

Phase Two Environmental Site Assessment

17-27 Jacobs Terrace

Barrie, Ontario

Prepared For:

Tonlu Properties

401 Vaughan Valley Boulevard

Woodbridge, Ontario

L4L 5V9

DS Project No: 21-018-101

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Executive Summary

DS Consultants Ltd. (DS) was retained by Tonlu Properties (the “Client”) to conduct a Phase Two Environmental Site Assessment (ESA) of the Property located at 17-27 Jacobs Terrace, Barrie, Ontario, herein referred to as the “Phase Two Property” or the “Site”. DS understands that this Phase Two ESA may be used to support the filing of a Record of Site Condition (RSC) as part of the proposed redevelopment of the Phase One Property for residential purposes.

The Phase Two Property is a 0.91 hectares (2.26 acres) parcel of land situated within a mixed residential, commercial, and industrial neighbourhood in the City of Barrie, Ontario. The Phase Two Property is located approximately 45 m east of the intersection of Anne Street and Jacobs Terrace. At the time of the investigation, the Phase Two Property was developed with two (2) buildings occupied by Cara Panel Systems Inc. and First Line Rinks.

The Phase Two ESA was completed to satisfy the intent of the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (as amended). The objective of this Phase Two ESA is to assess whether contaminants are present, and if present, at what concentration are they present on the Phase Two Property, as related to the Areas of Potential Environmental Concern (APEC) identified in the Phase One ESA.

The Phase One ESA completed in November 2021 indicated that the Phase Two Property was first developed for commercial and industrial purposes in the 1940s. A total of thirty-two (32) Potentially Contaminating Activities (PCAs) were identified in the Phase One ESA, which were considered to be contributing to seven (7) APECs on the Phase Two Property. A summary of the APECs, associated PCAs, and contaminants of potential concern (COPCs) identified are presented in the table below:

Table E-1: Summary of APECs

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	Footprint of Site Building A	#58 - Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	On Site PCA-1	Metals, As, Sb, Se, Hg, PHCs, BTEX, VOCs, PAHs	Soil and Groundwater

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-2	Footprint of Site Building B	#10 - Commercial Autobody Shops	On Site PCA-2	PHC, BTEX, VOCs, PAHs, metals	Soil and Groundwater
APEC-3	Western portion of the Phase One Property	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	Off Site PCA-3	PHCs, VOCs, metals	Groundwater
APEC-4	Northern portion of the Phase One Property	# N/S: Application of De-Icing Agents PCA-7: #46 – Rail Yards, Tracks and Spurs	Off Site PCA-5	Na, Cl-, metals, PAHs	Groundwater
APEC-5	Vicinity of the former AST South of Site Building B	#28 – Gasoline and Associated Products Storage in Fixed Tanks	On Site PCA-23	PHCs, BTEX, PAHs	Soil and Groundwater
APEC - 6	Southwestern Portion of the Phase One Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks Vehicles	Off Site PCA-24	PHCs, VOCs, metals	Groundwater
APEC - 7	Entire Phase One Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-32	Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil

N/S - not specified in Table 2, Schedule D, of O.Reg. 153/04

1 - The area is subject to application of de-icing salts for road safety purposes. Per Section 49.1 (1) of O.Reg. 153/04

Based on the findings of the Phase One ESA it was concluded that a Phase Two ESA is warranted in order to assess the soil and groundwater conditions on the Phase Two Property.

The Phase Two ESA involved the advancement of nine (9) boreholes, completed between February 20 and February 24, 2022. The boreholes were advanced to a maximum depth of 5.3 metres below ground surface (mbgs) under the supervision of DS personnel. Groundwater monitoring wells were installed in six (6) of the boreholes to facilitate the collection of groundwater samples and the assessment of groundwater flow direction.

Selected soil samples were collected and submitted for chemical analysis as follows:

- ◆ Seven (7) samples for analysis of metals and inorganics;
- ◆ Six (6) samples for analysis of petroleum hydrocarbons (PHCs), benzene, toluene, ethylbenzene and xylenes (BTEX);
- ◆ Six (6) samples for analysis of volatile organic compounds (VOCs); and,
- ◆ Seven (7) samples for analysis of polycyclic aromatic hydrocarbons (PAHs)

Groundwater samples were collected from all six (6) monitoring wells installed on-Site and submitted for chemical analysis of metals and inorganics, PHCs, VOCs and PAHs.

The soil and groundwater analytical results were compared to the “Table 2 SCS: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Use with coarse-textured soils provided in the MECP document entitled, *“Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act”* dated April 15, 2011 (Table 2 Standards).

Based on the results of the Phase Two ESA, DS presents the following findings:

- ◆ Surficial asphaltic concrete pavement was encountered in seven (7) of the nine (9) boreholes. The thickness of pavement ranged from 50 to 150 mm. Granular material consisting of sand and gravel was encountered below the asphalt. The thickness of granular material ranged from 51 to 100 mm. Topsoil was encountered in MW21-2 consisting of silty sand with trace organics to a depth of 100 mm. Sand textured fill material was encountered in all of the boreholes, ranging in thickness between 0.8 to 1.5m. The native soil encountered consisted of sand and/or silty sand extending to depths ranging from 0.1 to 5.2 m below existing ground surface in all the boreholes.
- ◆ The depth to groundwater was measured in six (6) monitoring wells installed during the course of this investigation. The monitoring wells were screened to intercept the groundwater water table. The groundwater levels were found to range between 3.37 to 4.20 mbgs, with corresponding elevations of 226.07 to 225.52 metres above sea level (masl) on May 27, 2022. Based on the groundwater elevations recorded, the groundwater flow direction appears to be northeasterly towards Kempenfelt Bay. It is possible that the groundwater levels may vary seasonally. The groundwater levels may also be impacted by other factors such as historical infilling activities, subsurface utility trenches, and similar subsurface anomalies. The groundwater flow direction can only be confirmed through long term monitoring.
- ◆ The results of the soil chemical analyses identified the following exceedances of the Table 2 RPI SCS:
 - BH21-8 SS1 (0-0.6 mbgs): EC and SAR

- BH21-8 SS2/QAQC-2 (0.8-1.5 mbgs): Fluoranthene
- ◆ Additional confirmatory soil samples were collected within a 1.5m radius of the impacted PAH sample identified in borehole BH21-8. The results of the analysis indicated that the two (2) samples met the applicable Table 2 SCS.
- ◆ The results of the groundwater chemical analyses identified the following exceedances of the Table 2 SCS:
 - MW21-4: sodium and chloride
 - MW21-5: sodium and benzo(a)pyrene
 - MW21-6: benzo(a)pyrene
- ◆ Monitoring well MW21-6 was re-sampled on July 6, 2022, and December 9, 2022, and found to meet the applicable Table 2 SCS with non-detectable concentrations of benzo(a)pyrene.

Based on a review of the findings of this Phase Two ESA, DS presents the following conclusions and recommendations:

- ◆ The EC and SAR impacts identified in borehole BH21-8 are attributed to seasonal application of de-icing salts for safety purposes and are therefore exempt under Section 49(1) of O.Reg. 153/04 for the purposes of RSC filing. It should be noted that disposal premiums may still be incurred for the off-site disposal of salt impacted soil.
- ◆ On December 8, 2022, confirmatory soil samples were collected within a 1.5m radius of the impacted PAH sample identified in borehole BH21-8. The results of the analysis indicated that the sample met the applicable site condition standards. Per section 48.2 of O.Reg. 153/04, which states, “If two or more samples of soil or sediment are taken from sampling points at the same sampling location that are at the same depth in, on or under the property, the property meets a standard mentioned in subsection (1) if the average of the sampling results meets the standard and in no other circumstances (O.Reg. 153/04 s.48(2).” The average of the three (3) samples taken was 0.33 µg/g, which meets the Table 2 SCS of 0.69 µg/g. Based on these factors, the site condition standards for sample BH21-8 SS2 can be deemed met.
- ◆ Sodium and chloride impacts were identified in groundwater. These impacts are attributed to seasonal application of de-icing salts for safety purposes and are therefore exempt under Section 49(1) of O.Reg. 153/04 for the purposes of RSC filing.
- ◆ Elevated concentrations of benzo(a)pyrene were initially identified in monitoring wells MW21-5 and MW21-6 based on the May 27, 2022, sampling event. MW21-6 was subsequently redeveloped and resampled on July 6, 2022, and December 9, 2022, the results of which identified non-detectable concentrations of benzo(a)pyrene. Based

on these findings, it is the opinion of DS that the original laboratory result is considered to be a false positive attributed to sediment bias.

- ◆ All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required.

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1.0 Introduction

DS Consultants Ltd. (DS) was retained by Tonlu Properties (the “Client”) to complete a Phase Two Environmental Site Assessment (ESA) of the Property located at 17-27 Jacobs Terrace, Barrie, Ontario, herein referred to as the “Phase Two Property” or the “Site”. It is DS’ understanding that this Phase Two ESA may be used to support the filing of a Record of Site Condition (RSC) as part of the proposed redevelopment of the Site for residential purposes.

It is the opinion of DS that the intended future residential property use is considered to be a more sensitive property use, as defined under O.Reg. 153/04 (as amended) than the current industrial use; therefore, the filing of an RSC with the Ontario Ministry of Environment, Conservation and Parks (MECP) will be mandated under O.Reg. 153/04 (as amended).

The Phase Two ESA was completed to satisfy the intent of the requirements, methodology and practices for a Phase One ESA as described in Ontario Regulation 153/04 (as amended). The objective of this Phase Two ESA is to assess whether contaminants are present, and if present, at what concentration are they present on the Phase Two Property, as related to the APECs identified in the Phase One ESA.

1.1 Site Description

The Phase Two Property is a 0.91 hectares (2.26 acres) parcel of land situated within a mixed residential, commercial, and industrial neighbourhood in the City of Barrie, Ontario. The Phase Two Property is located approximately 45 m east of the intersection of Anne Street and Jacobs Terrace. A Site Location Plan depicting the general location of the Phase Two Property is provided in Figure 1.

For the purposes of this report, Jacobs Terrace is assumed to be aligned in an east-west orientation, and Anne Street in a north-south orientation. A Plan of Survey for the Phase Two Property dated December 8, 2020, and prepared by C. Wahba Surveying Ltd. an Ontario Land Surveyor, has been provided under Appendix A.

The Site currently developed with one (1) single-storey warehouse building (Site Building A) on the northwestern portion of the Site and one (1) single-storey building (Site Building B) on the northeastern portion of the Site, herein referred to as the “Site Buildings”. Site Building A is precast concrete and is currently used as a warehouse and distribution centre for First Line Rinks. Site Building B is a slab-on-grade building with stucco siding, and is currently used as office space, storage, and as a workshop for Cara Panel System, a house/building frames operation. A Site Plan depicting the orientation of the buildings on-site as well as adjacent land use features is provided in Figure 2.

Additional details regarding the Phase Two Property are provided in the table below.

Table 1-1: Phase Two Property Information

Criteria	Information	Source
Legal Description	PLAN OF LOTS 7, 8, AND 9, AND PART OF LOTS 5, 6, 10, AND 11 SOUTH SIDE OF JOACOBS TERRACE, REGISTERED PLAN 30, CITY OF BARRIE	Legal Survey
Property Identification Number (PIN)	58755-0008 (LT)	Parcel Register
Municipal Address	17-27 Jacobs Terrace, Barrie, Ontario	Client
Property Owner	Tonlu Holdings Limited	Parcel Register
Property Owner Contact Information	Sam Makramalla 401 Vaughan Valley Blvd Woodbridge, ON, L4L 5V9 Phone: 647-973-9536 Email: sam@tonluproperties.ca	Client
Current Site Occupants	Cara Panel Systems Inc. and First Line Rinks	Site Reconnaissance
Site Area	0.91 hectares (2.26 acres)	ERIS Report
Centroid UTM Coordinates	Northing: 4914022 Easting: 603923 Zone: 17T	Plan of Survey

1.2 Property Ownership

The ownership details for the Phase Two Property are provided in the table below.

Table 1-2: Phase Two Property Ownership

Property Owner	Address	Contact
Tonlu Holdings Limited	401 Vaughan Valley Boulevard Woodbridge, Ontario L4L 5V9	Sam Makramalla 401 Vaughan Valley Blvd Woodbridge, ON, L4L 5V9 Phone: 647-973-9536 Email: sam@tonluproperties.ca

1.3 Current and Proposed Future Use

The Phase Two Property is currently occupied by Cara Panel Systems Inc. and First Line Rinks which is considered to be commercial and industrial property use under O.Reg. 153/04 (as amended). The Site currently features one (1) single-storey warehouse building on the northwestern portion of the Site and one (1) single-storey building on northeastern portion of the Site. It is DS' understanding that the Client intends to redevelop the Site for residential use.

1.4 Applicable Site Condition Standards

The applicable Site Condition Standards (SCS) for the Phase Two Property are considered by the Qualified Person (QP) to be the Table 2 SCS: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Use with coarse-textured soils as contained in the April 15, 2011 Ontario Ministry of Environment, Conservation and Parks (MECP) document entitled “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act”, herein referred to as the “Table 2 SCS”.

The selection of the Table 2 SCS is considered appropriate based on the following rationale:

- ◆ The Site is located within a municipal wellhead protection area;
- ◆ The Site is not considered to be environmentally sensitive, as defined under O.Reg. 153/04 (as amended);
- ◆ The proposed future use of the Phase Two Property will be residential;
- ◆ The Site is not located within 30 m of a water body;
- ◆ The soil texture of all samples analysed were found to be coarse textured (refer to Section 5.4);
- ◆ The pH of the soils analyzed during this Phase Two ESA are within the accepted range specified under O.Reg. 153/04 (as amended); and,
- ◆ Bedrock was not encountered within 2 metres of the ground surface

2.0 Background Information

2.1 Physical Setting

2.1.1 Water Bodies and Areas of Natural Significance

The nearest body of water to the Phase One Property is Hotchkiss Creek, located approximately 150 m to north of the Site.

The Natural Heritage Areas database published by the Ministry of Natural Resources (MNR) was reviewed in order to identify the presence/absence of areas of natural significance including provincial parks, conservation reserves, areas of natural and scientific interest, wetlands, environmentally significant areas, habitats of threatened or endangered species, and wilderness areas. The regional and municipal Official Plans were also reviewed as part of this assessment. The Phase Two Property includes no Areas of Natural Significance.

2.1.2 Topography and Surface Water Draining Features

The topography of the Phase One Property is generally flat with a surface elevation of 230 masl. The topography within the Phase Two Study Area generally slopes to the northeast, towards Kempfelt Bay (Lake Simcoe), located approximately 670 m northeast of the Phase One Property. The topography of the Phase Two Property is generally flat. No drainage features (e.g. ditches, swales, etc.) were observed on-Site. Surface water flow associated with precipitation events is anticipated to run overland and drain into the municipal storm sewer catch basins.

2.2 Past Investigations

2.2.1 Previous Report Summary

DS reviewed the following environmental reports prepared for the Phase Two Property. The reports were provided by the client to DS.

- ◆ *"Phase I Environmental Site Assessment, 17-21 Jacobs Terrace, Barrie, ON", prepared for 2564757 Ontario Ltd., prepared by Pinchin Ltd., dated May 25, 2017 (Pinchin 2017 Phase I ESA); and,*
- ◆ *"Phase I Environmental Site Assessment, 17-21 Jacobs Terrace, Barrie, ON", prepared for Tonlu Holdings Limited c/o Rinomato Group of Companies. Prepared by prepared by Pinchin Ltd., dated November 19, 2020 (Pinchin 2020 Phase I ESA).*

A summary of the pertinent details of the reports reviewed is provided below:

Pinchin 2017 Phase I ESA

The 2017 Pinchin Phase I ESA was conducted in general accordance with CSA document entitled "Phase I Environmental Site Assessment" (CSA Document Z768-01), dated November 2001 (reaffirmed 2006), and included a review of readily available historical records and reasonably ascertainable regulatory information, a Site Reconnaissance, interviews, evaluation of information, and reporting. The following pertinent information was noted by DS:

- ◆ During the completion of the Phase I ESA, the Site was used for commercial and industrial purposes by Radical Rods, Rides and Restorations.
- ◆ 17-27 Jacobs Terrace was developed with one (1) vacant single-storey warehouse and two (2) single-storey buildings that were being utilised as a commercial vehicle restoration and repair facility at the time of the investigation. According to Pinchin, the Site Buildings were constructed between 1971 and 1978.

- ◆ 17-27 Jacobs Terrace was historically occupied by various automobile repair shops and warehouse operations.
- ◆ Various fuel companies (Esso, Imperial Oil, and Four Star Fuels) were listed at 123 Tiffin Street, located approximately 30 m north of the Site, between 1961 and 1998/1999.
- ◆ Various fuel companies (Huron Fuels and Texaco) were listed at 91 Tiffin Street, located approximately 30 m northeast of the Site, between 1961 and 1992.
- ◆ Supertest Petroleum Corporation was listed at 131 Tiffin Street, located approximately 70 m northwest of the Site, in 1961.
- ◆ 280 Innisfil Street was occupied by a small truck maintenance garage and contained two (2) diesel oil USTs.
- ◆ 113 Tiffin Street was occupied by Simcoe Block Co. Ltd., a concrete block manufacturing facility, and two USTs were depicted on the property.

A Phase II ESA was recommended to assess the soil and groundwater quality with respect to the issues of potential environmental concern identified.

Pinchin 2020 Phase I ESA

The 2020 Pinchin Phase I ESA was conducted in general accordance with CSA document entitled "Phase I Environmental Site Assessment" (CSA Document Z768-01), dated November 2001 (reaffirmed 2006), and included a review of readily available historical records and reasonably ascertainable regulatory information, a Site Reconnaissance, interviews, evaluation of information, and reporting. The following pertinent information was noted by DS:

- ◆ During the completion of the Phase I ESA, the Site was developed with one (1) single-storey building and one (1) single-storey warehouse building. The Site Buildings were unoccupied at the time of the investigation.
- ◆ One (1) fuel oil AST, with a capacity of 910 L, was observed at the exterior of Site Building B.

Based on the results of the 2020 Phase I ESA completed by Pinchin, a Phase II ESA was not recommended.

3.0 Scope of the Investigation

The scope of the Phase Two ESA was designed to investigate the portions of the Site determined in the Phase One ESA to be APECs. This Phase Two ESA was conducted in general accordance with O.Reg. 153/04 (as amended). The scope of the investigation including the subsurface investigation, sampling, and laboratory analysis was based on the findings of the Phase One ESA and was limited to the portions of the Site which were accessible.

3.1 Overview of Site Investigation

The following tasks were completed as part of the Phase Two ESA:

- ◆ Preparation of a Health and Safety Plan to ensure that all work was executed safely;
- ◆ Clearance of public private underground utility services prior to commencement of subsurface investigative operations;
- ◆ Preparation of a Sampling and Analysis Plan (SAP);
- ◆ Retained a MECP licenced driller to advance a total of nine (9) boreholes on the Phase Two Property, to depths ranging between 4.6 to 5.3 mbgs. Six (6) of the boreholes were instrumented with groundwater monitoring wells upon completion. The soil lithology was logged during drilling, and representative soil samples were collected at regular intervals. The soil samples were screened for organic vapours using (RKI Eagle 2 MultiGas Detector, and examined for visual and olfactory indications of soil impacts;
- ◆ Submitted “worst case” soil samples collected from the boreholes for laboratory analysis of relevant contaminants of potential concern (COPCs) as identified in the Phase One ESA;
- ◆ Conducted groundwater level measurements in the monitoring wells in order to determine the groundwater elevation, and to establish the local groundwater flow direction;
- ◆ Surveyed all monitoring wells to a geodetic benchmark;
- ◆ Developed and purged all monitoring wells prior to sampling. Groundwater samples were collected for all COPCs identified in the Phase One ESA;
- ◆ Compared all soil and groundwater analytical data to the applicable MECP SCS; and,
- ◆ Prepared a Phase Two ESA Report in general accordance with O.Reg. 153/04 (as amended).

3.2 Media Investigated

3.2.1 Rationale for Inclusion or Exclusion of Media

Table 3-1: Rationale of Sampling Media

Media	Included or Excluded	Rationale
Soil	Included	Soil was identified as a media of potential impact in the Phase One ESA, based on the historical operations conducted on-Site.
Groundwater	Included	Groundwater was identified as a media of potential impact in the Phase One ESA, based on the historical operations conducted on-Site.

3.2.2 Overview of Field Investigation of Media

Table 3-2: Field Investigation of Media

Media	Methodology of Investigation
Soil	A total of nine (9) boreholes were advanced on the Phase Two Property, to a maximum depth of 5.3 mbgs. Soil samples were collected and submitted for analysis of all relevant PCOCs.
Groundwater	A total of six (6) monitoring wells were installed on the Phase Two Property at the time of the investigation. Representative groundwater samples were collected from each monitoring well and submitted for analysis of all relevant PCOCs.

3.3 Phase One Conceptual Site Model

A Conceptual Site Model was developed for the Phase One Property, located at 17-27 Jacobs Terrace, Barrie, Ontario. The Phase One Conceptual Site Model is presented in Figures 1 through 5 which visually depict the following:

- ◆ Any existing buildings and structures
- ◆ Water bodies located in whole, or in part, on the Phase One Study Area
- ◆ Areas of natural significance located in whole, or in part, on the Phase One Study Area
- ◆ Water wells at the Phase One Property or within the Phase One Study Area
- ◆ Roads, including names, within the Phase One Study Area
- ◆ Uses of properties adjacent to the Phase One Property
- ◆ Areas where any PCAs have occurred, including location of any tanks
- ◆ Areas of Potential Environmental Concern

3.3.1 Potentially Contaminating Activity Affecting the Phase One Property

All PCAs identified within the Phase One Study Area are presented on Figure 4. The PCAs which are considered to contribute to APECs on, in or under the Phase One Property are summarized in the table below:

Table 3-3: Summary of PCAs Contributing to APECs

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
1	#58 - Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	Site Building A has historically been used for warehousing and distribution, and was registered in 2017 for the generation, use, and/or storage waste crankcase oils and lubricants, and aromatic solvent and residues.	PCA is on-Site
2	#10 - Commercial Autobody Shops	The Site Building B was historically occupied by several autobody shops followed by a car restoration facility, including spray paint booths for autobody repair. It is inferred that the waste disposal records for the Site are associated with the historical autobody shop.	PCA is on-Site
3	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	Various vehicle accessory operations were identified. It is inferred that the waste disposal records for the property are associated with these operations.	PCA is west adjacent to Site
5	# N/S: Application of De-Icing Agents	Seasonal application of de-icing salts for vehicle and pedestrian safety is anticipated on Jacobs Terrace north adjacent to the Phase One Property.	PCAs are north adjacent to Site
7	#46 – Rail Yards, Tracks and Spurs	During the Site reconnaissance, a railway line was observed to the north of the Site.	
23	PCA-24: #28 – Gasoline and Associated Products Storage in Fixed Tanks	Based on the previous reports reviewed, a fuel oil AST was present on the Phase One Property. During the Site reconnaissance, the former AST was observed to be still on the Site but disconnected.	PCA is on-Site
24	#28 – Gasoline and Associated Products Storage in Fixed Tanks	280 Innisfil Street, east adjacent to the Site, was occupied by Done Right Auto Care at the time of the Site reconnaissance.	PCA is east adjacent to Site

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
		A truck maintenance garage and two (2) diesel USTs were depicted on the 1971 FIP.	
32	#30 – Importation of Fill Material of Unknown Quality	Fill material may have been used to backfill the structures historically present on the northeastern portion of the Site, and potentially for grading purposes at the time of development of the current Site Buildings.	PCA is on-Site

N/S - not specified in Table 2, Schedule D, of O.Reg. 153/04

3.3.2 Contaminants of Potential Concern

The following contaminants of potential concern were identified for the Phase One Property: PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, high pH, low pH, Na, Cl-, and PAHs.

3.3.3 Underground Utilities and Contaminant Distribution and Transport

Underground utilities can affect contaminant distribution and transport. Trenches excavated to install utility services, and the associated granular backfill may provide preferential pathways for horizontal contaminant migration in the shallow subsurface.

