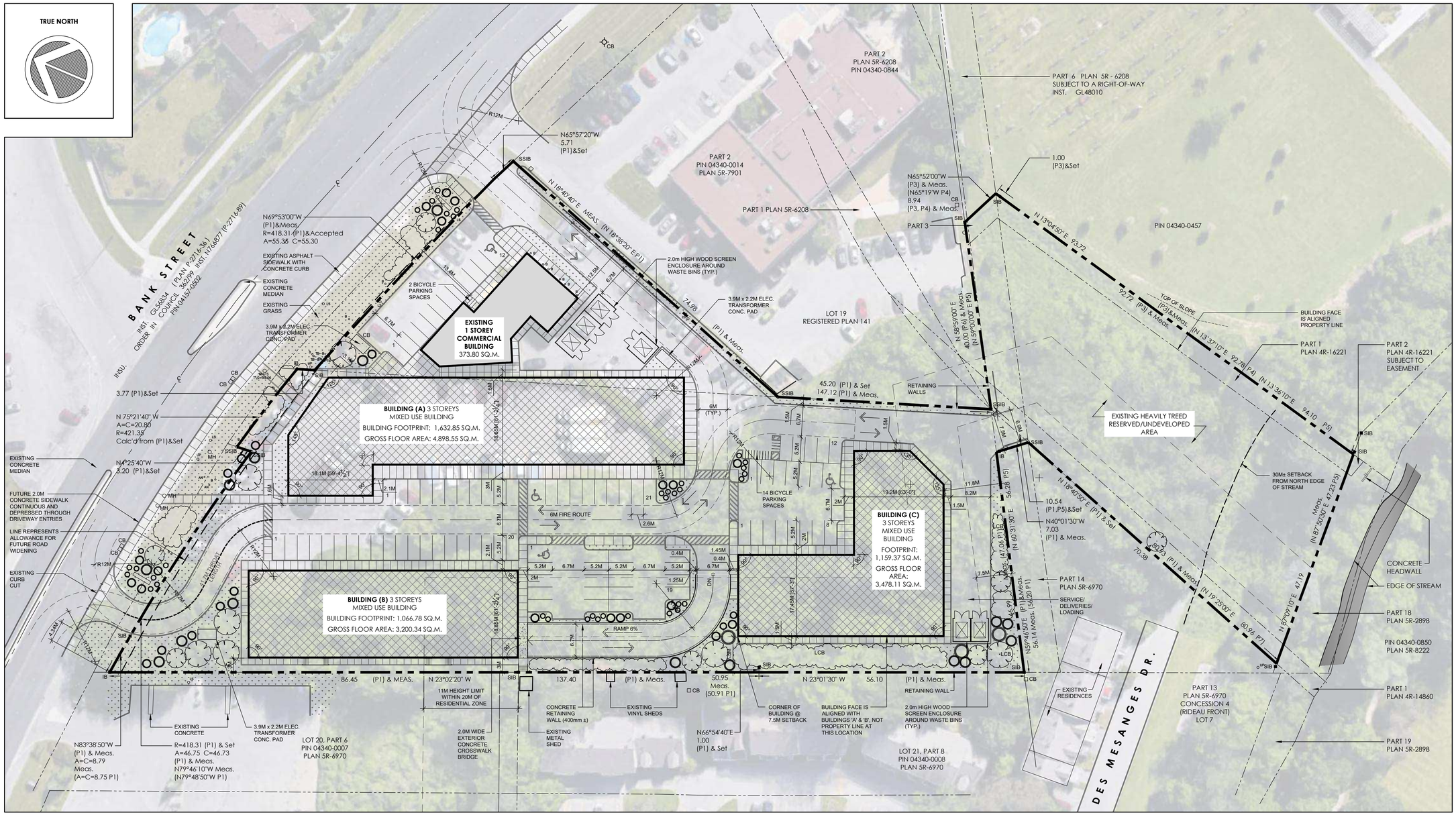
Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX G