It is anticipated that underground utilities and corridors exist under the Phase Two Property to connect the buildings on the Phase Two Property to municipal water and wastewater and supplied utilities. Plans were not available to confirm the depths of these utilities, however, they are estimated to be installed at depths ranging from 2 to 3 metres below ground surface.

The depth to groundwater at the Phase One Property is inferred to range between 3 to 6 mbgs, therefore it is possible that the utility corridors may act as preferential pathways for contaminant distribution and transport in the event that shallow subsurface contaminants exist at the Phase One Property.

3.3.4 Geological and Hydrogeological Information

The topography of the Site is generally flat with a surface elevation of 230 masl. The topography within the Phase Two Study Area generally slopes to the northeast, towards Lake Simcoe, located approximately 670 m northeast of the Site. The nearest body of water is Hotchkiss Creek located approximately 150 m north of the Site. Based on a review of the MECP well records, the depth to groundwater in the vicinity of the Phase Two Property is approximately 3 to 6 mbgs. The shallow groundwater flow direction within the Phase Two Study Area is inferred to be northeast towards Lake Simcoe.

The Site is situated within an Ordovician physiographic region. The surficial geology within the Phase One Study area is described as “Middle Ordovician”, and the bedrock is described as “limestone, dolostone, shale, arkose, sandstone”. Based on a review of the Ontario Well Records, the bedrock in the Phase Two Study Area is anticipated to be encountered at depths greater than 88.4 mbgs.

3.3.5 Uncertainty and Absence of Information

DS has relied upon information obtained from federal, provincial, municipal, and private databases, in addition to records and summaries provided by EcoLog ERIS. All information obtained was reviewed and assessed for consistency, however the conclusions drawn by DS are subject to the nature and accuracy of the records reviewed.

All reasonable inquiries were made to obtain reasonably accessible information, as mandated by O.Reg.153/04 (as amended). All responses to database requests were received prior to completion of this report, with the exception of the MECP FOI request. If the MECP FOI request produces information which may alter the conclusions of this report, an addendum will be provided to the Client. This report reflects the best judgement of DS based on the information available at the time of the investigation.

Information used in this report was evaluated based on proximity to the Phase One Property, anticipated direction of local groundwater flow, and the potential environmental impact on the Phase One Property as a result of potentially contaminating activities.

The QP has determined that the uncertainty does not affect the validity of the Phase One ESA Conceptual Site Model or the conclusions of this report.

3.4 Deviations from Sampling and Analysis Plan

A supplemental groundwater sampling exercise was completed on July 6, 2022 to verify groundwater quality. No other deviations occurred.

3.5 Impediments

DS was granted complete access to the Phase Two Property throughout the course of the investigation. The existing site structures and buried utility services were impediments; however, these impediments did not limit the ability to investigate the APECs identified. The boreholes were positioned in the areas of the Site which were free of impediments.

4.0 Investigation Method

4.1 General

The Phase Two ESA followed the methodology outlined in the following documents:

- Ontario Ministry of the Environment “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario” (December 1996);
- Ontario Ministry of the Environment “Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04” (June 2011); and,
- Ontario Ministry of the Environment “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” (July 2011) (Analytical Protocol).

The methods used in the Phase Two ESA investigation did not differ from the associated standard operating procedures.

4.2 Drilling and Excavating

A Site visit was conducted prior to drilling in order to identify the borehole locations based on the APECs identified in the Phase One ESA. The selected borehole locations are presented on Figure 5. The borehole locations were cleared of underground public and private utility services prior to commencement of drilling. A summary of the drilling activities is provided in the table below.

Table 4-1: Summary of Drilling Activities

Parameter	Details
Drilling Contractor	Walker Drilling Ltd.
Drilling Dates	January 20, 21 and 24, 2022
Drilling Equipment Used	Track-mounted CME 55
Measures taken to minimize the potential for cross contamination	◆ Soil sampling was conducted using a 50 mm stainless steel split spoon sampler. The split spoon sampler was brushed clean of soil, washed in municipal water containing phosphate free detergent, rinsed in municipal water, and then rinsed with distilled water for each sampling interval in order to reduce the potential for cross contamination ◆ Soil samples were extracted from the interior of the sampler rather than from areas in contact with the sampler sidewalls.

Parameter	Details
	Use of dedicated and disposable nitrile gloves for the handling of soil samples. A new set of gloves was used for each sample.
Sample collection frequency	Samples were collected at a frequency of every 0.6 m per 0.8 m from the ground surface to 3.1 mbgs, followed by one sample per 1.5 m to borehole termination depth.

4.3 Soil Sampling

Soil samples were collected using split spoon samplers. Discrete soil samples were collected from the split-spoon samplers by DS personnel using dedicated nitrile gloves.

A portion of each sample was placed in a resealable plastic bag for field screening, and the remaining portion was placed into laboratory supplied glass sampling jars. Samples intended for VOC and the F1 fraction of petroleum hydrocarbons analysis were collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. All sample jars were stored in dedicated coolers with ice for storage, pending transport to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

The subsurface soil conditions were logged by DS personnel at the time of drilling and recorded on field borehole logs. The borehole logs are presented under Appendix C. Additional detail regarding the lithology encountered in the boreholes is presented under Section 5.1.

4.4 Field Screening Measurements

All retrieved soil samples were screened in the field for visual and olfactory observations. No obvious visual or olfactory evidence of potential contamination were noted. No aesthetic impacts (e.g. cinders, slag, hydrocarbon odours) were encountered during this investigation. The soil sample headspace vapour concentrations for all soil samples recovered during the investigation were screened using portable organic vapour testing equipment in accordance with the procedure outlined in the MECP's *'Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario'*.

The soil samples were inspected and examined to assess soil type, ground water conditions, and possible chemical contamination by visual and olfactory observations or by organic vapour screening. Samples submitted for chemical analysis were collected from locations judged by the assessor to be most likely to exhibit the highest concentrations of contaminants based on several factors including (i) visual or olfactory observations, (ii)

sample location, depth, and soil type (iii) ground water conditions and headspace reading. A summary of the equipment used for field screening is provided below:

Table 4-2: Field Screening Equipment

Parameter	Details
Make and Model of Field Screening Instrument	RKI Eagle 2, Model 5101-P2
Chemicals the equipment can detect and associated detection limits	VOCs with dynamic range of 0 parts per million (ppm) to 2,000 ppm PHCs with range of 0 to 50, 000 ppm
Precision of the measurements	3 significant figures
Accuracy of the measurements	VOCs: $\pm 10\%$ display reading + one digit Hydrocarbons: $\pm 5\%$ display reading + one digit
Calibration reference standards	PID: Isobutylene CGD: Hexane
Procedures for checking calibration of equipment	In-field re-calibration of the CGI was conducted (using the gas standard in accordance with the operator's manual instructions) if the calibration check indicated that the calibration had drifted by more than $\pm 10\%$.

A summary of the soil headspace measurements is provided in the borehole logs, provided under Appendix C.

4.5 Groundwater Monitoring Well Installation

Monitoring wells were installed upon completion of six (6) the boreholes advanced on the Phase Two Property. The monitoring wells were constructed of 51-millimetre (2-inch) inner diameter (ID) flush-threaded schedule 40 polyvinyl chloride (PVC) risers, equipped with a 3.1 m length of No. 10 slot PVC screen. The well screens were sealed at the bottom using a threaded cap and at the top with a lockable J-plug.

Silica sand was placed around and up to 0.6m above the well screen to act as a filter pack. Bentonite was placed from the ground surface to the top of the sand pack. The wells were completed with protective flush mount casings. Details regarding the monitoring well construction can be found in Table 2, and on the borehole logs provided in Appendix C.

Disposable nitrile gloves were used to minimize the potential for cross-contamination during well installation. Dedicated equipment was used for well development and sampling for further minimize the risk of cross contamination.

The monitoring wells were developed on February 17, 2022. In accordance with DS SOPs for monitoring well development, the wells were developed by removing a minimum of three standing water column volumes using dedicated inertial pumps comprised of Waterra polyethylene tubing and dedicated foot valves.

4.6 Groundwater Field Measurement of Water Quality Parameters

Field measurements of water quality parameters including temperature, specific conductivity, pH, turbidity, dissolved oxygen, oxidation-reduction potential and turbidity were collected using a flow-through cell and a YSI Water Quality Meter (YSI-556™). The YSI Water Quality Meter was calibrated by the supplier Maxim in accordance with the manufacturer's specifications.

The measurements were conducted at regular intervals in order to determine whether stabilized geochemical conditions had been established in the monitoring well, indicating representative groundwater conditions. The field measurements have been archived and can be provided upon request.

4.7 Groundwater Sampling

Groundwater samples were collected a minimum of 24 hours after the development of the monitoring wells. The wells were purged and sampling using low-flow methodology with a Geotech™ submersible peristaltic pump equipped with dedicated polyethylene tubing. A YSI Water Quality Meter equipped with a flow-through cell was used to monitor the geochemical conditions during purging to assess whether steady-state conditions were achieved prior to sampling.

Samples were collected upon stabilization of the water quality parameters. Groundwater samples for metals analysis were field filtered using dedicated 0.45 micro in-line filters. The groundwater was transferred directly into laboratory supplied containers and preserved as appropriate using the containers supplied by the analytical laboratory. The samples were placed in coolers upon completion of sampling and stored on ice for storage, pending transport to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

4.8 Sediment Sampling

No sediment as defined under O.Reg. 153/04 (as amended) was present on the Phase Two Property at the time of this investigation. Sediment sampling was not conducted as a result.

4.9 Analytical Testing

The soil and groundwater samples collected were submitted to Bureau Veritas (BV) under chain of custody protocols. BV is an independent laboratory accredited by the Canadian Association for Laboratory Accreditation. BV conducted the analyses in accordance with the MECP document “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” dated March 9, 2004 (revised on July 1, 2011).

4.10 Residue Management Procedures

4.10.1 Soil Cuttings from Drilling and Excavations

The soil cuttings generated by the borehole drilling program were stored in 205 L drums and left on-site for disposal by a MECP approved waste-hauler for disposal at a MECP-approved waste management facility.

4.10.2 Water from Well Development and Purging

Excess water derived from well purging activities was stored in 20-L sealed plastic pails and temporarily stored on site for disposal by a MECP approved waste-hauler for disposal at a MECP-approved waste management facility.

4.10.3 Fluids from Equipment Cleaning

Excess equipment cleaning fluids were emptied onto the ground downstream of the wells.

4.11 Elevation Surveying

The ground surface elevations of the boreholes were surveyed using a Sokkia GCX-2 GNSS RTK receiver, based on global position system satellites, with datum NAD83, UTM zone 17T. The ground surface elevations can be found on the borehole logs presented in Appendix C.

4.12 Quality Assurance and Quality Control Measures

4.12.1 Sample containers, preservation, labelling, handling and custody for samples submitted for laboratory analysis, including any deviations from the SAP

All soil and groundwater samples were stored in laboratory-supplied sample containers in accordance with the MECP Analytical Protocol. A summary of the preservatives supplied by the laboratory is provided in the table below.

Table 5-3: Summary of Sample Bottle Preservatives

Media	Parameter	Sample Container
Soil	PHCs F1 VOCs	40 mL methanol preserved glass vial with septum lid.
	PHCs F2-F4 metals and ORPs PAHs	120 mL or 250 mL unpreserved glass jar with Teflon™-lined lid.
	PHCs F1 VOCs	40 mL glass vial with septum lid, containing sodium bisulphate preservative.
	PHCs F2-F4	250 mL amber glass bottle with sodium bisulphate preservative
Groundwater	PAHs	250 mL amber glass bottle (unpreserved)
	Inorganics	500 mL high density polyethylene bottle (unpreserved)
	Metals	125 mL high density polyethylene bottle containing nitric acid preservative
	Hexavalent Chromium	125 mL high density polyethylene bottle containing ammonium sulphate/ammonium hydroxide preservative
	Mercury	125 mL glass bottle containing hydrochloric acid preservative
	Cyanide	125 mL high density polyethylene bottle containing sodium hydroxide preservative

Groundwater samples were collected using dedicated equipment for each well. Groundwater samples collected for analysis of dissolved metals, mercury and hexavalent chromium were filtered in the field using a dedicated 0.45-micron in-line filter. Each sample container was labelled with a unique sample identification, the project number, and the sampling date. All samples were placed in an ice-filled cooler upon completion of sampling and kept under refrigerated conditions until the time of delivery to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

4.12.2 Description of equipment cleaning procedures followed during all sampling

Dedicated, disposable nitrile gloves were used for each sampling event to reduce the potential for cross-contamination.

The split spoon sampler was brushed clean of soil, washed in municipal water containing phosphate free detergent, rinsed in municipal water, and then rinsed with distilled water for each sampling interval in order to reduce the potential for cross contamination. Dedicated equipment was used for well development and sampling for further minimize the risk of cross contamination. Non-dedicated equipment (i.e., interface probe) was cleaned

before initial use and between all measurement points with a solution of Alconox™ and distilled water. The Alconox™ solution was rinsed off using distilled water.

4.12.3 Description of how the field quality control measures referred to in subsection 3 (3) were carried out

Field duplicate samples were collected at the time of sampling. In accordance with O.Reg. 153/04, one duplicate sample was analyzed per ten samples submitted for analysis. A laboratory prepared trip blank accompanied the groundwater samples during each sampling event and was submitted for laboratory analysis of VOCs.

All field screening devices (i.e., RKI Eagle 2, YSI Water Quality Meter) were calibrated prior to use by the supplier. Calibration checks were completed, and re-calibrations were conducted as required.

4.12.4 Description of, and rational for, any deviations from the procedures set out in the quality assurance and quality control program set out in the SAP

There were no deviations from the QA/QC program described in the SAP.

5.0 Review and Evaluation

5.1 Geology

A summary of the subsurface conditions is presented below. Additional details may be found in the borehole logs appended in Appendix C. The boundaries of soil indicated on the borehole logs and described below are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change.

Surficial asphaltic concrete pavement was encountered in seven (7) of the nine (9) boreholes. The thickness of pavement ranged from 50 to 150 mm. Granular material consisting of sand and gravel was encountered below the asphalt. The thickness of granular material ranged from 51 to 100 mm. Topsoil was encountered in MW21-2 consisting of silty sand with trace organics to a depth of 100 mm. Sand textured fill material was encountered in all of the boreholes, ranging in thickness between 0.8 to 1.5m. The native soil encountered consisted of sand and/or silty sand extending to depths ranging from 0.1 to 5.2 m below existing ground surface in all the boreholes.

Table 5-1: Summary of Geologic Units Investigated

Geologic Unit	Inferred Thickness (m)	Top Elevation (masl)	Bottom Elevation (masl)	Properties
Fill Material	0.8-1.5	230.3	228.0	Heterogeneous
Sand/Silty Sand	>3m	229.8	Unknown	Water bearing formation

5.2 Ground Water Elevations and Flow Direction

5.2.1 Rationale for Monitoring Well Location and Well Screen Intervals

The monitoring wells were positioned to provide representative Site coverage, and to investigate the conditions within the APEC areas identified in the Phase One ESA. The monitoring wells were screened within the sand or silty sand formation which was the first water bearing formation encountered and is inferred to be an unconfined aquifer.

5.2.2 Results of Interface Probe Measurements

A summary of the groundwater level measurements is provided in Table 1. The groundwater level measurements were collected using a Solinst interface probe. The depth to groundwater was found to range between 3.37 to 4.20 mbgs on May 27, 2022. There was no indication of DNAPL or LNAPL in the monitoring wells at this time.

5.2.3 Product Thickness and Free Flowing Product

No evidence of product was observed in the monitoring wells at the time of the investigation.

5.2.4 Groundwater Elevation

The groundwater elevation was calculated by subtracting the depth to groundwater from the surface elevation determined by the surface elevation survey conducted as part of this investigation. A summary of the groundwater elevations calculated is presented in Table 1. Generally, the groundwater elevation was found to range from 225.52 to 226.44 in the upper aquifer investigated.

5.2.5 Groundwater Flow Direction

The groundwater flow direction was interpreted using the groundwater elevations calculated for the monitoring wells installed on the Phase Two Property. Based on the groundwater elevations calculated, the groundwater flow direction is interpreted to be northeast towards Kempenfelt Bay. The groundwater elevation contours and flow direction are presented on Figure 6.

5.2.6 Assessment of Potential for Temporal Variability in Groundwater Flow Direction

The shallow aquifer investigated is inferred to be an unconfined aquifer, based on the soil stratigraphy observed in the boreholes advanced on the Phase Two Property. It is possible that temporal variations in groundwater elevations may occur on the Phase Two Property in response to seasonal weather patterns.

Temporal variability in groundwater level has the ability to influence the groundwater flow direction. The degree of variation in groundwater levels on the Phase Two Property can only be confirmed with long-term monitoring.

5.2.7 Evaluation of Potential Interaction Between Buried Utilities and the Water Table

The groundwater table was encountered at depths ranging from 3.37 to 4.20 mbgs on May 27, 2022, on the Phase Two Property. Buried utility services are present on the Phase Two Property and are inferred to be situated at depths ranging between 2 and 3 mbgs. Based on this there is the potential for the utility trenches to act as preferential pathways. However, no groundwater impacts were identified, therefore the potential for preferential migration of contaminants is not of concern at this time.

5.3 Ground Water Hydraulic Gradients

5.3.1 Horizontal Hydraulic Gradient

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded on May 27, 2022.

Table 5-2: Summary of Horizontal Hydraulic Gradient Calculations

Hydrogeological Unit	Calculated Horizontal Hydraulic Gradient
Sand and/or silty sand till	Minimum: 0.0032 Average: 0.0039 Maximum: 0.0045

5.3.2 Vertical Hydraulic Gradient

The vertical hydraulic gradient was not calculated, as no groundwater impacts were identified on the Phase Two Property.

5.4 Fine-Medium Soil Texture

Not Applicable – more than one-third of the soils encountered on the Phase Two Property are considered to be coarse textured. For the purposes of evaluating the SCS, all soils on the Phase Two Property are considered coarse textured.

5.5 Soil Field Screening

Soil vapour headspace readings were collected at the time of sample collection, the results of which are presented on the borehole logs (Appendix C). The soil vapour headspace readings were collected using a calibrated RKI Eagle 2 in methane elimination mode. The PID readings ranged between 0 and 1 ppm. The CGD readings ranged between 0 and 35 ppm.

The soil samples were also screened for visual and olfactory indicators of impacts (e.g., staining, odours). There were no olfactory or organic vapour indicators of potential impacts to the soil samples recovered.

5.6 Soil Quality

The results of the chemical analyses conducted are presented in Tables 5 through 8. A visual summary of the location of the sample locations is provided in Figures 7A through 7E. The laboratory certificates of analysis have been provided under Appendix D.

5.6.1 Metals and ORPs

A total of seven (7) samples were submitted for analysis of metals and ORPs. The results of the analyses indicated the following exceedances of the Table 2 SCS:

Table 5-3: Summary of Metals and ORPs Exceedances in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 2 SCS	Reported Value
BH21-8 SS1	0.8-1.5	EC	mS/cm	0.7	1.2*
		SAR	N/A	5	15*

Notes:

BOLD* Exceedance exempt per Section 49(1) of O.Reg. 153/04

5.6.2 Petroleum Hydrocarbons

A total of seven (7) samples, including one (1) field duplicates for QA/QC purposes, were submitted for analysis of PHCs (incl. BTEX). The results of the chemical analyses indicated that all samples met the MECP Table 2 RPI Site Condition Standards.

5.6.3 Volatile Organic Compounds

A total of seven (7) samples, including one (1) field duplicates for QA/QC purposes, were submitted for analysis of VOCs. The results of the chemical analyses indicated that all samples met the MECP Table 2 RPI Site Condition Standards.

5.6.4 Polycyclic Aromatic Hydrocarbons

A total of seventeen (17) samples, including one (1) field duplicates for QA/QC purposes were submitted for analysis of PAHs. The results of the analyses indicated the following exceedance of the Table 2 SCS.

Table 5-4: Summary of PAHs Exceedances in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 2 SCS	Reported Value
BH21-8 SS2 QA/QC-2	0.8-1.4	Fluoranthene	µg/g	0.69	0.99

Notes:

BOLD Exceedance of Table 2 SCS

On December 8, 2022, confirmatory soil samples were collected within a 1.5m radius of the BH21-8. The average of the three (3) samples taken was 0.33 µg/g, which meets the Table 2 SCS of 0.69 µg/g. A summary of the soil samples taken in the vicinity of BH21-8 is presented in the table below:

Table 5-5: Summary of PAHs Confirmatory Soil Samples

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 2 SCS	Reported Value	Mean Concentration
BH21-8 SS2	0.8-1.4	Fluoranthene	µg/g	0.69	<0.0050	0.33
BH21-8 SS2 QA/QC-2	0.8-1.4	Fluoranthene	µg/g	0.69	0.99	
T1-22 S2	0.8-1.4	Fluoranthene	µg/g	0.69	0.0061	

Notes:

BOLD Exceedance of Table 2 SCS

5.6.5 Commentary on Soil Quality

The EC and SAR impacts identified in borehole BH21-8 are attributed to seasonal application of de-icing salts for safety purposes and are therefore exempt under Section 49(1) of O.Reg. 153/04 for the purposes of RSC filing.

PAH impacts were identified in one (1) sample collected from borehole BH21-8. Confirmatory soil samples were collected within a 1.5m radius of the impacted sample on December 8, 2022. The results of the analysis indicated that the sample met the applicable site condition standards. Per section 48.2 of O.Reg. 153/04, which states, “If two or more samples of soil or sediment are taken from sampling points at the same sampling location that are at the same depth in, on or under the property, the property meets a standard mentioned in subsection (1) if the average of the sampling results meets the standard and in no other circumstances (O.Reg. 153/04 s.48(2).” The average of the three (3) samples taken was 0.33 µg/g, which meets the Table 2 SCS of 0.69 µg/g. Based on these factors, the site condition standards for sample BH21-8 SS2 QA/QC-2 can be deemed met.

5.7 Ground Water Quality

The results of the chemical analyses conducted are presented in Tables 9 through 12. A visual summary of the location of the sample locations is provided in Figures 8A through 8D. The laboratory certificates of analysis have been provided under Appendix D.

5.7.1 Metals and ORPs

A total of seven (7) samples were submitted for analysis of metals and ORPs. The results of the analyses are tabulated in Table 9 and presented on Figure 8A. The groundwater samples transferred into the metals, mercury, and hexavalent chromium bottles were field filtered using a 0.45-micron in-line filter.

The results of the analyses indicated the following exceedances of the Table 2 SCS:

Table 5-6: Summary of Metals and ORPs Exceedances in Groundwater

Sample ID	Well Screen Interval (mbgs)	Parameter	Units	Table 2 SCS	Reported Value
MW21-4	2.1-5.3	Sodium	µg/L	490000	760,000*
		Chloride	µg/L	790,000	840,000*
MW21-5	2.1-5.3	Sodium	µg/L	490000	800,000*

Notes:

BOLD* Exceedance exempt per Section 49(1) of O.Reg. 153/04

5.7.1 Petroleum Hydrocarbons

A total of nine (9) samples, including two (2) field duplicates for QA/QC purposes were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 10 and presented on Figure 8B. All of the samples analyzed met the Table 2 SCS.

5.7.2 Volatile Organic Compounds

A total of nine (9) samples, including two (2) field duplicates for QA/QC purposes were submitted for analysis of VOCs. The results of the analyses are tabulated in Table 11 and presented on Figure 8C. All of the samples analyzed met the Table 2 SCS.

5.7.3 Polycyclic Aromatic Hydrocarbons

A total of ten (10) samples, including three (3) field duplicates for QA/QC purposes, were submitted for analysis of PAHs. The results of the analyses are tabulated in Table 12 and presented on Figure 8D.

The results of the analyses indicated the following exceedances of the Table 2 SCS:

Table 5-7: Summary of PAH Exceedances in Groundwater

Sample ID	Well Screen Interval (mbgs)	Parameter	Units	Table 2 SCS	Reported Value			
					Feb 18, 2022	May 27, 2022	July 6, 2022	Dec 9, 2022
MW21-5	2.1-5.3	Benzo(a)pyrene	µg/L	0.01	0.012	-	-	-
MW21-6	2.1-5.3	Benzo(a)pyrene	µg/L	0.01	-	0.019	<0.090	<0.090

Notes:

BOLD Exceedance of Table 2 SCS

Two (2) additional groundwater samples were collected from monitoring well MW21-6 in July 2022 and December 2022 and submitted for analysis of PAHs, in order to confirm the

initial findings. The results of the laboratory analyses indicated that the July 8, 2022, and December 9, 2022, samples met the Applicable Guidelines.

5.7.4 Commentary on Groundwater Quality

Sodium and chloride impacts were identified in groundwater. These impacts are attributed to seasonal application of de-icing salts for safety purposes and are therefore exempt under Section 49(1) of O.Reg. 153/04 for the purposes of RSC filing.

Elevated concentrations of benzo(a)pyrene were initially found in monitoring wells MW21-5 and MW21-6. Two (2) additional samples were collected from MW21-6 in July 2022 and December 2022 and submitted for analysis of PAHs. The results of the laboratory analyses indicated that the samples met the Table 2 RPI Standards. Based on these findings, it is the opinion of DS that the original laboratory result is considered to be a false positive attributed to sediment bias.

5.8 Sediment Quality

No sediment was present on the Phase Two Property at the time of the investigation.

5.9 Quality Assurance and Quality Control Results

Collection of soil and groundwater samples was conducted in general accordance with the MECP *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*. As described in Section 4.12, dedicated equipment was used where possible, and all non-dedicated equipment was decontaminated before and between sampling events. All soil and groundwater samples were transferred directly into laboratory-supplied containers. The laboratory containers were prepared by the laboratory with suitable preservative, as required. All samples were stored and transported under refrigerated conditions. Chain of custody protocols were maintained from the time of sampling to delivery to the analytical laboratory.

The field QA/QC program involved the collection of field duplicate soil and groundwater samples, and the use of a trip blank for each groundwater sampling event (when suitable). In addition to the controls listed above, the analytical laboratory employed method blanks, internal laboratory duplicates, surrogate spike samples, matrix spike samples, and standard reference materials.

A summary of the field duplicate samples analyzed and an interpretation of the efficacy of the QA/QC program is provided in the table below.

Table 5-8: Summary of QA/QC Results

Sample ID	QA/QC duplicate	Medium	Parameter Analyzed	QA/QC Result
MW21-1 SS5	QA/QC-1	Soil	PHCs, VOCs	All results were within the analytical protocol criteria for RPD
BH21-8 SS2	QA/QC-2	Soil	PAHs	All results were within the analytical protocol criteria for RPD
MW21-6	DUP-1	Groundwater	PHCs, VOCs, PAHs	All results were within the analytical protocol criteria for RPD
MW21-6	DUP-7	Groundwater	PHCs, VOCs	All results were within the analytical protocol criteria for RPD

Based on the interpretation of the laboratory results and the QA/QC program, it is the opinion of the QP that the laboratory analytical data can be relied upon.

All samples were handled in accordance with the MECP Analytical Protocol regarding sample holding time, preservation methods, storage requirements, and type of container.

Bureau Veritas routinely conducts internal QA/QC analyses in order to satisfy regulatory QA/QC requirements. The results of the Bureau Veritas QA/QC analyses for the submitted soil and groundwater samples are summarized in the Laboratory Certificates of Analyses provided in Appendix D.

With respect to subsection 47(3) of O.Reg 153/04 (as amended), all certificates of analysis or analytical reports pursuant to clause 47(2) (b) of the regulation comply with subsection 47(3). A certificate of analysis has been received for each sample submitted for analysis and have been provided (in full) in Appendix D.

A review of the QA/QC sample results indicated that no issues were identified with respect to both the field collection methodology and the laboratory reporting. It is the opinion of the QP that the analytical data obtained are representative of the soil and groundwater conditions at the Phase Two Property for the purpose of assessing whether the soil and groundwater at the Phase Property meets the applicable MECP SCS.

5.10 Phase Two Conceptual Site Model

The Phase Two Conceptual Site Model is presented under Appendix E.

6.0 Conclusions

This Phase Two ESA involved that advancement of nine (9) boreholes, the installation of six (6) monitoring wells on the Phase Two Property, and the collection of soil and groundwater

samples for analysis of the potential contaminants of concern, including: Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PHCs, VOCs, PAHs, Na and Cl-.

Based on the results of the information gathered through the course of the investigation, DS presents the following conclusions:

- ◆ The EC and SAR impacts identified in borehole BH21-8 are attributed to seasonal application of de-icing salts for safety purposes and are therefore exempt under Section 49(1) of O.Reg. 153/04 for the purposes of RSC filing. It should be noted that disposal premiums may still be incurred for the off-site disposal of salt impacted soil.
- ◆ On December 8, 2022, confirmatory soil samples were collected within a 1.5m radius of the impacted PAH sample identified in borehole BH21-8. The results of the analysis indicated that the sample met the applicable site condition standards. Per section 48.2 of O.Reg. 153/04, which states, “If two or more samples of soil or sediment are taken from sampling points at the same sampling location that are at the same depth in, on or under the property, the property meets a standard mentioned in subsection (1) if the average of the sampling results meets the standard and in no other circumstances (O.Reg. 153/04 s.48(2).” The average of the three (3) samples taken was 0.33 µg/g, which meets the Table 2 SCS of 0.69 µg/g. Based on these factors, the site condition standards for sample BH21-8 SS2 can be deemed met.
- ◆ Sodium and chloride impacts were identified in groundwater. These impacts are attributed to seasonal application of de-icing salts for safety purposes and are therefore exempt under Section 49(1) of O.Reg. 153/04 for the purposes of RSC filing.
- ◆ Elevated concentrations of benzo(a)pyrene were initially identified in monitoring wells MW21-5 and MW21-6 based on the May 27, 2022, sampling event. MW21-6 was subsequently redeveloped and resampled on July 6, 2022, and December 9, 2022, the results of which identified benzo(a)pyrene concentrations of <0.0090 µg/L, which meet the Table 2 Standard. Based on these findings, it is the opinion of DS that the original laboratory result is considered to be a false positive attributed to sediment bias.
- ◆ All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required.

6.1 Qualifications of the Assessors

Marina Nadj, BBRM, MES

Ms. Marina Nadj MESC, is an Environmental Specialist with DS Consultants Ltd. She obtained an Honours Bachelor of Bio-Resource Management degree from University of Guelph and Master of Environmental Science also from University of Guelph. Marina holds a Post Graduate Certificate in Environmental Engineering Applications from Conestoga College. She has experience in conducting Phase One and Two Environmental Site Assessments, and in completing soil and groundwater contaminant programs in accordance with Ontario Regulation 153/04 to support the future filing of Record of Site Conditions.

Julia Arends, B.Sc., MES.

Ms. Julia Arends, MES., is an Assistant Project Manager with DS Consultants Ltd. She obtained an Honours Bachelor of Environmental Science degree from Queen's University and a Master of Environmental Science from the University of Waterloo. She has experience in conducting Phase One and Two Environmental Site Assessments on numerous residential, commercial, and industrial properties. Julia also has experience in completing soil and groundwater contaminant delineation and remediation programs in accordance with Ontario Regulation 153/04 to support the future filing of Record of Site Conditions. She has also directed the implementation of soil remediation programs, verification sampling, and site restoration activities.

Mr. Patrick (Rick) Fioravanti, B.Sc., P.Geo., QP_{ESA}

Mr. Fioravanti is the Manager of Environmental Services with DS Consultants Limited. Patrick holds an Honours Bachelor of Science with distinction in Toxicology from the University of Guelph and is a practicing member of the Association of Professional Geoscientists of Ontario (APGO). Patrick has over ten years of environmental consulting experience and has conducted and/or managed hundreds of projects in his professional experience. Patrick has extensive experience conducting Phase One and Phase Two Environmental Site Assessments in support of brownfields redevelopment in urban settings, and been involved in numerous remediation projects, supported many risk assessments, and successfully filed Records of Site Condition with the Ministry of Environment, Conservation and Parks. He has conducted work across southern and eastern Ontario, and Quebec in his professional experience. Patrick is considered a Qualified Person to conduct Environmental Site Assessments as defined by Ontario Regulation 153/04 (as amended).

6.2 Signatures

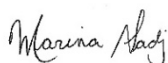
This Phase Two ESA was conducted under the supervision of Mr. Patrick (Rick) Fioravanti, B.Sc., P.Geo., QP_{ESA}, in accordance with the requirements of O.Reg. 153/04 (as amended). The findings and conclusions presented have been determined based on the information obtained at the time of the investigation, and on an assessment of the conditions of the Site at this time.

We trust this report meets with your requirements. Should you have any questions regarding the information presented, please do not hesitate to contact our office.

Yours truly,

DS Consultants Ltd

Prepared by:



Marina Nadj, BBRM, MES

Environmental Specialist

Reviewed by:



Julia Arends, B.Sc., MES.

Assistant Project Manager – Environmental



Patrick Fioravanti, B.Sc., P.Geo., QP_{ESA}

Manager – Environmental Services

6.3 Limitations

This report was prepared for the sole use of Tonlu Properties and is intended to provide an assessment of the environmental condition on the property located at 17-27 Jacobs Terrace, Barrie, Ontario. The information presented in this report is based on information collected during the completion of the Phase Two Environmental Site Assessment by DS Consultants Ltd. The material in this report reflects DS' judgment in light of the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this documents or findings, conclusions and recommendations represented herein, is at the sole risk of said users.

The conclusions drawn from the Phase Two ESA were based on information at selected observation and sampling locations. Conditions between and beyond these locations may become apparent during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. The sampling locations were chosen based upon a cursory historical search, visual observations and limited information provided by persons knowledgeable about past and current activities on this site during the Phase Two ESA activities. As such, DS Consultants Ltd. cannot be held responsible for environmental conditions at the site that was not apparent from the available information.

7.0 References

- ◆ Armstrong, D.K. and Dodge, J.E.P. *Paleozoic Geology Map of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 219.
- ◆ Chapman, L.J. and Putnam, D.F. 2007. *The Physiography of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 228.
- ◆ Freeze, R. Allen and Cherry, John A., 1979. *Ground water*. Page 29.
- ◆ Ontario Ministry of the Environment, December 1996. *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*.
- ◆ Ontario Ministry of Environment, 15 April 2011. *Soil, Ground Water and Sediment Standards for use under part XV.1 of the Environmental Protection Act*.
- ◆ Ontario Ministry of the Environment, June 2011. *Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04*.
- ◆ Ontario Ministry of the Environment, July 2011. *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*.
- ◆ The Ontario Geological Survey. 2003. *Surficial Geology of Southern Ontario*.
- ◆ "Phase I Environmental Site Assessment, 17-21 Jacobs Terrace, Barrie, ON", prepared for 2564757 Ontario Ltd., prepared by Pinchin Ltd., dated May 25, 2017 (Pinchin 2017 Phase I ESA).
- ◆ "Phase I Environmental Site Assessment, 17-21 Jacobs Terrace, Barrie, ON", prepared for Tonlu Holdings Limited c/o Rinomato Group of Companies. Prepared by prepared by Pinchin Ltd., dated November 19, 2020 (Pinchin 2020 Phase I ESA).
- ◆ "Phase One Environmental Site Assessment, 17-21 Jacobs Terrace, Barrie, ON", prepared for Tonlu Properties by prepared by DS Consultants Ltd., dated November 23, 2022 (DS 2022 Phase One ESA).



Tables



Table 1: Summary of Monitoring Well Installation and Groundwater Data

Well ID			MW21-1	MW21-2	MW21-3	MW21-4	MW21-5	MW21-6
Installed By:			DS	DS	DS	DS	DS	DS
Installation Date:			24-Jan-22	20-Jan-22	24-Jan-22	21-Jan-22	21-Jan-22	21-Jan-22
Well Status:			Active	Active	Active	Active	Active	Active
EastUTM17			603885.498	603897.024	603950.556	603888.925	603954.108	603967.265
NorthUTM17			4914050.08	4914043.93	4914067.48	4913993.38	4914030.9	4914010.43
Inner Diameter	(mm)		50	50	50	50	50	50
Surface Elevation	(masl)		229.72	230.43	229.44	230.55	229.80	229.92
Bottom of Concrete Seal/Top of Bentonite Seal	mbgs		0.00	0.00	0.00	0.00	0.00	0
	masl		229.72	230.43	229.44	230.55	229.80	229.92
Bottom of Bentonite Seal/Top of Sand Pack	mbgs		5.50	5.50	5.50	5.50	5.50	5.5
	masl		224.22	224.93	223.94	225.05	224.30	224.42
Top of Well Screen	mbgs		7.50	7.50	7.50	7.50	7.50	7.5
	masl		222.22	222.93	221.94	223.05	222.30	222.42
Well Screen Length	m		3.10	3.10	3.10	3.10	3.10	3.1
Bottom of Well Screen	mbgs		5.33	5.33	5.33	5.33	5.33	5.33
	masl		224.39	225.10	224.11	225.22	224.47	224.59
GW Monitoring								
17-Feb-22	Depth to GW	mbgs	4.38	4.06	NM	4.37	3.54	3.82
	GW Elevation	masl	225.34	226.37	NM	226.18	226.26	226.10
28-Feb-22	Depth to GW	mbgs	4.50	4.50	NM	NM	3.74	3.85
	GW Elevation	masl	225.22	225.93	NM	NM	226.06	226.07
20-May-22	Depth to GW	mbgs	4.18	4.14	3.30	3.77	3.62	NM
	GW Elevation	masl	225.54	226.29	226.14	226.78	226.18	NM
25-May-22	Depth to GW	mbgs	4.23	4.17	3.35	NM	NM	3.60
	GW Elevation	masl	225.49	226.26	226.09	NM	NM	226.32
27-May-22	Depth to GW	mbgs	4.20	4.10	3.37	4.11	3.56	3.61
	GW Elevation	masl	225.52	226.33	226.07	226.44	226.24	226.31

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 2: Summary of Soil Samples Submitted for Chemical Analysis

Borehole ID	Sample No.	Sample Depth (mbgs)	Soil Description	Parameter Analyzed	APEC Investigated
MW21-1	SS5	3.0-3.7	Silty sand	PHCs, VOCs	APEC-7
	QAQC-1				
MW21-2	SS2	0.8-1.4	Silty sand	M&I, PAHs	APEC-1
	SS5	3.0-3.7	Sand	PHCs, VOCs	APEC-7
MW21-3	SS2	0.8-1.4	Silty sand	M&I, PAHs	APEC-2
	SS5	3.0-3.7		PHCs, VOCs	APEC-7
MW21-4	SS2	0.8-1.4	Sand	M&I	APEC-7
	SS6	4.6-5.2		PHCs, VOCs	
MW21-5	SS1	0-0.6	Silty sand	PAHs	APEC-2 APEC-5 APEC-7
	SS5	3.0-3.7	Sand	PHCs, VOCs	
MW21-6	SS1	0-0.6	Sand	M&I	APEC-7
	SS6	4.6-5.2		PHCs, VOCs	
BH21-7	SS2	0.8-1.4	Sand	M&I, PAHs	APEC-7
BH21-8	SS1	0-0.6	Silty sand	M&I	APEC-7
	SS2	0.8-1.4		PAHs	
	QAQC-2				
BH21-9	SS2	0.8-1.4	Sand	M&I, PAHs	APEC-7
BH22-11	SS1	0-0.6	Silty sand	PAHs	APEC-7
BH22-13	SS1	0-0.6	Silty sand	PAHs	APEC-7
	SS3	1.5-2.1	Silty sand	PAHs	APEC-7
BH22-14	SS1	0-0.6	Silty sand	PAHs	APEC-7
BH22-15	SS1	0-0.6	Silty sand	PAHs	APEC-7



Table 2: Summary of Soil Samples Submitted for Chemical Analysis

Borehole ID	Sample No.	Sample Depth (mbgs)	Soil Description	Parameter Analyzed	APEC Investigated
BH22-13	SS3	1.5-2.1	Silty sand	PAHs	APEC-7
T1-22	S1	0-0.8	Silty sand	PAHs	APEC-7
	S2	0.8-1.5	Silty sand	PAHs	APEC-7
	S3	1.5-2.1	Silty sand	PAHs	APEC-7

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Groundwater Samples Submitted for Chemical Analysis

Well ID	Well Screen Interval (masl)			Sample Date	Parameter Analyzed	APEC Investigated
MW21-1	222.22	-	224.39	27-May-22	M+I, PHCs, VOCs, PAHs	APEC-3 APEC-4
MW21-2	222.93	-	225.10	25-May-22	M+I, PHCs, VOCs	APEC-1
				27-May-22	PAHs	
MW21-3	221.94	-	224.11	25-May-22	M+I, PHCs, VOCs	APEC-2 APEC-4
				27-May-22	PAHs	
MW21-4	223.05	-	225.22	18-Feb-22	M+I, PHCs, VOCs	APEC-3
MW21-5	222.30	-	224.47	18-Feb-22	M+I, PHCs, VOCs, PAHs	APEC-2 APEC-5 APEC-6
MW21-6	222.42	-	224.59	28-Feb-22	M+I, PHCs, VOCs	APEC-6
				27-May-22	M+I, PHCs, VOCs, PAHs	
				6-Jul-22	PAHs	
				9-Dec-22	PAHs	

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of APECs Investigated

APEC	Description	PCOCs	Media	Boreholes Within APEC	Samples Analysed	Parameter Analyzed
APEC-1	Site building A has historically been used for warehousing and distribution, and was registered for the generation and use, and/or storage waste crankcase oils and lubricants, and aromatic solvent and residues.	Metals, As, Sb, Se, Hg, PHCs, BTEX, VOCs, PAHs	Soil	MW21-2	SS2	M&I, PAHs
					SS5	PHCs, VOCs
			Groundwater	MW21-2	MW21-2	M&I, PHCs, VOCs, PAHs
APEC-2	The Site Building B was historically occupied by several autobody shops followed by a car restoration facility.	PHC, BTEX, VOCs, PAHs, metals	Soil	MW21-3	SS2	M&I, PAHs,
					SS5	PHCs, VOCs
				MW21-5	SS1	PAHs
					SS5	PHCs, VOCs
			Groundwater	MW21-3	MW21-3	M&I, PHCs, VOCs, PAHs
				MW21-5	MW21-5	M&I, PHCs, VOCs, PAHs
APEC-3	Various vehicle accessory operations were identified.	PHCs, VOCs, metals	Groundwater	MW21-1	MW21-1	M&I, PHCs, VOCs, PAHs
				MW21-4	MW21-4	M&I, PHCs, VOCs
APEC-4	Seasonal application of de-icing salts for vehicle and pedestrian safety is anticipated on Jacobs Terrace.	Na, Cl-	Groundwater	MW21-1	MW21-1	M&I, PHCs, VOCs, PAHs
	During the Site reconnaissance, a railway line was observed to the north of the Site.			MW21-3	MW21-3	M&I, PHCs, VOCs, PAHs
APEC-5	Based on previous reports reviewed, a fuel oil AST was present on the Phase One Property. During the Site reconnaissance, the former AST was observed to be still on the Site but disconnected.	PHCs, BTEX, PAHs	Soil	MW21-5	SS1	PAHs
					SS5	PHCs, VOCs
			Groundwater	MW21-5	MW21-5	M&I, PHCs, VOCs, PAHs



Table 4: Summary of APECs Investigated

APEC	Description	PCOCs	Media	Boreholes Within APEC	Samples Analysed	Parameter Analyzed
APEC-6	280 Innisfil Street, east adjacent to the Site, was occupied by Done Right Auto Care at the time of the Site reconnaissance.	PHCs, VOCs, metals	Groundwater	MW21-5	MW21-5	M+I, PHCs, VOCs, PAHs
	A truck maintenance garage and two (2) diesel USTs were depicted on the 1971 FIP.			MW21-6	MW21-6	M+I, PHCs, VOCs, PAHs
APEC-7	Fill material may have been used to backfill the structures historically present on the northeastern portion of the Site, and potentially for grading purposes at the time of development of the current Site Buildings.	Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW21-1	SS5	PHCs, VOCs
					QAQC-1	
				MW21-2	SS2	M&I, PAHs
					SS5	PHCs, VOCs
				MW21-3	SS2	M&I, PAHs
					SS5	PHCs, VOCs
				MW21-4	SS2	M&I
					SS6	PHCs, VOCs
				MW21-5	SS1	PAHs
					SS5	PHCs, VOCs
				MW21-6	SS1	M&I
					SS6	PHCs, VOCs
				BH21-7	SS2	M&I, PAHs
				BH21-8	SS1	M&I
					SS2	PAHs
					QAQC-2	
				BH21-9	SS2	M&I, PAHs

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Table 5: Summary of Metals and ORPs in Soil

Parameter	MECP Table 2 SCS	MW21-2 SS2	MW21-3 SS2	MW21-4 SS2	MW21-6 SS1	BH21-7 SS2	BH21-8 SS1
Date of Collection		20-Jan-22	24-Jan-22	21-Jan-22	21-Jan-22	20-Jan-22	24-Jan-22
Date Reported		1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22
Sampling Depth (mbgs)		0.8-1.4	0.8-1.4	0.8-1.4	0-0.6	0.8-1.4	0-0.6
Analytical Report Reference No.		C220369 / RRV887	C220369 / RRV889	C220369 / RRV891	C220369 / RRV895	C220369 / RRV897	C220369 / RRV898
Antimony	7.5	<0.20	<0.20	<0.20	0.21	<0.20	<0.20
Arsenic	18	1.2	<1.0	<1.0	3.8	<1.0	1.5
Barium	390	27	10	15	28	13	19
Beryllium	4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Boron	120	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium	1.2	0.17	<0.10	<0.10	0.17	<0.10	0.19
Chromium	160	8.3	9.7	9.1	10	7.7	9.3
Cobalt	22	2	2.1	2.1	2.7	2	2
Copper	140	6.7	2.1	2.7	7.6	1.8	5.9
Lead	120	27	3.1	1.4	13	1.3	14
Molybdenum	6.9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Nickel	100	3.3	3.7	3.6	4.9	3.5	3.2
Selenium	2.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Silver	20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium	1	<0.050	<0.050	<0.050	0.078	<0.050	<0.050
Uranium	23	0.26	0.3	0.34	0.32	0.32	0.24
Vanadium	86	22	27	28	25	20	23
Zinc	340	31	11	7.3	36	7.3	46
Boron (Hot Water Soluble)	1.5	0.26	0.27	0.08	0.25	<0.050	0.13
Cyanide	0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity (2:1)	0.7	0.17	0.3	0.084	0.17	0.14	1.2
Chromium VI	8	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Mercury	0.27	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Sodium Adsorption Ratio	5	0.23	1.4	3.1	0.27	1.5	15
pH, 2:1 CaCl2 Extraction	NV	7.38	6.38	7.14	7.6	7.68	7.49

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Table 5: Summary of Metals and ORPs in Soil

Parameter	MECP Table 2 SCS	BH21-9 SS2
Date of Collection		20-Jan-22
Date Reported		1-Feb-22
Sampling Depth (mbgs)		0.8-1.4
Analytical Report Reference No.		C220369 / RRV900
Antimony	7.5	<0.20
Arsenic	18	<1.0
Barium	390	14
Beryllium	4	<0.20
Boron	120	<5.0
Cadmium	1.2	<0.10
Chromium	160	8.4
Cobalt	22	2.1
Copper	140	1.9
Lead	120	1.4
Molybdenum	6.9	<0.50
Nickel	100	3.7
Selenium	2.4	<0.50
Silver	20	<0.20
Thallium	1	<0.050
Uranium	23	0.32
Vanadium	86	23
Zinc	340	7.6
Boron (Hot Water Soluble)	1.5	0.052
Cyanide	0.051	<0.01
Electrical Conductivity (2:1)	0.7	0.14
Chromium VI	8	<0.18
Mercury	0.27	<0.050
Sodium Adsorption Ratio	5	0.9
pH, 2:1 CaCl2 Extraction	NV	7.6