Development Site Plan

TRUE NORTH



1 SITE PLAN
A1.0 SCALE 1:400

LEGEND

	PROPERTY LINE	☼LS	EXISTING LIGHT STANDARD
	SETBACK LINE	●B	PROPOSED PAINTED GALVANIZED STEEL BOLLARD
	FIRE DEPARTMENT ACCESS ROUTE	○UP	EXISTING UTILITY POLE
	OUTLINE OF NEW BUILDING	□EX CB	EXISTING CATCH BASIN
	OUTLINE OF EXISTING BUILDING	□DI	DRAINAGE INLET
	OUTLINE OF LANDSCAPED AREA	□CB	PROPOSED CATCH BASIN
		○CBMH	PROPOSED CATCH BASIN SANITARY MANHOLE
		○SANMH	PROPOSED SANITARY MANHOLE
		○LCB	PROPOSED LEACHING CATCH BASIN
		■IB	EXISTING IRON BAR
		■SIB	EXISTING STANDARD IRON BAR
		■SSIB	EXISTING SHORT STANDARD IRON BAR

ZONING DATA (BASED ON ZONING BY-LAW 2008-250)

Municipal Address:
2582, 2600, 2626 Bank Street, Ottawa, Ontario

Legal Description:
Plan 141 PT Lot 19 RP;5R-14339 PT of Part 1
Plan 141 PT Lot 19 RP;5R7901;Part 1
Plan 141 PT Lots 19 & 21 RP;5R-6970 Parts 16 & 17 less: RP SR-2898 Part 18; Gloucester Concession 4 RF PT Lot 7; and Plan 141 PT Lot 21 RP;5R2898 Parts 17 to 19 PT; Part 16 RP SR7045 Part 1 RP; SR8222 Parts 1 2 and 4 RP

Zoning Designation:
2582, 2600 Bank Street: AM H(30) Arterial Mainstreet
2626 Bank Street: R3Y(708) Residential

Site Area: 16,321.58 Sq.M. (1.632 Ha)

Lot Coverage: (3859/16,321.58) x 100 = 23.64%

ZONING PROVISIONS

ZONING MECHANISM	REQUIRED	PROVIDED
PARKING REQUIREMENTS	**Parking Ratio – Commercial** 3.6/100 Sq.M. = 152 Parking Spaces **Parking Ratio – Office** 2.4/100 Sq.M. = 185 Parking Spaces **Total: 152 + 185 = 337 spaces**	441 Spaces (92 above ground: 349 below ground)
DISABLED PARKING SPACES	5 Parking Spaces	13 Spaces (4 above ground: 9 below ground)
BICYCLE PARKING REQUIREMENTS	**Bike Space Ratio – Commercial** 1/250 Sq.M. = 17 Parking Spaces **Bike Space Ratio – Office** 1/250 Sq.M. = 31 Parking Spaces **Total: 17 + 31 = 48 spaces**	48 Spaces (16 above ground: 32 below ground)

BUILDING USE & AREAS

BUILDING	FLOOR	USE	AREA (SQ.M.)
EXISTING	1ST	COMMERCIAL	**373.80**
BUILDING (A)	1ST	COMMERCIAL	1,632.85
	2ND	OFFICE	1,632.85
	3RD	OFFICE	1,632.85
	TOTAL GROSS FLOOR AREA		**4,898.55**
BUILDING (B)	1ST	COMMERCIAL	1,066.78
	2ND	OFFICE	1,066.78
	3RD	OFFICE	1,066.78
	TOTAL GROSS FLOOR AREA		**3,200.34**
BUILDING (C)	1ST	COMMERCIAL	1,159.37
	2ND	OFFICE	1,159.37
	3RD	OFFICE	1,159.37
	TOTAL GROSS FLOOR AREA		**3,478.11**

TOTAL GROSS FLOOR AREA CALCULATION

DESCRIPTION	GFA (SQ.M.)
TOTAL COMMERCIAL	4,232.80
TOTAL OFFICE	7,718.00
TOTAL GROSS FLOOR AREA	**11,950.80**

GENERAL NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR MUST COMPLY WITH ALL CODES AND BYLAWS AND OTHER REGULATIONS BY AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- DO NOT SCALE THIS DRAWING.
- THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNLESS SEALED/SIGNED BY THE ARCHITECT.
- COPYRIGHT OF THIS DRAWINGS IS RESERVED.