For Table Notes see **Notes for Soil and Groundwater Sum**



Table 6: Summary of PHCs in Soil

Parameter	MECP Table 2 SCS	MW21-1 SS5	MW21-1 SS5 QAQC-1	MW21-2 SS5	MW21-3 SS5	MW21-4 SS6	MW21-5 SS5	MW21-6 SS6
Date of Collection		24-Jan-22	24-Jan-22	20-Jan-22	24-Jan-22	21-Jan-22	21-Jan-22	21-Jan-22
Date Reported		1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22
Sampling Depth (mbgs)		3.0-3.7	3.0-3.7	3.0-3.7	3.0-3.7	4.6-5.2	3.0-3.7	4.6-5.2
Analytical Report Reference No.		C220369 / RRV886	C220369 / RRV901	C220369 / RRV888	C220369 / RRV890	C220369 / RRV892	C220369 / RRV894	C220369 / RRV896
Benzene	0.21	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060
Ethylbenzene	1.1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Toluene	2.3	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylenes (Total)	3.1	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
F1 (C6-C10) -BTEX	55	<10	<10	<10	<10	<10	<10	<10
F2 (C10-C16)	98	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	300	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	2800	<50	<50	<50	<50	<50	<50	<50

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 7: Summary of VOCs in Soil

Parameter	MECP Table 2 SCS	MW21-1 SS5	MW21-1 SS5 QAQC-1	MW21-2 SS5	MW21-3 SS5
Date of Collection		24-Jan-22	24-Jan-22	20-Jan-22	24-Jan-22
Date Reported		1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22
Sampling Depth (mbgs)		3.0-3.7	3.0-3.7	3.0-3.7	3.0-3.7
Analytical Report Reference No.		C220369 / RRV886	C220369 / RRV901	C220369 / RRV888	C220369 / RRV890
Acetone	16	<0.49	<0.49	<0.49	<0.49
Bromodichloromethane	1.5	<0.040	<0.040	<0.040	<0.040
Bromoform	0.27	<0.040	<0.040	<0.040	<0.040
Bromomethane	0.05	<0.040	<0.040	<0.040	<0.040
Carbon Tetrachloride	0.05	<0.040	<0.040	<0.040	<0.040
Chlorobenzene	2.4	<0.040	<0.040	<0.040	<0.040
Chloroform	0.05	<0.040	<0.040	<0.040	<0.040
Dibromochloromethane	2.3	<0.040	<0.040	<0.040	<0.040
Dichlorobenzene, 1,2-	1.2	<0.040	<0.040	<0.040	<0.040
Dichlorobenzene, 1,3-	4.8	<0.040	<0.040	<0.040	<0.040
Dichlorobenzene, 1,4-	0.083	<0.040	<0.040	<0.040	<0.040
Dichlorodifluoromethane	16	<0.040	<0.040	<0.040	<0.040
Dichloroethane, 1,1-	0.47	<0.040	<0.040	<0.040	<0.040
Dichloroethane, 1,2-	0.05	<0.049	<0.049	<0.049	<0.049
Dichloroethylene, 1,1-	0.05	<0.040	<0.040	<0.040	<0.040
Dichloroethylene, 1,2-cis-	1.9	<0.040	<0.040	<0.040	<0.040
Dichloroethylene, 1,2-trans-	0.084	<0.040	<0.040	<0.040	<0.040
Dichloropropane, 1,2-	0.05	<0.040	<0.040	<0.040	<0.040
Dichloropropene, 1,3-	0.05	<0.050	<0.050	<0.050	<0.050
Ethylene dibromide	0.05	<0.040	<0.040	<0.040	<0.040
Hexane (n)	2.8	<0.040	<0.040	<0.040	<0.040
Methyl Ethyl Ketone (MEK)	16	<0.40	<0.40	<0.40	<0.40
Methyl Isobutyl Ketone (MIBK)	1.7	<0.40	<0.40	<0.40	<0.40
Methyl tert-Butyl Ether (MTBE)	0.75	<0.040	<0.040	<0.040	<0.040
Methylene Chloride	0.1	<0.049	<0.049	<0.049	<0.049
Styrene	0.7	<0.040	<0.040	<0.040	<0.040
Tetrachloroethane, 1,1,1,2-	0.058	<0.040	<0.040	<0.040	<0.040
Tetrachloroethane, 1,1,2,2-	0.05	<0.040	<0.040	<0.040	<0.040
Tetrachloroethylene	0.28	<0.040	<0.040	<0.040	<0.040
Trichloroethane, 1,1,1-	0.38	<0.040	<0.040	<0.040	<0.040
Trichloroethane, 1,1,2-	0.05	<0.040	<0.040	<0.040	<0.040
Trichloroethylene	0.061	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	4	<0.040	<0.040	<0.040	<0.040
Vinyl Chloride	0.02	<0.019	<0.019	<0.019	<0.019

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 7: Summary of VOCs in Soil

Parameter	MW21-4 SS6	MW21-5 SS5	MW21-6 SS6
Date of Collection	21-Jan-22	21-Jan-22	21-Jan-22
Date Reported	1-Feb-22	1-Feb-22	1-Feb-22
Sampling Depth (mbgs)	4.6-5.2	3.0-3.7	4.6-5.2
Analytical Report Reference No.	C220369 / RRV892	C220369 / RRV894	C220369 / RRV896
Acetone	<0.49	<0.49	<0.49
Bromodichloromethane	<0.040	<0.040	<0.040
Bromoform	<0.040	<0.040	<0.040
Bromomethane	<0.040	<0.040	<0.040
Carbon Tetrachloride	<0.040	<0.040	<0.040
Chlorobenzene	<0.040	<0.040	<0.040
Chloroform	<0.040	<0.040	<0.040
Dibromochloromethane	<0.040	<0.040	<0.040
Dichlorobenzene, 1,2-	<0.040	<0.040	<0.040
Dichlorobenzene, 1,3-	<0.040	<0.040	<0.040
Dichlorobenzene, 1,4-	<0.040	<0.040	<0.040
Dichlorodifluoromethane	<0.040	<0.040	<0.040
Dichloroethane, 1,1-	<0.040	<0.040	<0.040
Dichloroethane, 1,2-	<0.049	<0.049	<0.049
Dichloroethylene, 1,1-	<0.040	<0.040	<0.040
Dichloroethylene, 1,2-cis-	<0.040	<0.040	<0.040
Dichloroethylene, 1,2-trans-	<0.040	<0.040	<0.040
Dichloropropane, 1,2-	<0.040	<0.040	<0.040
Dichloropropene, 1,3-	<0.050	<0.050	<0.050
Ethylene dibromide	<0.040	<0.040	<0.040
Hexane (n)	<0.040	<0.040	<0.040
Methyl Ethyl Ketone (MEK)	<0.40	<0.40	<0.40
Methyl Isobutyl Ketone (MIBK)	<0.40	<0.40	<0.40
Methyl tert-Butyl Ether (MTBE)	<0.040	<0.040	<0.040
Methylene Chloride	<0.049	<0.049	<0.049
Styrene	<0.040	<0.040	<0.040
Tetrachloroethane, 1,1,1,2-	<0.040	<0.040	<0.040
Tetrachloroethane, 1,1,2,2-	<0.040	<0.040	<0.040
Tetrachloroethylene	<0.040	<0.040	<0.040
Trichloroethane, 1,1,1-	<0.040	<0.040	<0.040
Trichloroethane, 1,1,2-	<0.040	<0.040	<0.040
Trichloroethylene	<0.010	<0.010	<0.010
Trichlorofluoromethane	<0.040	<0.040	<0.040
Vinyl Chloride	<0.019	<0.019	<0.019

For Table Notes see **Notes for Soil and Groundwater**
Summary Tables, included at the end of this



Table 8: Summary of PAHs in Soil

Parameter		MW21-2 SS2	MW21-3 SS2	MW21-4 SS2	MW21-5 SS1	BH21-7 SS2	BH21-8 SS2	BH21-8 SS2 QAQC-2	BH21-9 SS2
Date of Collection	MECP Table 2 SCS	20-Jan-22	24-Jan-22	21-Jan-22	21-Jan-22	20-Jan-22	24-Jan-22	24-Jan-22	20-Jan-22
Date Reported		1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22	1-Feb-22
Sampling Depth (mbgs)		0.8-1.4	0.8-1.4	0.8-1.4	0-0.6	0.8-1.4	0.8-1.4	0.8-1.4	0.8-1.4
Analytical Report Reference No.		C220369	C220369	C220369	C220369	C220369	C220369	C220369	C220369
Acenaphthene	7.9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.11	<0.0050
Acenaphthylene	0.15	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.021	<0.0050
Anthracene	0.67	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.24	<0.0050
Benz(a)anthracene	0.5	0.0085	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.38	<0.0050
Benzo(a)pyrene	0.3	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.28	<0.0050
Benzo(b+j)fluoranthene	0.78	0.021	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.38	<0.0050
Benzo(g,h,i)perylene	6.6	0.013	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.14	<0.0050
Benzo(k)fluoranthene	0.78	0.0057	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.14	<0.0050
Chrysene	7	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.31	<0.0050
Dibenz(a,h)anthracene	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.043	<0.0050
Fluoranthene	0.69	0.019	0.0059	<0.0050	<0.0050	<0.0050	<0.0050	0.99	<0.0050
Fluorene	62	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.13	<0.0050
Indeno(1,2,3-cd)pyrene	0.38	0.012	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.17	<0.0050
Methylnaphthalene, 2-(1-)	0.99	0.03	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.048	<0.0071
Naphthalene	0.6	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.032	<0.0050
Phenanthrene	6.2	0.016	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.95	<0.0050
Pyrene	78	0.016	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.69	<0.0050

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 8: Summary of PAHs in Soil

Parameter		BH22-11 SS1	BH22-13 SS1	BH22-13 SS3	BH22-14 SS1	BH22-15 SS1	BH22-15 SS3	T1-22 S1	T1-22 S2	T1-22 S3
Date of Collection	MECP Table 2 SCS	25-Oct-22	25-Oct-22	25-Nov-22	25-Oct-22	25-Oct-22	25-Nov-22	8-Dec-22	8-Dec-22	8-Dec-22
Date Reported		31-Oct-22	31-Oct-22	2-Dec-22	31-Oct-22	31-Oct-22	2-Dec-22	15-Dec-22	15-Dec-22	15-Dec-22
Sampling Depth (mbgs)		0.0 - 0.6	0.0 - 0.6	1.5 - 2.1	0.0 - 0.6	0.0 - 0.6	1.5 - 2.1	0.0 - 0.6	0.8-1.4	1.5 - 2.1
Analytical Report Reference No.		C2V1531	C2V1531	C2Z0408	C2V1531	C2V1531	C2Z0408	C2AB189	C2AB189	C2AB189
Acenaphthene	7.9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	0.15	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene	0.67	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benz(a)anthracene	0.5	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(a)pyrene	0.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0061	<0.0050
Benzo(b+j)fluoranthene	0.78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0051	0.0091	<0.0050
Benzo(g,h,i)perylene	6.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.014	0.014	<0.0050
Benzo(k)fluoranthene	0.78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Chrysene	7	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dibenz(a,h)anthracene	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	0.69	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0061	<0.0050
Fluorene	62	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	0.38	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0051	0.0068	<0.0050
Methylnaphthalene, 2-(1-)	0.99	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071
Naphthalene	0.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Phenanthrene	6.2	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Pyrene	78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0095	<0.0050

For Table Notes see **Notes for Soil and Groundwater Sum**



Table 9: Summary of Metals and ORPs in Groundwater

Parameter	MECP Table 2 SCS	MW21-1	MW21-2	MW21-3	MW21-4	MW21-5	MW21-5	MW21-6	MW21-6
Date of Collection		27-May-22	25-May-22	25-May-22	18-Feb-22	18-Feb-22	28-Feb-22	28-Feb-22	27-May-22
Date Reported		6-Jun-22	6-Jun-22	6-Jun-22	28-Feb-22	28-Feb-22	7-Mar-22	7-Mar-22	6-Jun-22
Screen Interval (mbgs)		2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3
Analytical Report Reference No.		C2E5303 / SSZ662	C2E5303 / SSZ667	C2E5303 / SSZ668	C244863 / RWZ510	C244863 / RWZ509	C252750 / RYT869	C252750 / RYT872	C2E5303 / SSZ665
Antimony	6	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50
Arsenic	25	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0
Barium	1000	49	52	77	88	91	-	19	26
Beryllium	4	<0.40	<0.40	<0.40	<0.40	<0.40	-	<0.40	<0.40
Boron (total)	5000	<10	21	38	<10	<10	-	49	29
Cadmium	2.7	<0.090	<0.090	<0.090	<0.090	<0.090	-	<0.090	<0.090
Chromium Total	50	<5.0	<5.0	<5.0	<5.0	<5.0	-	<5.0	<5.0
Cobalt	3.8	<0.50	<0.50	<0.50	0.88	1.2	-	<0.50	<0.50
Copper	87	1.9	0.91	<0.90	2.1	2.8	-	5.4	<0.90
Lead	10	<0.50	<0.50	<0.50	<0.50	<0.50	-	<0.50	<0.50
Molybdenum	70	<0.50	0.82	<0.50	<0.50	<0.50	-	1.4	0.69
Nickel	100	<1.0	<1.0	<1.0	1.3	1.9	-	7.8	<1.0
Selenium	10	<2.0	<2.0	<2.0	<2.0	<2.0	-	2	<2.0
Silver	1.5	<0.090	<0.090	<0.090	<0.090	<0.090	-	<0.090	<0.090
Thallium	2	<0.050	<0.050	<0.050	<0.050	<0.050	-	<0.050	<0.050
Uranium	20	0.15	0.39	<0.10	0.45	0.5	-	0.34	0.49
Vanadium	6.2	<0.50	0.62	<0.50	0.79	1.3	-	<0.50	<0.50
Zinc	1100	6.4	7.1	<5.0	<5.0	5.1	-	<5.0	5.9
Sodium	490000	170000	190000	92000	760000	800000	-	53000	62000
Chloride	790	330	310	520	840	690	-	50	180
Cyanide	66	5	1	<1	7	<1	-	<1	<1
Hexavalent Chromium (CrVI)	25	1	1.9	0.68	2.2	1.2	-	0.71	<0.50
Mercury	0.29	<0.10	<0.10	<0.10	<0.10	-	<0.10	<0.10	<0.10

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Table 10: Summary of PHCs in Groundwater

Parameter	MECP Table 2 SCS	MW21-1	MW21-2	MW21-3	MW21-4	MW21-5	MW21-6	MW21-6 DUP-7	MW21-6	MW21-6 DUP-1
Date of Collection		27-May-22	25-May-22	25-May-22	18-Feb-22	18-Feb-22	28-Feb-22	28-Feb-22	27-May-22	27-May-22
Date Reported		6-Jun-22	6-Jun-22	6-Jun-22	28-Feb-22	28-Feb-22	7-Mar-22	7-Mar-22	6-Jun-22	6-Jun-22
Screen Interval (mbgs)		2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3
Analytical Report Reference No.		C2E5303 / SSZ666	C2E5303 / SSZ663	C2E5303 / SSZ664	C244863 / RWZ510	C244863 / RWZ509	C252750 / RYT872	C252750 / RYT872	C2E5303 / SSZ665	C2E5303 / SSZ669
Benzene	5	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Ethylbenzene	2.4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	24	<0.20	<0.20	<0.20	<0.20	0.47	<0.20	<0.20	<0.20	<0.20
Xylenes (Total)	300	<0.20	<0.20	<0.20	<0.20	0.23	<0.20	<0.20	<0.20	<0.20
F1 (C6 to C10) minus BTEX	750	<25	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	150	<100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	500	<200	<200	<200	320	360	<200	<200	<200	260
F4 (C34 to C50)	500	<200	<200	<200	<200	270	<200	<200	<200	<200

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 10: Summary of PHCs in Groundwater

Parameter	MECP Table 2 SCS	Trip Blank	Trip Blank	Trip Blank
Date of Collection		18-Feb-22	28-Feb-22	27-May-22
Date Reported		28-Feb-22	7-Mar-22	6-Jun-22
Screen Interval (mbgs)		-	-	-
Analytical Report Reference No.		C244863 / RWZ511	C252750 / RYT870	C2E5303 / SSZ670
Benzene	5	<0.20	<0.20	<0.17
Ethylbenzene	2.4	<0.20	<0.20	<0.20
Toluene	24	<0.20	<0.20	<0.20
Xylenes (Total)	300	<0.20	<0.20	<0.20
F1 (C6 to C10) minus BTEX	750	-	-	<25
F2 (C10 to C16)	150	-	-	-
F3 (C16 to C34)	500	-	-	-
F4 (C34 to C50)	500	-	-	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 11: Summary of VOCs in Groundwater

Parameter	MECP Table 2 SCS	MW21-1	MW21-2	MW21-3	MW21-4	MW21-5	MW21-6
Date of Collection		27-May-22	25-May-22	25-May-22	18-Feb-22	18-Feb-22	28-Feb-22
Date Reported		6-Jun-22	6-Jun-22	6-Jun-22	28-Feb-22	28-Feb-22	7-Mar-22
Screen Interval (mbgs)		2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3
Analytical Report Reference No.		C2E5303 / SSZ666	C2E5303 / SSZ663	C2E5303 / SSZ664	C244863 / RWZ510	C244863 / RWZ509	C252750 / RYT872
Acetone	2700	<10	<10	<10	<10	<10	<10
Bromodichloromethane	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	0.89	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	0.79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	2.4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	25	<0.50	<0.51	<0.52	<0.53	<0.54	<0.55
Dichlorobenzene, 1,2-	3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	59	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	590	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichloroethane, 1,1-	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethylene, 1,2-cis-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,2-trans-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2-	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloropropene, 1,3-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylene dibromide	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane (n)	51	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone	1800	<10	<10	<10	<10	<10	<10
Methyl Isobutyl Ketone	640	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-Butyl Ether (MTBE)	15	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride	50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	5.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,2,2-	1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,1-	200	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,2-	4.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	150	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl Chloride	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 11: Summary of VOCs in Groundwater

Parameter	MECP Table 2 SCS	MW21-6 DUP-7	MW21-6	MW21-6 DUP-1	Trip Blank	Trip Blank	Trip Blank
Date of Collection		28-Feb-22	27-May-22	27-May-22	18-Feb-22	28-Feb-22	27-May-22
Date Reported		7-Mar-22	6-Jun-22	6-Jun-22	28-Feb-22	7-Mar-22	6-Jun-22
Screen Interval (mbgs)		2.3-5.3	2.3-5.3	2.3-5.3	-	-	-
Analytical Report Reference No.		C252750 / RYT872	C2E5303 / SSZ665	C2E5303 / SSZ669	C244863 / RWZ511	C252750 / RYT870	C2E5303 / SSZ670
Acetone	2700	<10	<10	<10	<10	<10	<10
Bromodichloromethane	16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	0.89	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	0.79	<0.20	<0.20	<0.20	<0.19	<0.19	<0.20
Chlorobenzene	30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	2.4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	25	<0.56	<0.57	<0.58	<0.59	<0.60	<0.50
Dichlorobenzene, 1,2-	3	<0.50	<0.50	<0.50	<0.40	<0.40	<0.50
Dichlorobenzene, 1,3-	59	<0.50	<0.50	<0.50	<0.40	<0.40	<0.50
Dichlorobenzene, 1,4-	1	<0.50	<0.50	<0.50	<0.40	<0.40	<0.50
Dichlorodifluoromethane	590	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichloroethane, 1,1-	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	1.6	<0.50	<0.50	<0.50	<0.49	<0.49	<0.50
Dichloroethylene, 1,1-	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethylene, 1,2-cis-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,2-trans-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2-	5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloropropene, 1,3-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylene dibromide	0.2	<0.20	<0.20	<0.20	<0.19	<0.19	<0.20
Hexane (n)	51	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone	1800	<10	<10	<10	<10	<10	<10
Methyl Isobutyl Ketone	640	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl tert-Butyl Ether (MTBE)	15	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride	50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Styrene	5.4	<0.50	<0.50	<0.50	<0.40	<0.40	<0.50
Tetrachloroethane, 1,1,1,2-	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,2,2-	1	<0.50	<0.50	<0.50	<0.40	<0.40	<0.50
Tetrachloroethylene	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,1-	200	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethane, 1,1,2-	4.7	<0.50	<0.50	<0.50	<0.40	<0.40	<0.50
Trichloroethylene	1.6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	150	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl Chloride	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

For Table Notes see **Notes for Soil and Groundw**

Table 12: Summary of PAHs in Groundwater

Parameter	MECP Table 2 SCS	MW21-1	MW21-2	MW21-3	MW21-5	MW21-6	MW21-6 DUP-1	MW21-6	MW21-6 DUPE	MW 21-6	MW 21-6 DUP 1
Date of Collection		27-May-22	27-May-22	27-May-22	18-Feb-22	27-May-22	27-May-22	6-Jul-22	6-Jul-22	9-Dec-22	9-Dec-22
Date Reported		6-Jun-22	6-Jun-22	6-Jun-22	28-Feb-22	6-Jun-22	6-Jun-22	14-Jul-22	14-Jul-22	17-Dec-22	17-Dec-22
Screen Interval (mbgs)		2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3
Analytical Report Reference No.		C2E5303	C2E5303	C2E5303	C2E5303	C2E5303	C2E5303	C2I7319	C2I7319	C2AC894	C2AC894
Acenaphthene	4.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	2.4	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	0.01	<0.0090	<0.0090	<0.0090	0.012	0.014	0.019	<0.0090	<0.0090	<0.0090	<0.0090
Benzo(b/j)fluoranthene	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(ghi)perylene	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenzo(a,h)anthracene	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	0.41	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	120	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	0.2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 2-(1-)	3.2	<0.071	<0.071	<0.071	0.15	<0.071	<0.071	<0.071	<0.071	<0.071	<0.071
Naphthalene	11	<0.050	<0.050	<0.050	0.056	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	1	<0.030	<0.030	<0.030	0.039	<0.030	0.03	<0.030	<0.030	<0.030	<0.030
Pyrene	4.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 13: Summary of Maximum Concentrations in Soil

	Parameter	Standard	Maximum Concentration	Location
Metals and ORPs	Antimony	7.5	0.21	MW21-6 SS1
	Arsenic	18	3.8	MW21-6 SS1
	Barium	390	28	MW21-6 SS1
	Beryllium	4	<0.20	All Samples
	Boron	120	<5.0	All Samples
	Cadmium	1.2	0.19	BH21-8 SS1
	Chromium	160	10	MW21-6 SS1
	Cobalt	22	2.7	MW21-6 SS1
	Copper	140	7.6	MW21-6 SS1
	Lead	120	27	MW21-2 SS2
	Molybdenum	6.9	<0.50	All Samples
	Nickel	100	4.9	MW21-6 SS1
	Selenium	2.4	<0.50	All Samples
	Silver	20	<0.20	All Samples
	Thallium	1	0.078	MW21-6 SS1
	Uranium	23	0.34	MW21-4 SS2
	Vanadium	86	28	MW21-4 SS2
	Zinc	340	46	BH21-8 SS1
	Boron (Hot Water Soluble)	1.5	0.08	MW21-4 SS2
	Cyanide	0.051	<0.01	All Samples
	Electrical Conductivity (2:1)	0.7	1.2	MW21-8 SS1
	Chromium VI	8	<0.18	All Samples
	Mercury	0.27	<0.050	All Samples
	Sodium Adsorption Ratio	5	15	MW21-8 SS1
	pH, 2:1 CaCl2 Extraction	NV	7.68	BH21-7 SS2
PHCs	Benzene	0.21	<0.0060	All Samples
	Ethylbenzene	1.1	<0.010	All Samples
	Toluene	2.3	<0.020	All Samples
	Xylenes (Total)	3.1	<0.020	All Samples
	F1 (C6-C10) -BTEX	55	<10	All Samples
	F2 (C10-C16)	98	<10	All Samples
	F3 (C16-C34)	300	<50	All Samples
	F4 (C34-C50)	2800	<50	All Samples
	Acetone	16	<0.49	All Samples
	Bromomethane	0.05	<0.040	All Samples
	Carbon Tetrachloride	0.05	<0.040	All Samples
	Chlorobenzene	2.4	<0.040	All Samples
	Chloroform	0.05	<0.040	All Samples
	Dichlorobenzene, 1,2-	1.2	<0.040	All Samples
	Dichlorobenzene, 1,3-	4.8	<0.040	All Samples
	Dichlorobenzene, 1,4-	0.083	<0.040	All Samples
	Dichlorodifluoromethane	16	<0.040	All Samples
	Dichloroethane, 1,1-	0.47	<0.040	All Samples
	Dichloroethane, 1,2-	0.05	<0.049	All Samples
	Dichloroethylene, 1,1-	0.05	<0.040	All Samples



Table 13: Summary of Maximum Concentrations in Soil

	Parameter	Standard	Maximum Concentration	Location
VOCs	Dichloroethylene, 1,2-cis-	1.9	<0.040	All Samples
	Dichloroethylene, 1,2-trans-	0.084	<0.040	All Samples
	Dichloropropane, 1,2-	0.05	<0.040	All Samples
	Dichloropropene, 1,3-	0.05	<0.050	All Samples
	Ethylene dibromide	0.05	<0.040	All Samples
	Hexane (n)	2.8	<0.040	All Samples
	Methyl Ethyl Ketone (MEK)	16	<0.40	All Samples
	Methyl Isobutyl Ketone (MIBK)	1.7	<0.40	All Samples
	Methyl tert-Butyl Ether (MTBE)	0.75	<0.040	All Samples
	Methylene Chloride	0.1	<0.049	All Samples
	Styrene	0.7	<0.040	All Samples
	Tetrachloroethane, 1,1,1,2-	0.058	<0.040	All Samples
	Tetrachloroethane, 1,1,2,2-	0.05	<0.040	All Samples
	Tetrachloroethylene	0.28	<0.040	All Samples
	Trichloroethane, 1,1,1-	0.38	<0.040	All Samples
	Trichloroethane, 1,1,2-	0.05	<0.040	All Samples
	Trichloroethylene	0.061	<0.010	All Samples
	Trichlorofluoromethane	4	<0.040	All Samples
	Vinyl Chloride	0.02	<0.019	All Samples
	Acenaphthene	7.9	0.11	BH21-8 SS2QAQC-2
	Acenaphthylene	0.15	0.021	BH21-8 SS2QAQC-2
	Anthracene	0.67	0.24	BH21-8 SS2QAQC-2
	Benz(a)anthracene	0.5	0.38	BH21-8 SS2QAQC-2
	Benzo(a)pyrene	0.3	0.28	BH21-8 SS2QAQC-2
	Benzo(b+j)fluoranthene	0.78	0.38	BH21-8 SS2QAQC-2
	Benzo(g,h,i)perylene	6.6	0.14	BH21-8 SS2QAQC-2
	Benzo(k)fluoranthene	0.78	0.14	BH21-8 SS2QAQC-2
	Chrysene	7	0.31	BH21-8 SS2QAQC-2
	Dibenz(a,h)anthracene	0.1	0.043	BH21-8 SS2QAQC-2
	Fluoranthene	0.69	0.99	BH21-8 SS2QAQC-2
	Fluorene	62	0.13	BH21-8 SS2QAQC-2
	Indeno(1,2,3-cd)pyrene	0.38	0.17	BH21-8 SS2QAQC-2
	Methylnaphthalene, 2-(1-)	0.99	0.048	BH21-8 SS2QAQC-2
	Naphthalene	0.6	0.032	BH21-8 SS2QAQC-2
	Phenanthrene	6.2	0.95	BH21-8 SS2QAQC-2
	Pyrene	78	0.69	BH21-8 SS2QAQC-2



Table 14: Summary of Maximum Concentrations in Groundwater

	Parameter	Standard	Maximum Concentration	Location
Metals and ORPs	Antimony	6	<0.50	All Samples
	Arsenic	25	<1.0	All Samples
	Barium	1000	91	MW21-5
	Beryllium	4	<0.40	All Samples
	Boron (total)	5000	49	MW21-6
	Cadmium	2.7	<0.090	All Samples
	Chromium Total	50	<5.0	All Samples
	Cobalt	3.8	1.2	MW21-5
	Copper	87	5.4	MW21-6
	Lead	10	<0.50	All Samples
	Molybdenum	70	1.4	MW21-6
	Nickel	100	7.8	MW21-6
	Selenium	10	2	MW21-6
	Silver	1.5	<0.090	All Samples
	Thallium	2	<0.050	All Samples
	Uranium	20	0.5	MW21-5
	Vanadium	6.2	1.3	MW21-5
	Zinc	1100	7.1	MW21-2
	Sodium	#N/A	800000	MW21-5
	Chloride	#N/A	840	MW21-4
	Cyanide	#N/A	7	MW21-4
PHCs	Hexavalent Chromium (CrVI)	#N/A	1.9	MW21-2
	Mercury	#N/A	<0.10	All Samples
	Benzene	5	<0.17	All Samples
	Ethylbenzene	2.4	<0.20	All Samples
	Toluene	24	0.47	MW21-5
	Xylenes (Total)	300	0.23	MW21-5
	F1 (C6 to C10) minus BTEX	750	<25	All Samples
	F2 (C10 to C16)	150	<100	All Samples
	F3 (C16 to C34)	500	360	MW21-5
	F4 (C34 to C50)	500	270	MW21-5
	Acetone	2700	<10	All Samples
	Bromomethane	0.89	<0.50	All Samples
	Carbon Tetrachloride	0.79	<0.20	All Samples
	Chlorobenzene	30	<0.20	All Samples
	Chloroform	2.4	<0.20	All Samples
	Dichlorobenzene, 1,2-	3	<0.50	All Samples
	Dichlorobenzene, 1,3-	59	<0.50	All Samples
	Dichlorobenzene, 1,4-	1	<0.50	All Samples
	Dichlorodifluoromethane	590	<1.0	All Samples
	Dichloroethane, 1,1-	5	<0.20	All Samples
	Dichloroethane, 1,2-	1.6	<0.50	All Samples
	Dichloroethylene, 1,1-	1.6	<0.20	All Samples
	Dichloroethylene, 1,2-cis-	1.6	<0.50	All Samples
	Dichloroethylene, 1,2-trans-	1.6	<0.50	All Samples



Table 14: Summary of Maximum Concentrations in Groundwater

	Parameter	Standard	Maximum Concentration	Location
VOCs	Dichloropropane, 1,2-	5	<0.20	All Samples
	Dichloropropene, 1,3-	0.5	<0.50	All Samples
	Ethylene dibromide	0.2	<0.20	All Samples
	Hexane (n)	51	<1.0	All Samples
	Methyl Ethyl Ketone	1800	<10	All Samples
	Methyl Isobutyl Ketone	640	<5.0	All Samples
	Methyl tert-Butyl Ether (MTBE)	15	<0.50	All Samples
	Methylene Chloride	50	<2.0	All Samples
	Styrene	5.4	<0.50	All Samples
	Tetrachloroethane, 1,1,1,2-	1.1	<0.50	All Samples
	Tetrachloroethane, 1,1,2,2-	1	<0.50	All Samples
	Tetrachloroethylene	1.6	<0.20	All Samples
	Trichloroethane, 1,1,1-	200	<0.20	All Samples
	Trichloroethane, 1,1,2-	4.7	<0.50	All Samples
	Trichloroethylene	1.6	<0.20	All Samples
	Trichlorofluoromethane	150	<0.50	All Samples
	Vinyl Chloride	0.5	<0.20	All Samples
PAHs	Acenaphthene	600	<0.050	All Samples
	Acenaphthylene	1.8	<0.050	All Samples
	Anthracene	2.4	<0.050	All Samples
	Benzo(a)anthracene	4.7	<0.050	All Samples
	Benzo(a)pyrene	0.81	0.019	MW21-6 DUP-1
	Benzo(b/j)fluoranthene	0.75	<0.050	All Samples
	Benzo(ghi)perylene	0.2	<0.050	All Samples
	Benzo(k)fluoranthene	0.4	<0.050	All Samples
	Chrysene	1	<0.050	All Samples
	Dibenzo(a,h)anthracene	0.52	<0.050	All Samples
	Fluoranthene	130	<0.050	All Samples
	Fluorene	400	<0.050	All Samples
	Indeno(1,2,3-cd)pyrene	0.2	<0.050	All Samples
	Methylnaphthalene, 2-(1-)	1800	0.15	MW21-5
	Naphthalene	1400	0.056	MW21-5
	Phenanthrene	580	0.039	MW21-5
	Pyrene	68	<0.050	All Samples

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section

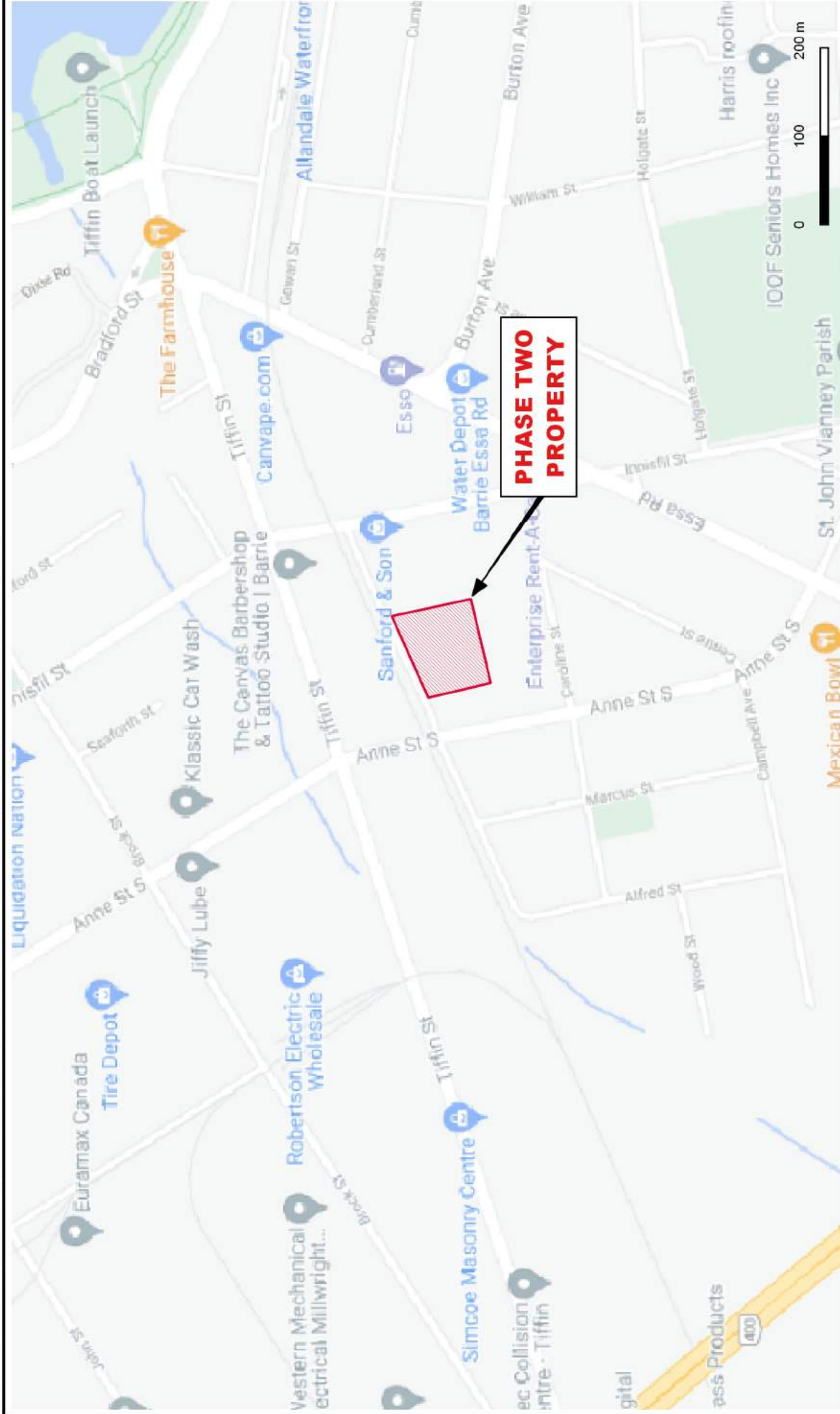


Notes for Soil and Groundwater Summary Tables

	For soil and groundwater analytical results, concentration exceeds the applicable Standards.
	For soil and groundwater analytical results, laboratory detection limits exceed the applicable Standards.
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
masl	Meters above sea level
MECP Table 2 SCS	Table 2 SCS: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Residential/Parkland/Institutional Use with coarse-textured soils as contained in the April 15, 2011 Ontario Ministry of Environment, Conservation and Parks (MECP) document entitled "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" 15, 2011
mbgs	Meters below ground surface
NM	Not Monitored
NA	Not Available
OCPs	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbon
PHC	Petroleum Hydrocarbon
Units	Units for all soil analyses are in µg/g (ppm) unless otherwise indicated
Units	Units for all groundwater analyses are in µg/L (ppb) unless otherwise indicated



Figures



**PHASE TWO
PROPERTY**

Legend

 Property Boundary

DS CONSULTANTS LTD.

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

17-27 Jacobs Terrace, Barrie, ON

Title: **SITE LOCATION PLAN**

Size:
8.5 x 11

Approved By: J.A.

Drawn By: S.Y / P.P.

Date: January 2023

Rev: 0

Scale: As Shown

Project No.: 21-018-101

Figure No.: **1**

Image/Map Source Google Street Map



Legend

- Property Boundary
- Abandoned Tank
- Historic USTs

DS CONSULTANTS LTD.

6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9363
www.dsconsultants.ca



Client:

TONLU HOLDINGS LIMITED

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
17-27 Jacobs Terrace, Barrie, ON

Title:

PHASE TWO PROPERTY SITE PLAN

Size:

8.5 x 11

Approved By:

J.A.

Scale:

As Shown

Drawn By:

S.Y / P.P.

Date:

January 2023

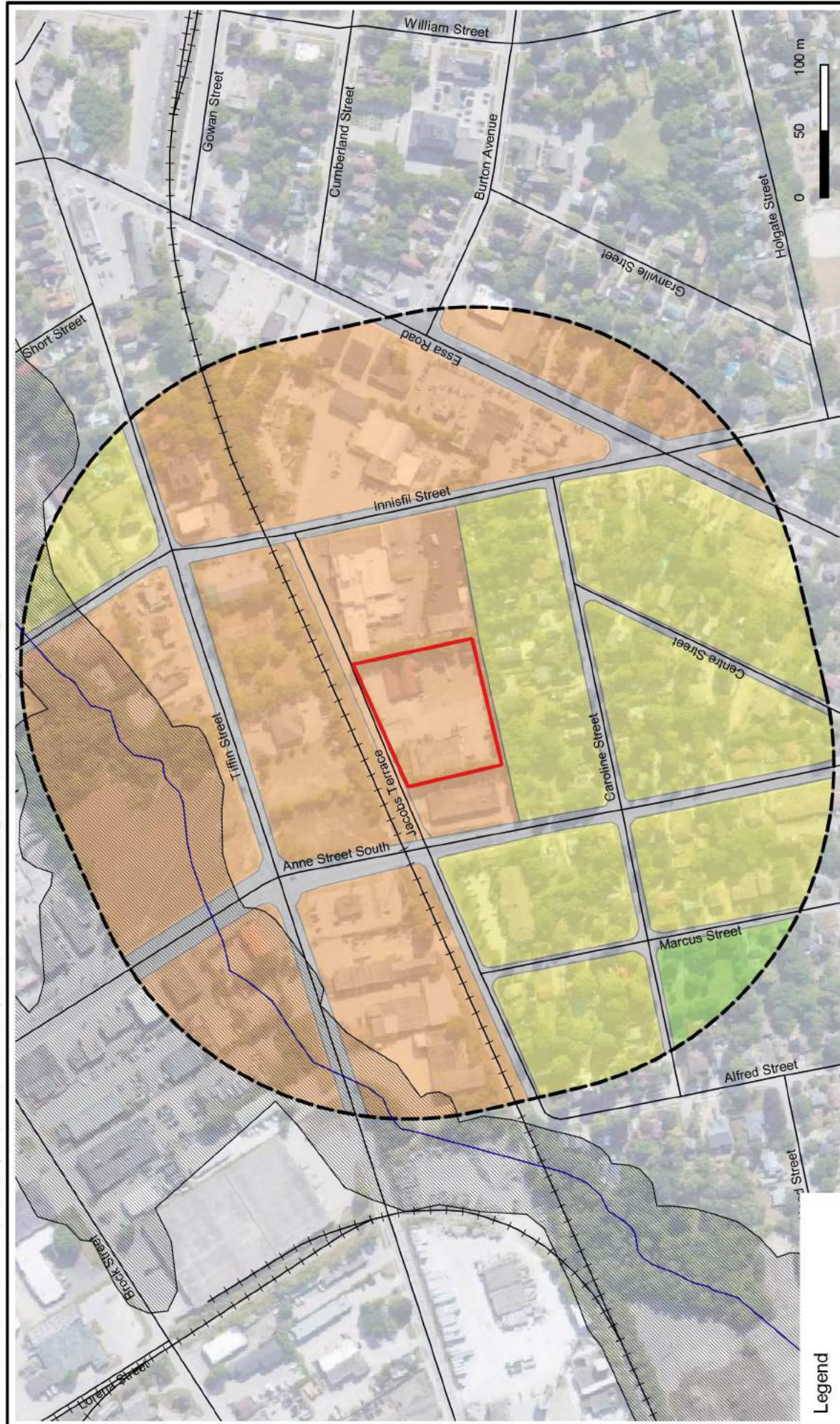
Project No.:

21-018-101

Figure No.:

2

Image/Map Source Google Satellite Image



Legend

- Property Boundary
- 250m Buffer
- Residential
- Commercial
- Park/Open Space
- LSRCA Regulated Area

DS CONSULTANTS LTD.



6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9363
www.dsconsultants.ca

Client:

TONLU HOLDINGS LIMITED

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
17-27 Jacobs Terrace, Barrie, ON

Title:

PHASE TWO STUDY AREA

Size:

8.5 x 11

Approved By:

R.F

Drawn By:

S.Y / P.P.

Date:

January 2023

Rev:

0

Scale:

As Shown

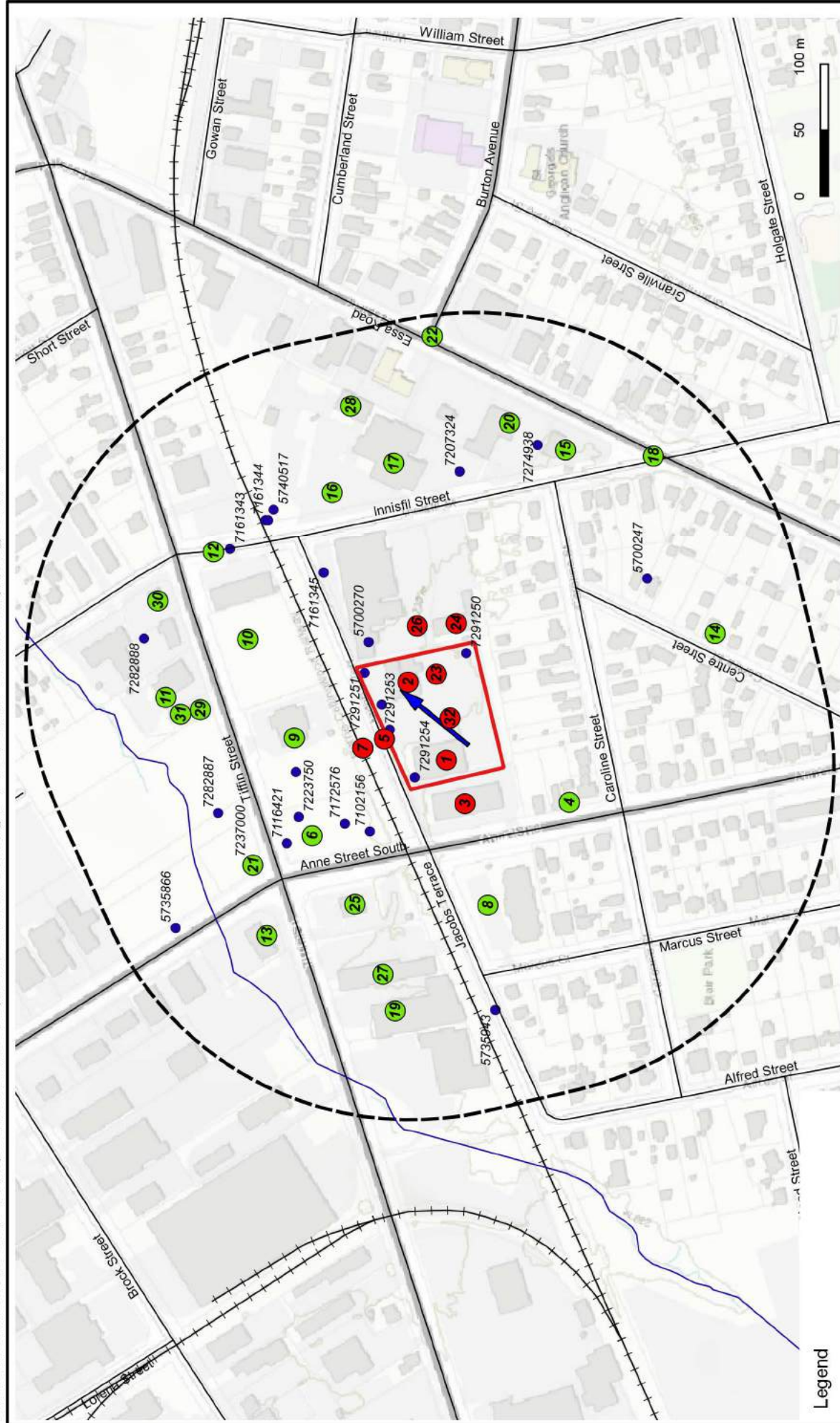
Project No.:

21-018-101

Figure No.:

3

Image/Map Source Google Satellite Image



Legend

- Property Boundary
- 250m Buffer
- Registered Water Well (MECP WWR)
- Groundwater Flow Direction
- PCA not contributing to APEC
- PCA contributing to APEC

DS CONSULTANTS LTD.

6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 254-9363
www.dsconsultants.ca



Client:

TONLU HOLDINGS LIMITED

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT

17-27 Jacobs Terrace, Barrie, ON

Title:

PCA WITHIN PHASE TWO STUDY AREA

Size:

8.5 x 11

Approved By:

J.A.

Drawn By:

S.Y / P.P.