SURVEY PLAN DISCLAIMER

THIS ARCHITECTURAL SITE PLAN DRAWING IS PREPARED BASED ON A SURVEY PLAN PROVIDED TO A+ ARCHITECTURE INC. OF EXISTING LAND FEATURES, INCLUDING BUT NOT LIMITED TO, EXISTING LEGAL BOUNDARIES, LOT LINES, GRADES, TOPOGRAPHY, VEGETATION ETC., SHOWN ON THIS DRAWING FOR COORDINATION PURPOSES ONLY AND ARE BASED ON THE SURVEY PLAN PREPARED BY **ANNIS, O'SULLIVAN, VOLLEBEKK LTD.**, ONTARIO LAND SURVEYOR, DATED **SEPTEMBER 25, 2019**.

THE AFOREMENTIONED SURVEY PLAN WAS INCORPORATED INTO THE ARCHITECTURAL SITE PLAN DRAWING, AS PROVIDED TO A+ ARCHITECTURE INC., WITH NO ALTERATIONS WHATSOEVER. A+ ARCHITECTURE INC. SHALL NOT BE HELD LIABLE AS TO THE ACCURACY OF THE INFORMATION PROVIDED ON THE SURVEY PLAN.

NO.	ISSUE	DATE (YY/MM/DD)
02	ISSUED FOR REVIEW	2021/07/11
01	UPDATED FOR REVIEW	2020/02/28
00	PRELIMINARY FOR REVIEW	2019/10/11

REVISIONS

PROJECT NORTH

SEAL

A+ Architecture Inc.
555 LEGGET DRIVE
TOWER A, SUITE 304
Kanata, ON K2K 2X3
+1 613 699 6860
info@aplus-arch.com
www.aplus-arch.com
architecture

CLIENT

UPPER HUNT CLUB CENTRE INC.
2335 ST. LAURENT BLVD., OTTAWA, ON

PROJECT

UPPER HUNT CLUB CENTRE
2600 BANK STREET, OTTAWA, ON

DRAWING TITLE

SITE PLAN

DRAWN BY	J.R.
REVIEWED BY	A.A.
START DATE	2019/10/08
PROJECT NO.	19009

DRAWING NO. **A1.0**
REVISION NO. 02

PLAN NO.: #####
FILE NO.: X#-###-###-####

APPENDIX H

Limitations of Report

Limitations of Report

The information, conclusions and recommendations given herein are specifically for this project and the Upper Hunt Club Centre Inc. (the "Client") only, and for the scope of work described herein. It may not be sufficient for other uses. DST does not accept responsibility for use by third parties.

The data, conclusions and recommendations which are presented in this report, and the quality thereof, are based on a scope of work authorized by the Client. Note, however, that no scope of work, no matter how exhaustive, can identify all contaminants or all conditions above and below ground. For example, conditions between test holes may differ from those encountered in the investigation and observed or measured conditions may change with time. This report therefore cannot warranty that all conditions on or off the site are represented by those identified at specific locations.

Any recommendations and conclusions provided that are based on conditions or assumptions reported herein will inherently include any uncertainty associated with those conditions or assumptions. In fact many aspects involving professional judgement such as subsurface models and remediation criteria contain a degree of uncertainty which cannot be eliminated. This uncertainty should be managed by periodic review and refinement as additional information becomes available.

Note also that standards, guidelines and practices related to environmental investigations may change with time. Those which were applied at the time of this investigation may be obsolete or unacceptable at a later date.

Any topographic benchmarks and elevations documented in this report are primarily to establish relative elevation differences between test locations and should not be used for other purposes such as grading, excavation, planning, development, etc.

Any comments given in this report on potential remediation problems and possible methods are intended only for the guidance of the designer. The scope of work may not be sufficient to determine all of the factors that may affect construction or clean-up methods and costs. Contractors bidding on this project or undertaking clean-ups should, therefore, make their own interpretation of the factual information presented and draw their own conclusions as to how the conditions may affect their work.

Any results from an analytical laboratory, title searcher or other subcontractor reported herein have been carried out by others, and DST cannot warranty their accuracy. Similarly, DST cannot warranty the accuracy of information supplied by the Client.