Date:

January 2023

Rev:

0

Scale:

As Shown

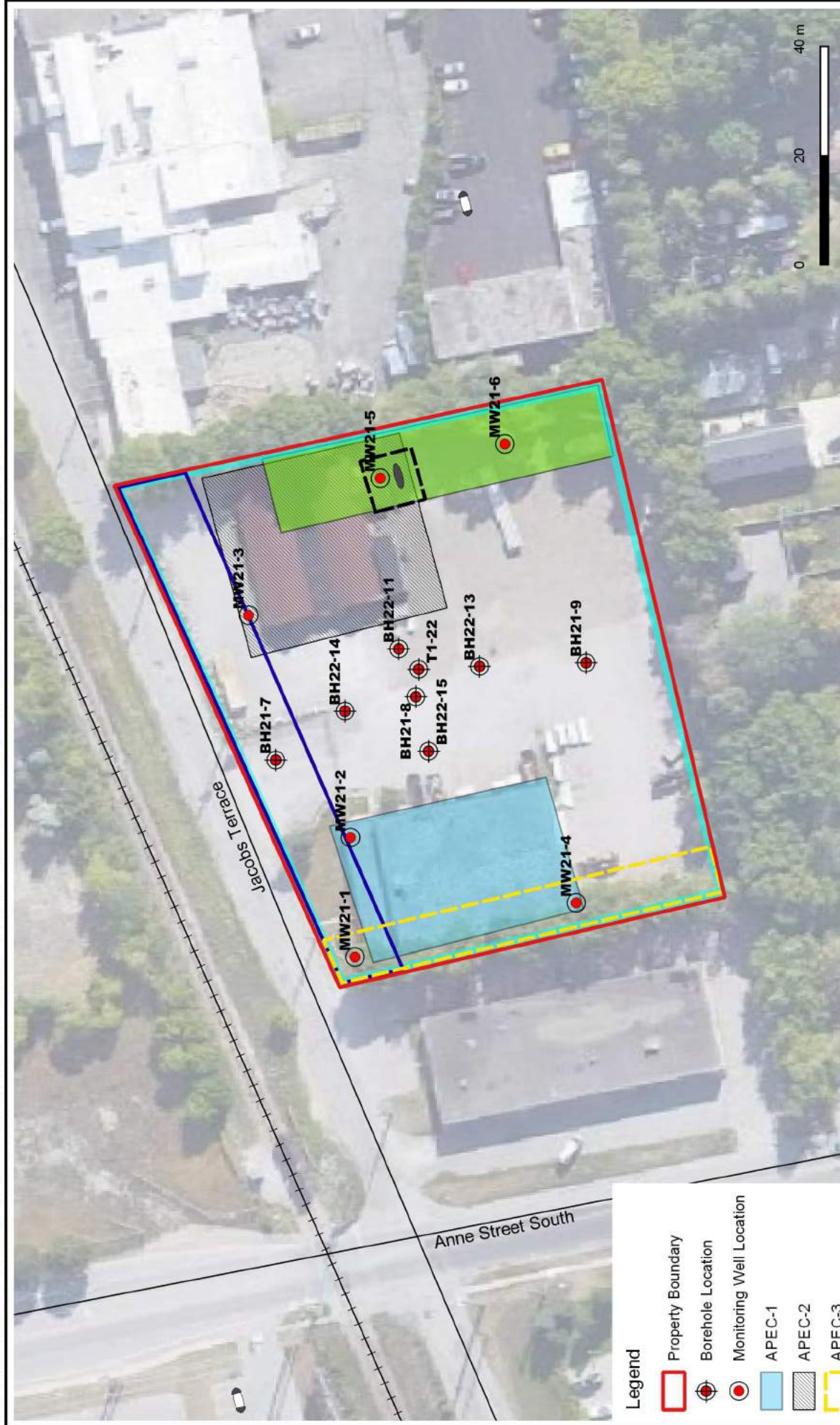
Project No.:

21-018-101

Figure No.:

4

Image/Map Source: Esri Topo Map



Legend

- Property Boundary
- Borehole Location
- Monitoring Well Location
- APEC-1
- APEC-2
- APEC-3
- APEC-4
- APEC-5
- APEC-6
- APEC 7
- Abandoned Tank
- Historic UST



Client:

TONLU HOLDINGS LIMITED

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
17-27 Jacobs Terrace, Barrie, ON

Title:

BOREHOLE LOCATION PLAN WITH APECs

Size:

8.5 x 11

Approved By:

J.A.

Drawn By:

S.Y / P.P.

Date:

January 2023

Rev:

0

Scale:

As Shown

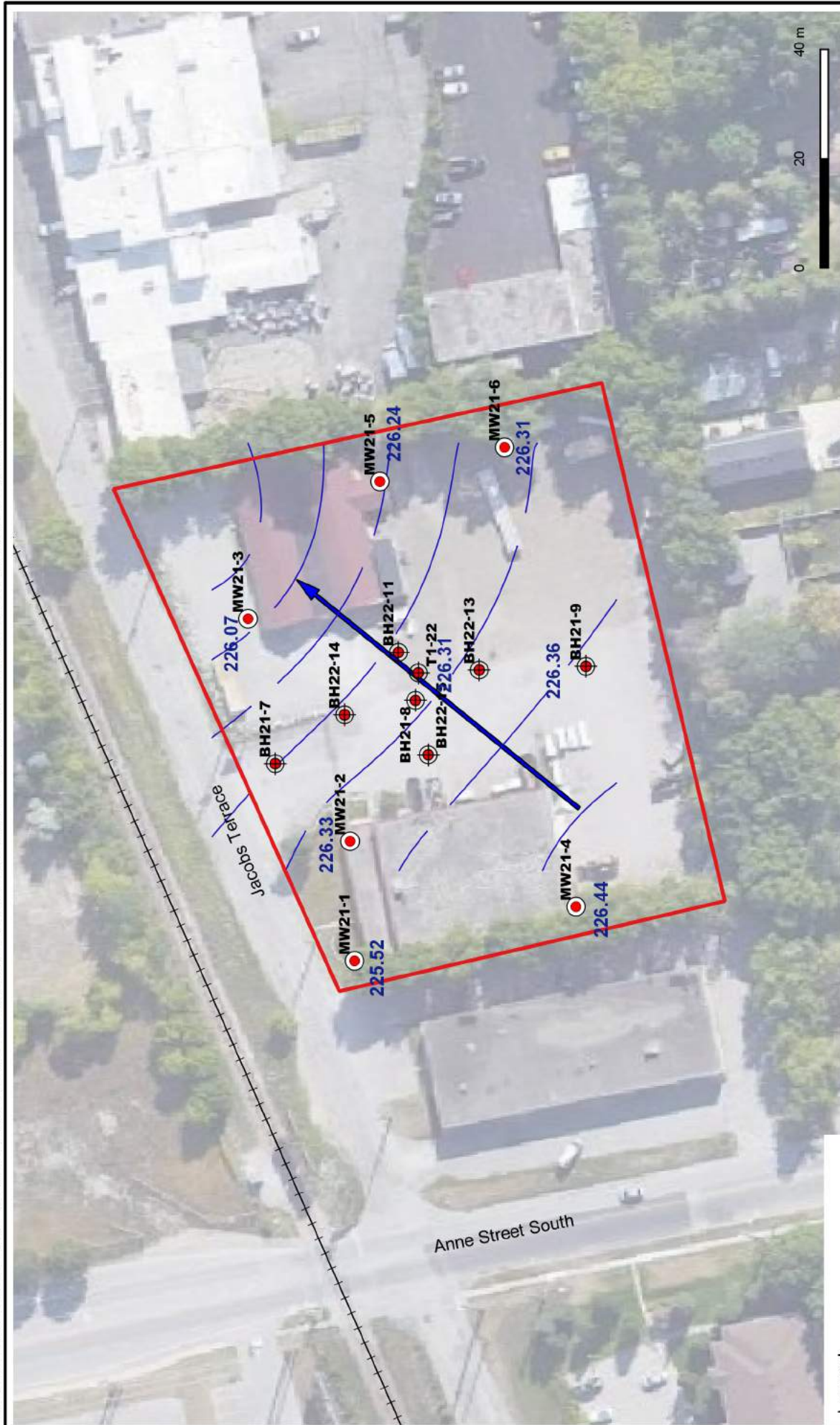
Project No.:

21-018-101

Figure No.:

5

Image/Map Source Google Satellite Image



Legend

- Property Boundary
- Borehole Location
- Monitoring Well Location
- Groundwater Elevation Contours
- ➔ Groundwater Flow Direction

DS CONSULTANTS LTD.



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Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9363
www.dsconsultants.ca

Client:

TONLU HOLDINGS LIMITED

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
17-27 Jacobs Terrace, Barrie, ON

Title:

GROUNDWATER ELEVATION CONTOURS AND FLOW
DIRECTION

Size:

8.5 x 11

Approved By:

J.A.

Drawn By:

S.Y / P.P.

Date:

January 2023

Rev:

0

Scale:

As Shown

Project No.:

21-018-101

Figure No.:

6

Image/Map Source Google Satellite Image



 DS CONSULTANTS LTD. 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca	Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 17-27 Jacobs Terrace, Barrie, ON.							
	Title: SOIL CHARACTERIZATION - METALS							
	Client: TONLU HOLDINGS LIMITED	Size:	Approved By:	J. A.	Drawn By:	P.P	Date:	January 2023
		Rev:	11x17	Scale:	As Shown	Project No.:	21-018-101	Figure No.:
Image/Map Source: Google Satellite Image								

MW21-2	
20-Jan-22	SS2
Sample Depth (mbgs):	0.8-1.4
EC	0.17
SAR	0.23
ORPs (excl. above)	Met T2 SCS

MW'21-4	
21-Jan-22	SS2
Sample Depth (mbgs):	0.8-1.4
EC	0.084
SAR	3.1
ORPs (excl. above)	Met T2 SCS

	MW21-3	
	24-Jan-22	SS2
Sample Depth (mbgs):		0.8-1.4
EC		0.3
SAR		1.4
ORPs (excl. above)		Met T2 SCS

BH21-8	
24-Jan-22	SS1
Sample Depth (mbgs):	0-0.6
EC	1.2
SAR	15
ORPs (excl. above)	Met T2 SCS

MW21-6	
21-Jan-22	SS1
Sample Depth (mbgs):	0-0.6
EC	0.17
SAR	0.27
ORPs (excl. above)	Met T2 SCS

BH21-9	
20-Jan-22	SS2
Sample Depth (mbgs):	0.8-1.4
EC	0.14
SAR	0.9
ORPs (excl. above)	Met T2 SCS



Parameter	Table 2 SCS
Electrical Conductivity (EC)	0.7 mS/cm
Sodium Absorption Ratio (SAR)	5

ORPs Include: Hg, Cr(VI), CN⁻, B-HWS, EC, SAR and pH

 DS CONSULTANTS LTD. 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca	Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 17-27 Jacobs Terrace, Barrie, ON.							
	Title: SOIL CHARACTERIZATION - ORPs							
	Client: TONILU HOLDINGS LIMITED	Size:	Approved By:	J. A.	Drawn By:	P.P	Date:	January 2023
		11x17	Scale:	As Shown	Project No.:	21-018-101	Figure No.:	7B
Rev.		Image/Map Source: Google Satellite Image						
0								



 DS CONSULTANTS LTD. 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca	Project							
	PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 17-27 Jacobs Terrace, Barrie, ON.							
	Title:						SOIL CHARACTERIZATION - PHCs and BTEX	
	Client:	Size:	Approved By:		J. A.	Drawn By:	P.P	Date:
11x17								
Rev.		Scale:		As Shown	Project No.:	21-018-101	Figure No.:	7C
TONLU HOLDINGS LIMITED								
Image/Map Source: Google Satellite Image								



MW21-2	
20-Jan-22	SS5
Sample Depth (mbgs):	3.0-3.7
VOCs	Met T2 SCS

MW21-1	
24-Jan-22	SS5
Sample Depth (mbgs):	3.0-3.7
VOCs	Met T2 SCS

MW21-4	
21-Jan-22	SS6
Sample Depth (mbgs):	4.6-5.2
VOCs	Met T2 SCS

MW21-3	
24-Jan-22	SS5
Sample Depth (mbgs):	3.0-3.7
VOCs	Met T2 SCS

MW21-5	
21-Jan-22	SS5
Sample Depth (mbgs):	3.0-3.7
VOCs	Met T2 SCS

MW21-6	
21-Jan-22	SS6
Sample Depth (mbgs):	4.6-5.2
VOCs	Met T2 SCS

Legend

- Property Boundary
- Borehole Location
- Monitoring Well Location
- Sample Met Applicable Standards



DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client:
TONLU HOLDINGS LIMITED

Project
**PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
17-27 Jacobs Terrace, Barrie, ON.**

Title:
SOIL CHARACTERIZATION - VOCs

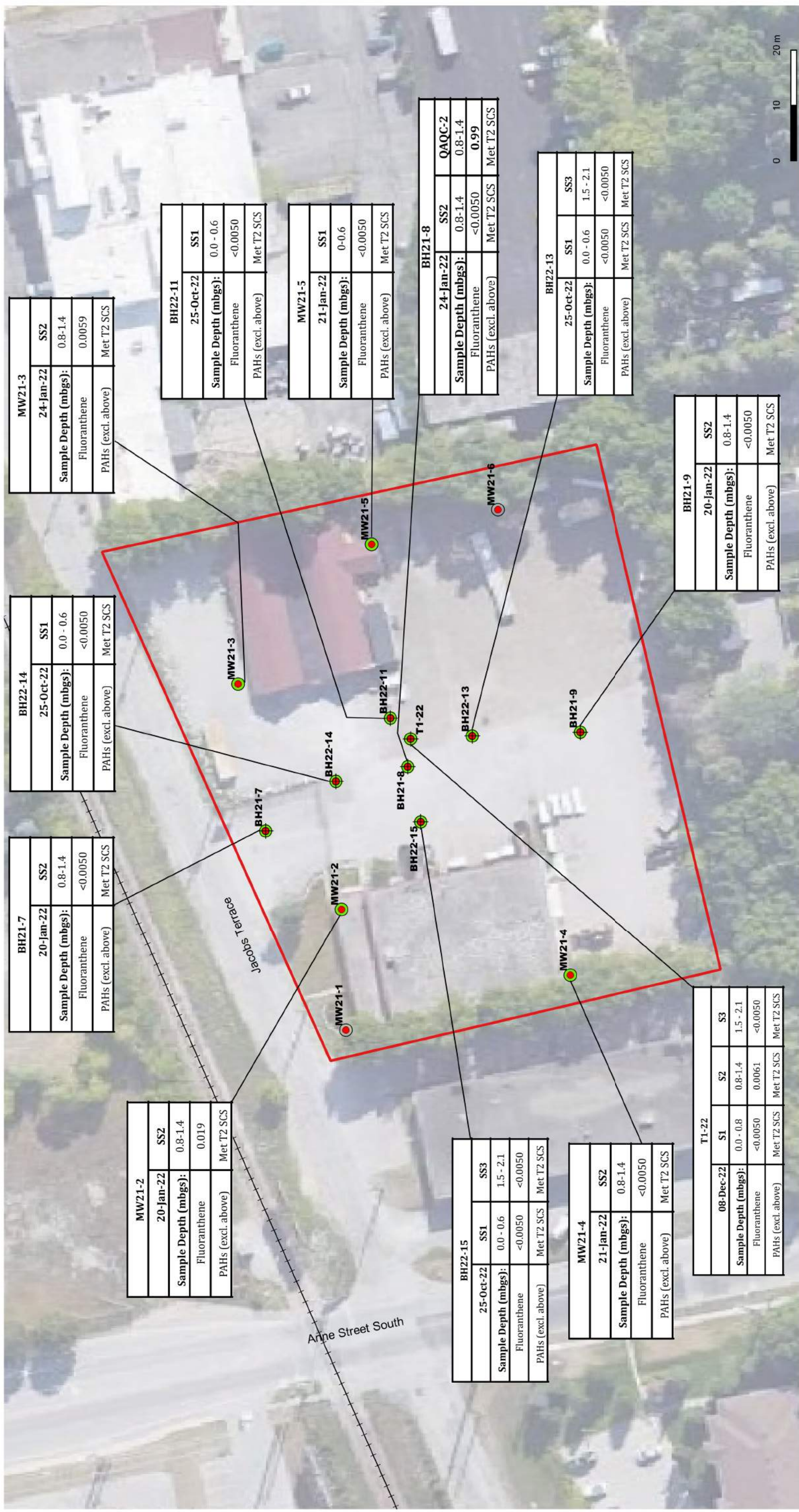
Size:	11x17
Rev.	0

Approved By:	J.A.	Drawn By:	P.P
Scale:	As Shown	Project No.:	21-018-101

Date:
January 2023

Figure No.:
7D

Image/Map Source: Google Satellite Image



Parameter	Table 2 SCS
Fluoranthene	0.69 µg/g

 DS CONSULTANTS LTD. 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca	Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 17-27 Jacobs Terrace, Barrie, ON.								
	Title: SOIL CHARACTERIZATION - PAHS								
	Client:	Size:	11x17	Approved By:	R. F.	Drawn By:	P. P	Date:	January 2023
		Rev:	0	Scale:	As Shown	Project No.:	21-018-101	Figure No.:	7E
	TONLU HOLDINGS LIMITED								
Image/Map Source: Google Satellite Image									



DS CONSULTANTS LTD. 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca		Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 17-27 Jacobs Terrace, Barrie, ON.	
Client: TONLU HOLDINGS LIMITED		Title: GROUNDWATER CHARACTERIZATION - VOCs	
Size: 11x17	Approved By: J.A.	Drawn By: P.P	Date: January 2023
	Scale: As Shown	Project No.: 21-018-101	Figure No.: 8C
Rev: 0	Image/Map Source: Google Satellite Image		

MW21-1	
Date Sampled:	27-May-22
Screen Interval (mbgs):	2.3-5.3
Benzo(a)pyrene	<0.0090
PAHs (excl. above)	Met T2 SCS

MW21-3	
Date Sampled:	27-May-22
Screen Interval (mbgs):	2.3-5.3
Benzo(a)pyrene	<0.0090
PAHs (excl. above)	Met T2 SCS

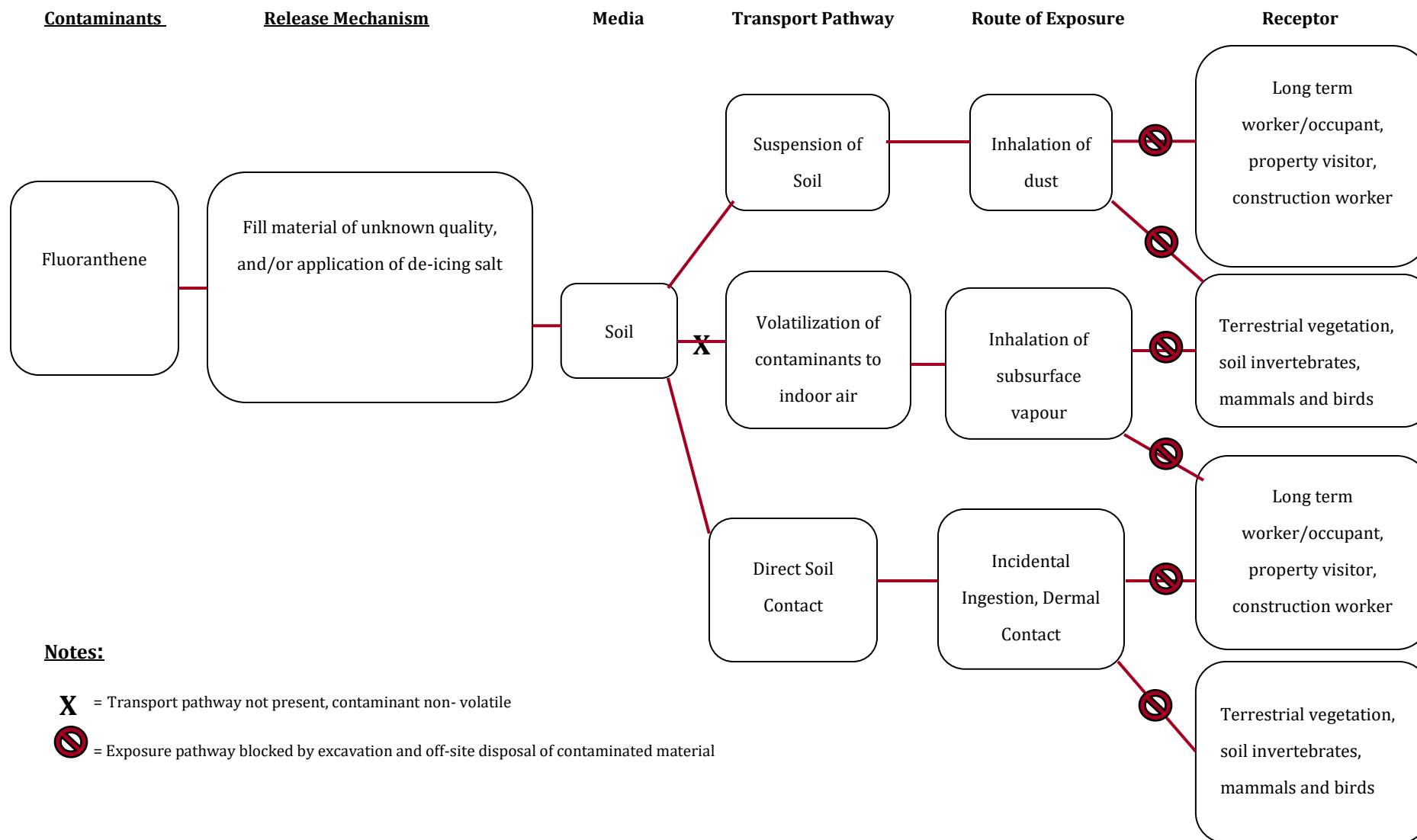
MW21-5	
Date Sampled:	18-Feb-22
Screen Interval (mbgs):	2.3-5.3
Benzo(a)pyrene	0.012
PAHs (excl. above)	Met T2 SCS

		MW21-6				
		MW21-6	DUP-1	MW21-6	DUPE	MW21-6
	Date Sampled:	27-May-22	27-May-22	06-Jul-22	06-Jul-22	09-Dec-22
	Screen Interval (mbgs):	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3	2.3-5.3
	Benzo(a)pyrene	0.014	0.019	<0.0090	<0.0090	<0.0090
	PAHs (excl. above)	Met T2 SGS	Met T2 SGS	Met T2 SGS	Met T2 SGS	Met T2 SGS



Parameter	Table 2 SCS
Benzo(a)pyrene	0.01 µg/L

 DS CONSULTANTS LTD. 6221 Highway 7, UNIT 16 Vaughan, Ontario L4H 0K8 Telephone: (905) 264-9393 www.dsconsultants.ca	Project		PHASE TWO ENVIRONMENTAL SITE ASSESSMENT 17-27 Jacobs Terrace, Barrie, ON.					
	Title:		GROUNDWATER CHARACTERIZATION - PAHS					
	Client:	Size:	Approved By:	J. A.	Drawn By:	P.P	Date:	January 2023
		Rev.	11x17	Scale:	As Shown	Project No.:	21-018-101	Figure No.:
TONILU HOLDINGS LIMITED		Image/Map Source: Google Satellite Image						





Appendix A

SURVEYOR'S CERTIFICATE
I CERTIFY THAT:
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TILES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 13TH DAY OF DECEMBER, 2020.

DECEMBER 18, 2020
DATE

ONTARIO LAND SURVEYOR

ASSOCIATION OF ONTARIO
LAND SURVEYORS
PLAN SUBMISSION FORM
2146764



THIS PLAN IS NOT VALID
UNLESS IT IS AN EMBOSSED
ORIGINAL COPY
ISSUED BY THE SURVEYOR
In accordance with
Regulation 1026, Section 29(3)

**PLAN OF SURVEY OF
LOTS 7, 8, AND 9, AND
PART OF LOTS 5, 6, 10, AND 11
SOUTH SIDE OF JACOBS TERRACE
REGISTERED PLAN 30
CITY OF BARRIE
COUNTY OF SIMCOE
SCALE 1:250**

10m 5m 0 5 10 15 20 m

C. WAHBA SURVEYING LTD.

METRIC

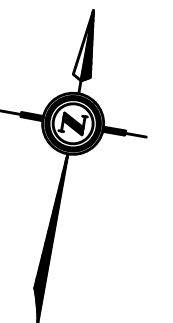
DISTANCES SHOWN ON THIS PLAN ARE IN METRES
AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

THIS PLAN WAS PREPARED FOR RINDMATO GROUP OF COMPANIES
AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES.

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BEARING NOTE

BEARINGS ARE GRID AND ARE REFERRED TO THE SOUTH LIMIT OF JACOBS TERRACE
AS SHOWN ON PLAN 51R-41208 HAVING A BEARING OF N 66° 28' 20" E



KNOWN AS INNISFIL STREET
(BALDWIN STREET BY REGISTERED PLAN 30)

PART 14, PLAN 51R-41208 KNOWN AS ANNE STREET

(MAIN STREET BY REGISTERED PLAN 30)

LOT 12

LOT 11

LOT 10

LOT 9

LOT 8

LOT 7

LOT 6

LOT 5

REGISTERED

PLAN

30

SOUTH

SIDE

OF

JACOBS

TERRACE

LOT 1
EAST SIDE OF MAIN STREET
REGISTERED PLAN 30

LOT 7
REGISTERED

LOT 6
PLAN 30

LOT 5
NORTH SIDE

LOT 4
OF

LOT 3
CAROLINE

LOT 2
STREET

NOTES

- DENOTES MONUMENT FOUND
- DENOTES MONUMENT SET
- SIB DENOTES STANDARD IRON BAR
- SSB DENOTES SHORT STANDARD IRON BAR
- IB DENOTES IRON BAR
- IP DENOTES IRON PIPE
- WT DENOTES WITNESS
- PIN DENOTES PROPERTY IDENTIFIER NUMBER
- PL1 DENOTES PLAN 51R-26298
- PL2 DENOTES PLAN OF SURVEY BY ERTL SURVEYORS O.L.S., DATED JUNE 21, 2017
- PL3 DENOTES PLAN OF SURVEY BY W. DOUGLAS SMITH LTD., O.L.S., DATED FEBRUARY 24, 1983
- PL4 DENOTES PLAN OF SURVEY BY R.C. KIRKPATRICK, O.L.S., DATED OCTOBER 16, 1969
- PL5 DENOTES PLAN OF SURVEY BY J.H. DIAMOND, O.L.S., DATED NOVEMBER 7, 1962
- PL6 DENOTES PLAN 51R-41208
- 615 DENOTES JAMES HERBERT DIAMOND, O.L.S.
- 738 DENOTES R.C. KIRKPATRICK, O.L.S.
- 1215 DENOTES ERTL SURVEYORS, O.L.S.
- 1546 DENOTES RUDY MAK, O.L.S.
- JOB DENOTES J.D. BARNES, O.L.S.
- MEAS DENOTES MEASURED
- OU DENOTES ORIGIN UNKNOWN
- CALC DENOTES CALCULATED
- N.S.W.E DENOTES NORTH, SOUTH, WEST, EAST
- CLF/BF DENOTES CHAIN LINK/BOARD FENCE

DRAWN: OC	CHECKED: C.W.
CAD FILE: 20-094 (POS-01)	PROJECT No. 20-094
285 Vaughan Valley Blvd. Woodbridge ON L4H3B5 Tel.905.851.1300 www.wahbasurveying.com	
WAHBA SURVEYING	



Appendix B

**21-018-101****January 3, 2022**

**Tonlu Properties
401 Vaughan Valley Boulevard
Woodbridge, Ontario
L4L 5V9**

Attention: Sam Makramalla

**Re: Sampling and Analysis Plan – Phase Two Environmental Site Assessment
17-27 Jacobs Terrace, Barrie, ON**

1. Introduction

DS Consultants Limited (DS) is pleased to present the Sampling and Analysis Plan (SAP) for the proposed Phase Two Environmental Site Assessment of 17-27 Jacobs Terrace, Barrie, ON , (the Site). The purpose of the proposed Phase Two ESA program is to assess the current subsurface environmental conditions in support of the proposed redevelopment of the Site.

The Phase Two ESA will involve intrusive investigation in the areas determined in the Site visit to be Areas of Potential Environmental Concern (APECs), and will be completed in general accordance with O.Reg 153/04. Based on the findings of the field and laboratory analyses, a Phase Two ESA report will be prepared.

2. Background

Based on the Phase One Environmental Site Assessment completed by DS in November, 2021, it is DS' understanding that the Site is a 0.91 hectares (2.26 acres) parcel of land situated within a mixed residential, commercial, and industrial neighbourhood in the City of Barrie, Ontario. The first developed use of the Site is interpreted to be commercial and industrial in the 1940s. A total of thirty-two (32) Potentially Contaminating Activities (PCAs) were identified in the Phase One ESA, which were considered to be contributing to seven (7) APECs on the Phase Two Property. A summary of the APECs identified, the potential contaminants of concern, and the media potentially impacted is presented in Table 1 below:

**Table 1: Areas of Potential Environmental Concern**

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	Footprint of Site Building A	#58 - Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	On Site PCA-1	Metals, As, Sb, Se, Hg, PHCs, BTEX, VOCs, PAHs	Soil and Groundwater
APEC-2	Footprint of Site Building B	#10 - Commercial Autobody Shops	On Site PCA-2	PHC, BTEX, VOCs, PAHs, metals	Soil and Groundwater
APEC-3	Western portion of the Phase One Property	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	Off Site PCA-3	PHCs, VOCs, metals	Groundwater
APEC-4	Northern portion of the Phase One Property	# N/S: Application of De-Icing Agents PCA-7: #46 – Rail Yards, Tracks and Spurs	Off Site PCA-5	Na, Cl-, metals, PAHs	Groundwater
APEC-5	Vicinity of the former AST South of Site Building B	#28 – Gasoline and Associated Products Storage in Fixed Tanks	On Site PCA-23	PHCs, BTEX, PAHs	Soil and Groundwater
APEC-6	Southwestern Portion of the Phase One Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks Vehicles	Off Site PCA-24	PHCs, VOCs, metals	Groundwater
APEC-7	Entire Phase One Property	#30 – Importation of Fill Material of Unknown Quality	On Site	Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil

Notes:

1. N/S - not specified in Table 2, Schedule D, of O.Reg. 153/04
2. PHC (F1-F4) = Petroleum Hydrocarbons in the F1-F4 fraction ranges
3. VOCs = Volatile Organic Compounds
4. PAHs = Polycyclic Aromatic Hydrocarbons

3. Site Investigation Program

The proposed field investigation will involve the advancement of boreholes, the installation of monitoring wells, and periodic monitoring of the installed wells. A total of nine (9) borehole locations have been identified. Details regarding the proposed boreholes/monitoring wells are provided in the following table:

**Table 3-1: Summary of Proposed Investigation Program**

ID	Proposed Depth	Well Installation (Y/N)	Well Install Depth	Purpose
MW21-1	4.6 mbgs	Y	5.3 mbgs	Investigate APEC-3, 4, and 7
MW21-2	4.6 mbgs	Y	5.3 mbgs	Investigate APEC-1, 7
MW21-3	4.6 mbgs	Y	5.3 mbgs	Investigate APEC-2, 4, 7
MW21-4	4.6 mbgs	Y	5.3 mbgs	Investigate APEC-3, 7
MW21-5	4.6 mbgs	Y	5.3 mbgs	Investigate APEC-2, 5, 6, 7
MW21-6	4.6 mbgs	Y	5.3 mbgs	Investigate APEC-6, 7
BH21-7	3.1 mbgs	N	NA	Investigate soil quality with respect to APEC-7
BH21-8	3.1 mbgs	N	NA	Investigate soil quality with respect to APEC-7
BH21-9	3.1 mbgs	N	NA	Investigate soil quality with respect to APEC-7

Prior to mobilizing a drilling rig, we will lay out the proposed borehole and clear the buried utilities and services by using Ontario One Call System in addition to private utility locates.

The borings will be advanced to the indicated depths using track-mounted CME 55. A geodetic benchmark will be used to establish the elevation of each borehole. Drilling and sampling will conform to standard practice.

The Phase Two ESA involves the following principal tasks:

- Retain the services of public and private utility locaters to identify the locations of buried and overhead utility services prior to any excavation or demolition activities;
 - Certain underground utilities (such as those constructed or encased in plastic, fibreglass, clay, concrete pipe, untraceable cast iron, steel, and/or repaired services) cannot be traced by standard locating practices. DS will review all available Site Plans and/or “As Built” figures in an attempt to identify the locations of potential untraceable services. DS will not be held responsible for any damages to utility services that are not on the figures provided or cannot be located by standard utility locating practices;
- Advancement of boreholes as specified in Table 3-1. The proposed boreholes will be used to facilitate the collection of representative soil and groundwater samples, and to provide information regarding the Site-specific geological and hydrogeological conditions;



- All soil samples recovered during the proposed drilling activities will be field screened for visual and olfactory evidence of deleterious impacts and for the presence of petroleum hydrocarbon (PHC) and volatile organic compound (VOC) derived vapours using either a combustible gas detector (CGD) calibrated to hexane or a photo-ionization detector (PID) calibrated to isobutylene or equivalent;
- Measure the depth to groundwater levels in the monitoring wells installed, and monitor the wells for the presence/absence of non-aqueous phase liquid using an interface probe;
- Survey each of the monitoring wells to a geodetic datum;
- Develop and purge all of the monitoring wells installed;
- Submit soil samples from the newly advanced boreholes as follows:

Table 3-2: Summary of proposed soil chemical analyses

Borehole	Sample No	Sample Depth (mbgs)	Lab Analysis	Purpose
MW21-1	SS5	3.0-3.8	PHCs, VOCs	Access soil conditions (APEC-7)
MW21-2	SS2	0.8-1.5	M&I, PAHs	Access soil conditions (APEC-1, 7)
	SS5	3.0-3.8	PHCs, VOCs	Access soil conditions (APEC-1, 7)
MW21-3	SS2	0.8-1.5	M&I, PAHs	Access soil conditions (APEC-2, 7)
	SS5	3.0-3.8	PHCs, VOCs	Access soil conditions (APEC-2, 7)
MW21-4	SS2	0.8-1.5	M&I	Access soil conditions (APEC-7)
	SS6	4.6-5.3	PHCs, VOCs	Access soil conditions (APEC-7)
MW21-5	SS1	0-0.8	PAHs	Access soil conditions (APEC-2, 5, 7)
	SS5	3.0-3.8	PHCs, VOCs	Access soil conditions (APEC-2, 5, 7)
MW21-6	SS1	0-0.8	M&I	Access soil conditions (APEC-7)
	SS6	4.6-5.3	PHCs, VOCs	Access soil conditions (APEC-7)
BH21-7	SS2	0.8-1.5	M&I, PAHs	Access soil conditions (APEC-7)
BH21-8	SS1	0-0.8	M&I	Access soil conditions (APEC-7)
	SS2	0.8-1.5	PAHs	Access soil conditions (APEC-7)
BH21-9	SS2	0.8-1.5	M&I, PAHs	Access soil conditions (APEC-7)

- Submit groundwater samples from the monitoring wells as follows:

**Table 3-3: Summary of proposed groundwater analyses**

Well ID	Well Depth	Lab Analysis	Purpose
MW21-1	5.3 mbgs	M&I, PHCs, VOCs, PAHs	Access groundwater conditions (APEC-3, 4)
MW21-2	5.3 mbgs	M&I, PHCs, VOCs, PAHs	Access groundwater conditions (APEC-1)
MW21-3	5.3 mbgs	M&I, PHCs, VOCs, PAHs	Access groundwater conditions (APEC-2, 4)
MW21-4	5.3 mbgs	M&I, PHCs, VOCs	Access groundwater conditions (APEC-3)
MW21-5	5.3 mbgs	M&I, PHCs, VOCs, PAHs	Access groundwater conditions (APEC-2, 5, 6)
MW21-6	5.3 mbgs	M&I, PHCs, VOCs, PAHs	Access groundwater conditions (APEC-6)

A summary of the proposed soil and groundwater analytical program is presented in the following table:

Table 3-4: Summary of Soil and Groundwater Analytical Program

Soil	Groundwater
• 7 Samples for analysis of metals and inorganics • 6 Samples for analysis of PHCs • 6 Samples for analysis of VOCs • 7 Samples for analysis of PAHs	• 7 Samples for analysis of metals and inorganics • 7 Samples for analysis of PHCs • 7 Samples for analysis of VOCs • 6 Samples for analysis of PAHs • 1 VOC Trip Blank

- A Quality Assurance and Quality Control (QAQC) program will be implemented, involving the collection and analysis of duplicate soil and groundwater samples and trip blanks at the frequency specified under O.Reg. 153/04 (as amended);
- A Phase Two ESA Report will be prepared upon receipt of all analytical results and groundwater monitoring data. The Phase Two ESA Report will be completed in general accordance with O.Reg. 153/04 (as amended).

It should be noted that drilling activities may result in some disturbance to the ground surface at the site. Precautions will be taken by the drilling contractor to minimize any damage. The Client will be notified should there be cause to extend the borehole termination depth based on field observations. It is assumed that the site can be accessed at our convenience, during regular business hours. Prior notice will be sent to the client and site representative

It is noted that if the Phase Two ESA reveals parameter concentrations greater than the applicable standards set out in *Ontario Regulation 153/04*, then additional work (i.e., supplemental delineation, additional drilling, sampling, analysis, and/or site remediation activities) will be deemed necessary



prior to RSC filing, should an RSC be required. The costs for any additional work, if necessary, are beyond the current scope of work.

The SAP was created based on the request to complete a Phase Two ESA in support of the proposed redevelopment of the Site. The SAP was compiled to collect data to provide information on soil and/or groundwater quality in each APEC.

Additional delineation may be required following the implementation of this SAP to meet the requirements of O.Reg. 153/04 which requires delineation of all areas where concentrations are above the applicable SCS such as in the following conditions:

- Unexpected contamination not previously discovered, or not related to identified APECs, is discovered which will require further delineation to identify source(s); and
- If the sampling results indicate that the soil and/or groundwater impacts are deeper than initially expected.

4. Closure

We trust that this Sampling and Analysis Plan meets the objectives of the Client. If further assistance is required on this matter please do not hesitate to contact the undersigned.

Yours Very Truly,

DS Consultants Ltd.

Julia Arends, B.Sc., MES.

Assistant Project Manager – Environmental

Patrick Fioravanti, B.Sc., P.Geo., QPESA

Manager – Environmental Services



Appendix C

1 OF 1

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm

Date: Jan/24/2022

ENCL NO.:

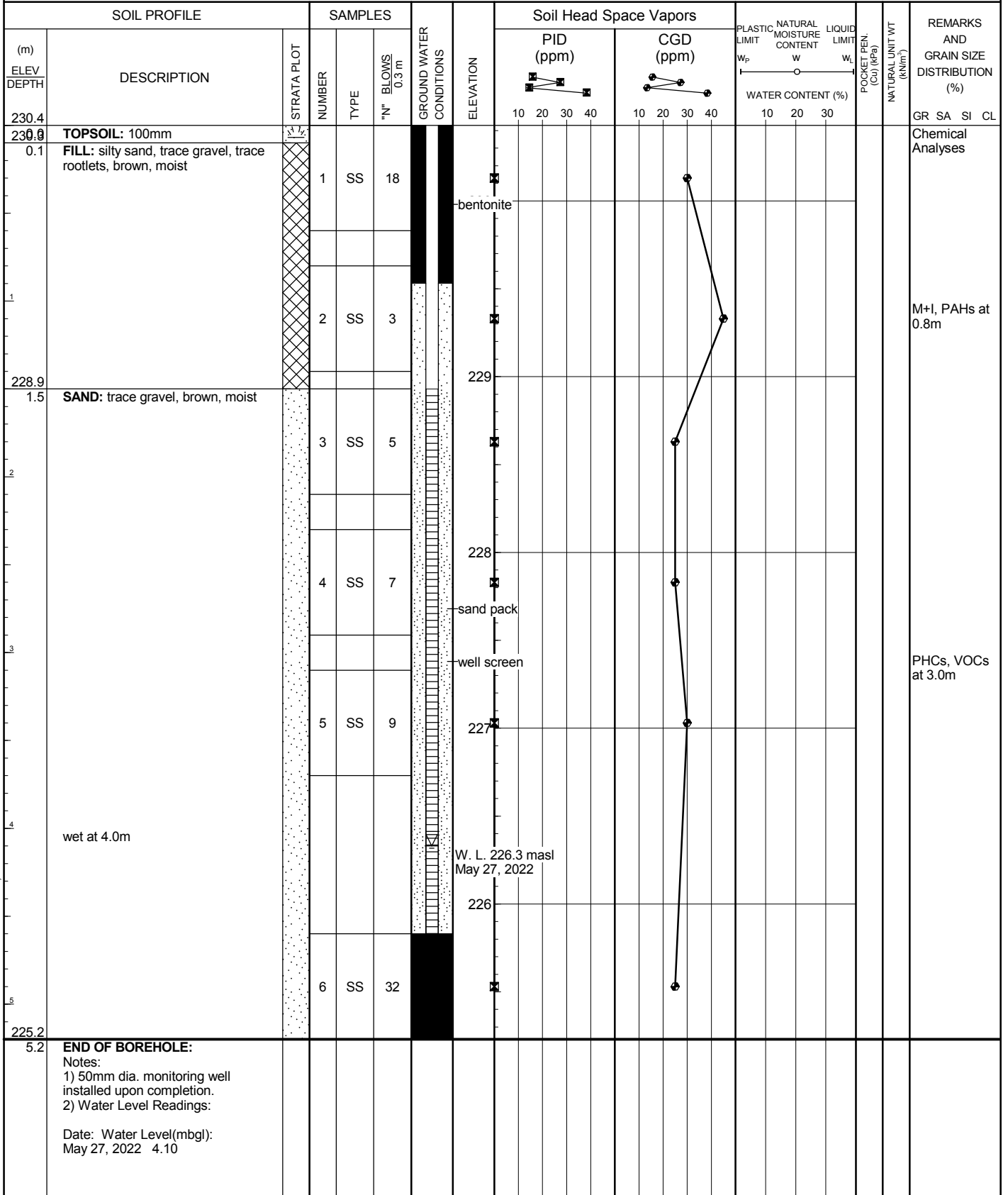
○ **$\epsilon=3\%$** Strain at Failure

LOG OF BOREHOLE MW21-2

1 OF 1

PROJECT: Phase Two ESA
 CLIENT: Tonlu Properties
 PROJECT LOCATION: 17-27 Jacobs Terrace, Barrie, ON
 DATUM: Geodetic
 BH LOCATION: Refer to Figure 5 N 4914043.932 E 603897.024

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Jan/20/2022
 REF. NO.: 21-018-101
 ENCL NO.:



GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3 , × 3 : Numbers refer to Sensitivity

○ = 3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-018-101 ENV. FILE JULY 21, 2022 -RF.GPJ DS.GDT 7/29/22

LOG OF BOREHOLE MW21-3

1 OF 1

PROJECT: Phase Two ESA
 CLIENT: Tonlu Properties
 PROJECT LOCATION: 17-27 Jacobs Terrace, Barrie, ON
 DATUM: Geodetic
 BH LOCATION: Refer to Figure 5 N 4914067.48 E 603950.556

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Jan/24/2022
 REF. NO.: 21-018-101
 ENCL NO.:

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC LIMIT	NATURAL MOISTURE CONTENT	LIQUID LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)	W _p	W	W _L			
229.4															GR SA SI CL
229.0	ASPHALT: 76mm														Chemical Analyses
0.1	FILL: sand, black to brown, dry to moist		1	SS	50										
228.6															
0.8	SILTY SAND: trace gravel, brown, moist		2	SS	3										M+I, PAHs at 0.8m
1															
			3	SS	6										
2															
			4	SS	5										
3															
	grey, wet at 3.0m		5	SS	18										PHCs, VOCs at 3.0m
4															
			6	SS	25										
224.2															
5.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): May 27, 2022 3.37														

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3 , × 3 : Numbers refer to Sensitivity

○ ● =3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-018-101 ENV. FILE JULY 21, 2022 -RF.GPJ DS.GDT 7/29/22

LOG OF BOREHOLE MW21-4

1 OF 1

PROJECT: Phase Two ESA
 CLIENT: Tonlu Properties
 PROJECT LOCATION: 17-27 Jacobs Terrace, Barrie, ON
 DATUM: Geodetic
 BH LOCATION: Refer to Figure 5 N 4913993.379 E 603888.925

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Jan/21/2022
 REF. NO.: 21-018-101
 ENCL NO.:

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC NATURAL LIQUID			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)	W _p	W	W _L			
230.6	ASPHALT: 50mm														GR SA SI CL
230.0	FILL: silty sand, trace gravel, black to brown, moist		1	SS	17										Chemical Analyses
229.8	SAND: trace silt and gravel, brown, moist		2	SS	3										M+I at 0.8m
			3	SS	6										
			4	SS	12										
			5	SS	19										
	grey, wet at 4.0m		6	SS	17										PHCs, VOCs at 4.6m
225.4	END OF BOREHOLE:														
5.2	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): May 27, 2022 4.11														

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3 , × 3 : Numbers refer to Sensitivity

○ ● = 3% Strain at Failure

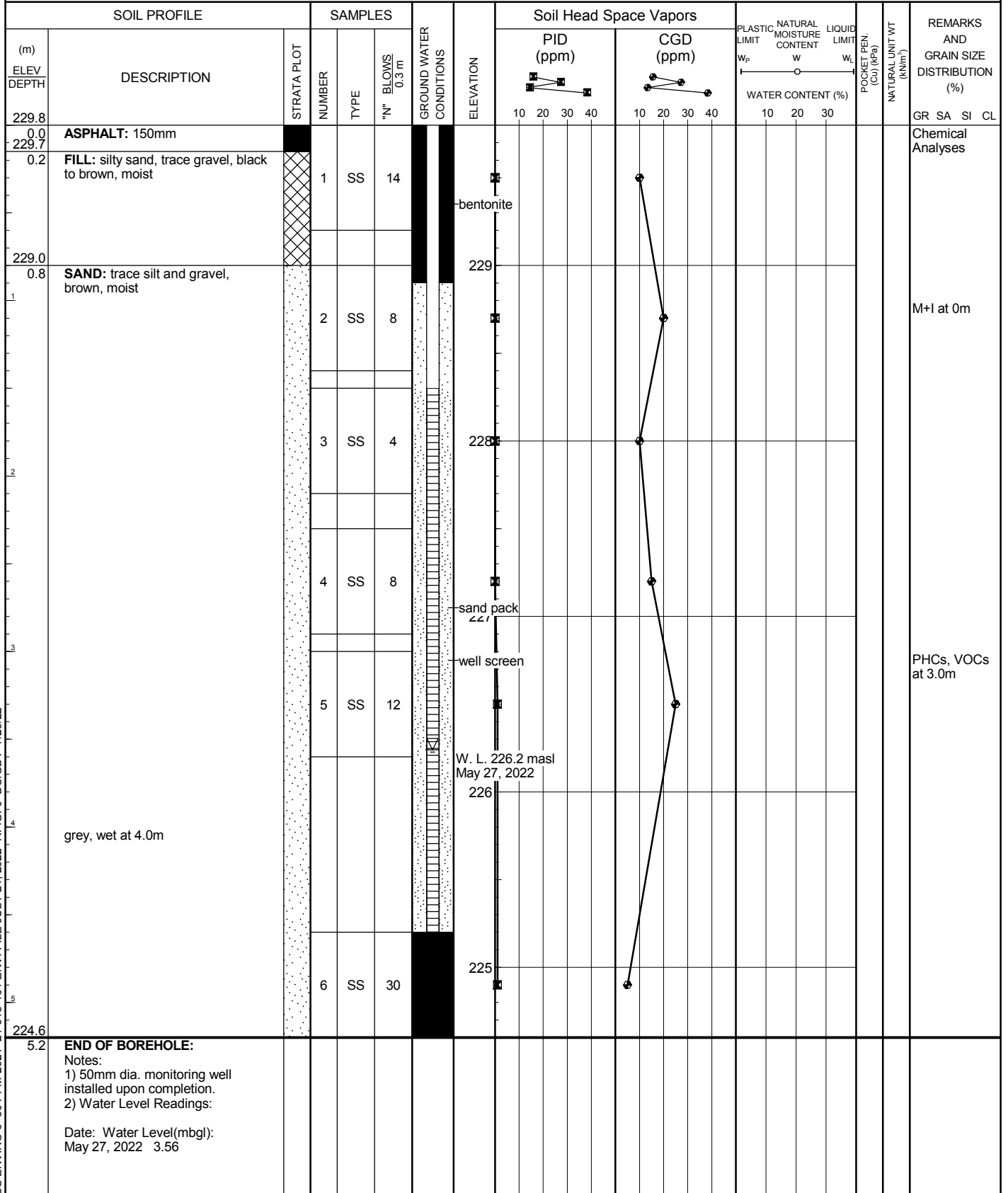
DS ENVIRO 0-50 PPM-2021 21-018-101 ENV. FILE JULY 21, 2022 -RF.GPJ DS.GDT 7/29/22

LOG OF BOREHOLE MW21-5

1 OF 1

PROJECT: Phase Two ESA
 CLIENT: Tonlu Properties
 PROJECT LOCATION: 17-27 Jacobs Terrace, Barrie, ON
 DATUM: Geodetic
 BH LOCATION: Refer to Figure 5 N 4914030.904 E 603954.108

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Jan/21/2022
 REF. NO.: 21-018-101
 ENCL NO.:



GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3 , X 3 : Numbers refer to Sensitivity

○ s=3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-018-101 ENV. FILE JULY 21, 2022 -RF.GPJ DS.GDT 7/29/22

1 OF 1

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm

Date: Jan/21/2022

ENCL NO.:

○ **$\epsilon=3\%$** Strain at Failure

1 OF 1

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm

Date: Jan/20/2022

ENCL NO.:

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ **ε**=3% Strain at Failure

LOG OF BOREHOLE BH21-8

1 OF 1

PROJECT: Phase Two ESA

CLIENT: Tonlu Properties

PROJECT LOCATION: 17-27 Jacobs Terrace, Barrie, ON

DATUM: Geodetic

BH LOCATION: Refer to Figure 5 N 4914028.693 E 603930.03

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 200mm

Date: Jan/24/2022

REF. NO.: 21-018-101

ENCL NO.:

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)						
229.7															GR SA SI CL
229.6	ASPHALT: 76mm														Chemical Analyses
0.1	FILL: sand to silty sand, brown, dry to moist		1	SS	50										
228.9							229								M+I at 0.1m
0.8	SAND trace silt and gravel, brown, moist		2	SS	6										
1															
			3	SS	5		228								PAHs at 0.8m
2															
			4	SS	8		227								
3															
	wet at 3.0m		5	SS	13										
226.0							226								
3.7	END OF BOREHOLE: Notes: 1) Borehole backfilled with bentonite upon completion.														

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3, × 3: Numbers refer to Sensitivity

○ ●=3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-018-101 ENV. FILE JULY 21, 2022 -RF.GPJ DS.GDT 7/29/22

LOG OF BOREHOLE BH21-9

1 OF 1

PROJECT: Phase Two ESA
 CLIENT: Tonlu Properties
 PROJECT LOCATION: 17-27 Jacobs Terrace, Barrie, ON
 DATUM: Geodetic
 BH LOCATION: Refer to Figure 5 N 4913996.181 E 603931.771

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Jan/20/2022
 REF. NO.: 21-018-101
 ENCL NO.:

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)						
229.9															GR SA SI CL
229.9	ASPHALT: 100mm														Chemical Analyses
0.1	FILL: sand, trace gravel, brown, moist		1	SS	32										
1			2	SS	9										M+I, PAHs at 0.8m
228.4															
1.5	SAND trace silt and gravel, brown, moist		3	SS	4										
2															
			4	SS	15										
3															
			5	SS	15										
226.2															
3.7	END OF BOREHOLE: Notes: 1) Borehole backfilled with bentonite upon completion.														

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3, × 3: Numbers refer to Sensitivity

○ = 3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-018-101 ENV. FILE JULY 21, 2022 -RF.GPJ DS.GDT 7/29/22



Appendix D



Your Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/07/21
Report #: R7219798
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C220369

Received: 2022/01/25, 16:28

Sample Matrix: Soil
Samples Received: 17

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	8	N/A	2022/02/01	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	7	2022/01/31	2022/01/31	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	7	N/A	2022/01/28		EPA 8260C m
Free (WAD) Cyanide	2	2022/01/27	2022/01/27	CAM SOP-00457	OMOE E3015 m
Free (WAD) Cyanide	5	2022/01/27	2022/01/28	CAM SOP-00457	OMOE E3015 m
Conductivity	7	2022/01/31	2022/01/31	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	7	2022/01/26	2022/01/27	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	7	2022/01/28	2022/01/28	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	7	2022/01/28	2022/01/28	CAM SOP-00447	EPA 6020B m
Moisture	17	N/A	2022/01/26	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	8	2022/01/28	2022/01/29	CAM SOP-00318	EPA 8270D m
pH CaCl ₂ EXTRACT	7	2022/01/27	2022/01/27	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	7	N/A	2022/02/01	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs	7	N/A	2022/01/27	CAM SOP-00230	EPA 8260C 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.



Your Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/07/21
Report #: R7219798
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C220369

Received: 2022/01/25, 16:28

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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

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

Encryption Key

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

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

Bureau Veritas 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.



RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		RRV886			RRV887			RRV888		
Sampling Date		2022/01/24			2022/01/20			2022/01/20		
COC Number		n/a			n/a			n/a		
	UNITS	MW21-1 SS5	RDL	QC Batch	MW21-2 SS2	RDL	QC Batch	MW21-2 SS5	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A				0.23 (1)		7798067			
Inorganics										
Conductivity	mS/cm				0.17	0.002	7808427			
Moisture	%	8.7	1.0	7800585	12	1.0	7800616	8.3	1.0	7800585
Available (CaCl ₂) pH	pH				7.38		7802731			
WAD Cyanide (Free)	ug/g				<0.01	0.01	7803420			
RDL = Reportable Detection Limit QC Batch = Quality Control Batch (1) Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.										

Bureau Veritas ID		RRV889			RRV890			RRV891		
Sampling Date		2022/01/24			2022/01/24			2022/01/21		
COC Number		n/a			n/a			n/a		
	UNITS	MW21-3 SS2	RDL	QC Batch	MW21-3 SS5	RDL	QC Batch	MW21-4 SS2	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A	1.4		7798067				3.1		7798067
Inorganics										
Conductivity	mS/cm	0.30	0.002	7808427				0.084	0.002	7808427
Moisture	%	5.6	1.0	7800616	17	1.0	7800585	5.8	1.0	7800616
Available (CaCl ₂) pH	pH	6.38		7802731				7.14		7802731
WAD Cyanide (Free)	ug/g	<0.01	0.01	7803420				<0.01	0.01	7803420
RDL = Reportable Detection Limit QC Batch = Quality Control Batch										

BUREAU
VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		RRV892		RRV893		RRV894			RRV895		
Sampling Date		2022/01/21		2022/01/21		2022/01/21			2022/01/21		
COC Number		n/a		n/a		n/a			n/a		
	UNITS	MW21-4 SS6	QC Batch	MW21-5 SS1	QC Batch	MW21-5 SS5	RDL	QC Batch	MW21-6 SS1	RDL	QC Batch

Calculated Parameters											
Sodium Adsorption Ratio	N/A								0.27		7798067
Inorganics											
Conductivity	mS/cm								0.17	0.002	7808427
Moisture	%	18	7800585	5.3	7800616	11	1.0	7800585	12	1.0	7800585
Available (CaCl ₂) pH	pH								7.60		7802726
WAD Cyanide (Free)	ug/g								<0.01	0.01	7802597
RDL = Reportable Detection Limit											
QC Batch = Quality Control Batch											

Bureau Veritas ID		RRV896	RRV896			RRV897		RRV898		
Sampling Date		2022/01/21	2022/01/21			2022/01/20		2022/01/24		
COC Number		n/a	n/a			n/a		n/a		
	UNITS	MW21-6 SS6	MW21-6 SS6 Lab-Dup	RDL	QC Batch	BH21-7 SS2	QC Batch	BH21-8 SS1	RDL	QC Batch

Calculated Parameters										
Sodium Adsorption Ratio	N/A					1.5	7798067	15		7798067
Inorganics										
Conductivity	mS/cm					0.14	7808427	1.2	0.002	7808427
Moisture	%	14	15	1.0	7800585	7.9	7800616	14	1.0	7800585
Available (CaCl ₂) pH	pH					7.68	7802731	7.49		7802726
WAD Cyanide (Free)	ug/g					<0.01	7803420	<0.01	0.01	7802597
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Lab-Dup = Laboratory Initiated Duplicate										



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		RRV898			RRV899			RRV900		
Sampling Date		2022/01/24			2022/01/24			2022/01/20		
COC Number		n/a			n/a			n/a		
	UNITS	BH21-8 SS1 Lab-Dup	RDL	QC Batch	BH21-8 SS2	RDL	QC Batch	BH21-9 SS2	RDL	QC Batch
Calculated Parameters										
Sodium Adsorption Ratio	N/A							0.90		7798067
Inorganics										
Conductivity	mS/cm	1.3	0.002	7808427				0.14	0.002	7808427
Moisture	%				11	1.0	7800616	8.0	1.0	7800616
Available (CaCl ₂) pH	pH							7.60		7802731
WAD Cyanide (Free)	ug/g							<0.01	0.01	7803420
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate										

Bureau Veritas ID		RRV901		RRV902		
Sampling Date		2022/01/24		2022/01/24		
COC Number		n/a		n/a		
	UNITS	QAQC-1	QC Batch	QAQC-2	RDL	QC Batch
Inorganics						
Moisture	%	9.4	7800585	7.5	1.0	7800616
RDL = Reportable Detection Limit QC Batch = Quality Control Batch						

BUREAU
VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		RRV887	RRV889	RRV891	RRV895	RRV897	RRV898		
Sampling Date		2022/01/20	2022/01/24	2022/01/21	2022/01/21	2022/01/20	2022/01/24		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	MW21-2 SS2	MW21-3 SS2	MW21-4 SS2	MW21-6 SS1	BH21-7 SS2	BH21-8 SS1	RDL	QC Batch

Inorganics									
Chromium (VI)	ug/g	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	0.18	7800854
Metals									
Hot Water Ext. Boron (B)	ug/g	0.26	0.27	0.080	0.25	<0.050	0.13	0.050	7808184
Acid Extractable Antimony (Sb)	ug/g	<0.20	<0.20	<0.20	0.21	<0.20	<0.20	0.20	7805563
Acid Extractable Arsenic (As)	ug/g	1.2	<1.0	<1.0	3.8	<1.0	1.5	1.0	7805563
Acid Extractable Barium (Ba)	ug/g	27	10	15	28	13	19	0.50	7805563
Acid Extractable Beryllium (Be)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7805563
Acid Extractable Boron (B)	ug/g	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7805563
Acid Extractable Cadmium (Cd)	ug/g	0.17	<0.10	<0.10	0.17	<0.10	0.19	0.10	7805563
Acid Extractable Chromium (Cr)	ug/g	8.3	9.7	9.1	10	7.7	9.3	1.0	7805563
Acid Extractable Cobalt (Co)	ug/g	2.0	2.1	2.1	2.7	2.0	2.0	0.10	7805563
Acid Extractable Copper (Cu)	ug/g	6.7	2.1	2.7	7.6	1.8	5.9	0.50	7805563
Acid Extractable Lead (Pb)	ug/g	27	3.1	1.4	13	1.3	14	1.0	7805563
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7805563
Acid Extractable Nickel (Ni)	ug/g	3.3	3.7	3.6	4.9	3.5	3.2	0.50	7805563
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	7805563
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7805563
Acid Extractable Thallium (Tl)	ug/g	<0.050	<0.050	<0.050	0.078	<0.050	<0.050	0.050	7805563
Acid Extractable Uranium (U)	ug/g	0.26	0.30	0.34	0.32	0.32	0.24	0.050	7805563
Acid Extractable Vanadium (V)	ug/g	22	27	28	25	20	23	5.0	7805563
Acid Extractable Zinc (Zn)	ug/g	31	11	7.3	36	7.3	46	5.0	7805563
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7805563

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		RRV898			RRV900		
Sampling Date		2022/01/24			2022/01/20		
COC Number		n/a			n/a		
	UNITS	BH21-8 SS1 Lab-Dup	RDL	QC Batch	BH21-9 SS2	RDL	QC Batch
Inorganics							
Chromium (VI)	ug/g				<0.18	0.18	7800854
Metals							
Hot Water Ext. Boron (B)	ug/g				0.052	0.050	7808184
Acid Extractable Antimony (Sb)	ug/g	<0.20	0.20	7805563	<0.20	0.20	7805563
Acid Extractable Arsenic (As)	ug/g	1.4	1.0	7805563	<1.0	1.0	7805563
Acid Extractable Barium (Ba)	ug/g	18	0.50	7805563	14	0.50	7805563
Acid Extractable Beryllium (Be)	ug/g	<0.20	0.20	7805563	<0.20	0.20	7805563
Acid Extractable Boron (B)	ug/g	<5.0	5.0	7805563	<5.0	5.0	7805563
Acid Extractable Cadmium (Cd)	ug/g	0.16	0.10	7805563	<0.10	0.10	7805563
Acid Extractable Chromium (Cr)	ug/g	9.9	1.0	7805563	8.4	1.0	7805563
Acid Extractable Cobalt (Co)	ug/g	1.9	0.10	7805563	2.1	0.10	7805563
Acid Extractable Copper (Cu)	ug/g	6.1	0.50	7805563	1.9	0.50	7805563
Acid Extractable Lead (Pb)	ug/g	14	1.0	7805563	1.4	1.0	7805563
Acid Extractable Molybdenum (Mo)	ug/g	<0.50	0.50	7805563	<0.50	0.50	7805563
Acid Extractable Nickel (Ni)	ug/g	3.3	0.50	7805563	3.7	0.50	7805563
Acid Extractable Selenium (Se)	ug/g	<0.50	0.50	7805563	<0.50	0.50	7805563
Acid Extractable Silver (Ag)	ug/g	<0.20	0.20	7805563	<0.20	0.20	7805563
Acid Extractable Thallium (Tl)	ug/g	<0.050	0.050	7805563	<0.050	0.050	7805563
Acid Extractable Uranium (U)	ug/g	0.26	0.050	7805563	0.32	0.050	7805563
Acid Extractable Vanadium (V)	ug/g	26	5.0	7805563	23	5.0	7805563
Acid Extractable Zinc (Zn)	ug/g	46	5.0	7805563	7.6	5.0	7805563
Acid Extractable Mercury (Hg)	ug/g	<0.050	0.050	7805563	<0.050	0.050	7805563
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		RRV887	RRV889	RRV891	RRV893	RRV897	RRV899		
Sampling Date		2022/01/20	2022/01/24	2022/01/21	2022/01/21	2022/01/20	2022/01/24		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	MW21-2 SS2	MW21-3 SS2	MW21-4 SS2	MW21-5 SS1	BH21-7 SS2	BH21-8 SS2	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	0.030	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	7799963
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Acenaphthylene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Anthracene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Benzo(a)anthracene	ug/g	0.0085	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Benzo(a)pyrene	ug/g	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Benzo(b,j)fluoranthene	ug/g	0.021	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Benzo(g,h,i)perylene	ug/g	0.013	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Benzo(k)fluoranthene	ug/g	0.0057	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Chrysene	ug/g	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Fluoranthene	ug/g	0.019	0.0059	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Fluorene	ug/g	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Indeno(1,2,3-cd)pyrene	ug/g	0.012	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
1-Methylnaphthalene	ug/g	0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
2-Methylnaphthalene	ug/g	0.015	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Naphthalene	ug/g	0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Phenanthrene	ug/g	0.016	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Pyrene	ug/g	0.016	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	7805609
Surrogate Recovery (%)									
D10-Anthracene	%	89	91	88	89	86	88		7805609
D14-Terphenyl (FS)	%	89	89	86	87	85	87		7805609
D8-Acenaphthylene	%	86	87	83	85	81	82		7805609
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									



SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		RRV900	RRV902		
Sampling Date		2022/01/20	2022/01/24		
COC Number		n/a	n/a		
	UNITS	BH21-9 SS2	QAQC-2	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.048	0.0071	7799963
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	<0.0050	0.11	0.0050	7805609
Acenaphthylene	ug/g	<0.0050	0.021	0.0050	7805609
Anthracene	ug/g	<0.0050	0.24	0.0050	7805609
Benzo(a)anthracene	ug/g	<0.0050	0.38	0.0050	7805609
Benzo(a)pyrene	ug/g	<0.0050	0.28	0.0050	7805609
Benzo(b,j)fluoranthene	ug/g	<0.0050	0.38	0.0050	7805609
Benzo(g,h,i)perylene	ug/g	<0.0050	0.14	0.0050	7805609
Benzo(k)fluoranthene	ug/g	<0.0050	0.14	0.0050	7805609
Chrysene	ug/g	<0.0050	0.31	0.0050	7805609
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.043	0.0050	7805609
Fluoranthene	ug/g	<0.0050	0.99	0.0050	7805609
Fluorene	ug/g	<0.0050	0.13	0.0050	7805609
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.17	0.0050	7805609
1-Methylnaphthalene	ug/g	<0.0050	0.023	0.0050	7805609
2-Methylnaphthalene	ug/g	<0.0050	0.025	0.0050	7805609
Naphthalene	ug/g	<0.0050	0.032	0.0050	7805609
Phenanthrene	ug/g	<0.0050	0.95	0.0050	7805609
Pyrene	ug/g	<0.0050	0.69	0.0050	7805609
Surrogate Recovery (%)					
D10-Anthracene	%	84	86		7805609
D14-Terphenyl (FS)	%	83	88		7805609
D8-Acenaphthylene	%	79	85		7805609
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID		RRV886	RRV888	RRV890	RRV892	RRV894		
Sampling Date		2022/01/24	2022/01/20	2022/01/24	2022/01/21	2022/01/21		
COC Number		n/a	n/a	n/a	n/a	n/a		
	UNITS	MW21-1 SS5	MW21-2 SS5	MW21-3 SS5	MW21-4 SS6	MW21-5 SS5	RDL	QC Batch
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	7799964
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.49	<0.49	<0.49	<0.49	<0.49	0.49	7801298
Benzene	ug/g	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	7801298
Bromodichloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Bromoform	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Bromomethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Carbon Tetrachloride	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Chlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Chloroform	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Dibromochloromethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,1-Dichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,2-Dichloroethane	ug/g	<0.049	<0.049	<0.049	<0.049	<0.049	0.049	7801298
1,1-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,2-Dichloropropane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	<0.030	<0.030	0.030	7801298
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Ethylbenzene	ug/g	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7801298
Ethylene Dibromide	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Hexane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	<0.049	<0.049	<0.049	0.049	7801298
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7801298
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7801298
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Styrene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								

BUREAU
VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID		RRV886	RRV888	RRV890	RRV892	RRV894		
Sampling Date		2022/01/24	2022/01/20	2022/01/24	2022/01/21	2022/01/21		
COC Number		n/a	n/a	n/a	n/a	n/a		
	UNITS	MW21-1 SS5	MW21-2 SS5	MW21-3 SS5	MW21-4 SS6	MW21-5 SS5	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Tetrachloroethylene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7801298
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Trichloroethylene	ug/g	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	7801298
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	7801298
Vinyl Chloride	ug/g	<0.019	<0.019	<0.019	<0.019	<0.019	0.019	7801298
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7801298
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7801298
Total Xylenes	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	7801298
F1 (C6-C10)	ug/g	<10	<10	<10	<10	<10	10	7801298
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	<10	<10	10	7801298
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	95	94	94	94	95		7801298
D10-o-Xylene	%	118	106	113	109	107		7801298
D4-1,2-Dichloroethane	%	105	106	108	108	107		7801298
D8-Toluene	%	98	98	97	97	97		7801298
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID		RRV896	RRV901		
Sampling Date		2022/01/21	2022/01/24		
COC Number		n/a	n/a		
	UNITS	MW21-6 SS6	QAQC-1	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	0.050	7799964
Volatile Organics					
Acetone (2-Propanone)	ug/g	<0.49	<0.49	0.49	7801298
Benzene	ug/g	<0.0060	<0.0060	0.0060	7801298
Bromodichloromethane	ug/g	<0.040	<0.040	0.040	7801298
Bromoform	ug/g	<0.040	<0.040	0.040	7801298
Bromomethane	ug/g	<0.040	<0.040	0.040	7801298
Carbon Tetrachloride	ug/g	<0.040	<0.040	0.040	7801298
Chlorobenzene	ug/g	<0.040	<0.040	0.040	7801298
Chloroform	ug/g	<0.040	<0.040	0.040	7801298
Dibromochloromethane	ug/g	<0.040	<0.040	0.040	7801298
1,2-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	7801298
1,3-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	7801298
1,4-Dichlorobenzene	ug/g	<0.040	<0.040	0.040	7801298
Dichlorodifluoromethane (FREON 12)	ug/g	<0.040	<0.040	0.040	7801298
1,1-Dichloroethane	ug/g	<0.040	<0.040	0.040	7801298
1,2-Dichloroethane	ug/g	<0.049	<0.049	0.049	7801298
1,1-Dichloroethylene	ug/g	<0.040	<0.040	0.040	7801298
cis-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	7801298
trans-1,2-Dichloroethylene	ug/g	<0.040	<0.040	0.040	7801298
1,2-Dichloropropane	ug/g	<0.040	<0.040	0.040	7801298
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	0.030	7801298
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	0.040	7801298
Ethylbenzene	ug/g	<0.010	<0.010	0.010	7801298
Ethylene Dibromide	ug/g	<0.040	<0.040	0.040	7801298
Hexane	ug/g	<0.040	<0.040	0.040	7801298
Methylene Chloride(Dichloromethane)	ug/g	<0.049	<0.049	0.049	7801298
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.40	<0.40	0.40	7801298
Methyl Isobutyl Ketone	ug/g	<0.40	<0.40	0.40	7801298
Methyl t-butyl ether (MTBE)	ug/g	<0.040	<0.040	0.040	7801298
Styrene	ug/g	<0.040	<0.040	0.040	7801298
1,1,1,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	7801298
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID		RRV896	RRV901		
Sampling Date		2022/01/21	2022/01/24		
COC Number		n/a	n/a		
	UNITS	MW21-6 SS6	QAQC-1	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/g	<0.040	<0.040	0.040	7801298
Tetrachloroethylene	ug/g	<0.040	<0.040	0.040	7801298
Toluene	ug/g	<0.020	<0.020	0.020	7801298
1,1,1-Trichloroethane	ug/g	<0.040	<0.040	0.040	7801298
1,1,2-Trichloroethane	ug/g	<0.040	<0.040	0.040	7801298
Trichloroethylene	ug/g	<0.010	<0.010	0.010	7801298
Trichlorofluoromethane (FREON 11)	ug/g	<0.040	<0.040	0.040	7801298
Vinyl Chloride	ug/g	<0.019	<0.019	0.019	7801298
p+m-Xylene	ug/g	<0.020	<0.020	0.020	7801298
o-Xylene	ug/g	<0.020	<0.020	0.020	7801298
Total Xylenes	ug/g	<0.020	<0.020	0.020	7801298
F1 (C6-C10)	ug/g	<10	<10	10	7801298
F1 (C6-C10) - BTEX	ug/g	<10	<10	10	7801298
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	93	95		7801298
D10-o-Xylene	%	106	102		7801298
D4-1,2-Dichloroethane	%	104	105		7801298
D8-Toluene	%	98	98		7801298
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



BUREAU
VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		RRV886	RRV888	RRV890	RRV892	RRV894	RRV896	RRV901		
Sampling Date		2022/01/24	2022/01/20	2022/01/24	2022/01/21	2022/01/21	2022/01/21	2022/01/24		
COC Number		n/a	n/a	n/a	n/a	n/a	n/a	n/a		
	UNITS	MW21-1 SS5	MW21-2 SS5	MW21-3 SS5	MW21-4 SS6	MW21-5 SS5	MW21-6 SS6	QAQC-1	RDL	QC Batch
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	<10	<10	<10	<10	10	7805060
F3 (C16-C34 Hydrocarbons)	ug/g	<50	<50	<50	<50	<50	<50	<50	50	7805060
F4 (C34-C50 Hydrocarbons)	ug/g	<50	<50	<50	<50	<50	<50	<50	50	7805060
Reached Baseline at C50	ug/g	Yes	Yes	Yes	Yes	Yes	Yes	Yes		7805060
Surrogate Recovery (%)										
o-Terphenyl	%	93	91	87	95	92	92	98		7805060
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

TEST SUMMARY

Bureau Veritas ID: RRV886
Sample ID: MW21-1 SS5
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngondou
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV887
Sample ID: MW21-2 SS2
Matrix: Soil

Collected: 2022/01/20
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7803420	2022/01/27	2022/01/28	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj
pH CaCl2 EXTRACT	AT	7802731	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV888
Sample ID: MW21-2 SS5
Matrix: Soil

Collected: 2022/01/20
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngondou
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV889
Sample ID: MW21-3 SS2
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7803420	2022/01/27	2022/01/28	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

TEST SUMMARY

Bureau Veritas ID: RRV889
Sample ID: MW21-3 SS2
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	7802731	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV890
Sample ID: MW21-3 SS5
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngundu
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV891
Sample ID: MW21-4 SS2
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7803420	2022/01/27	2022/01/28	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj
pH CaCl2 EXTRACT	AT	7802731	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV892
Sample ID: MW21-4 SS6
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngundu
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV893
Sample ID: MW21-5 SS1
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

TEST SUMMARY

Bureau Veritas ID: RRV893
Sample ID: MW21-5 SS1
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj

Bureau Veritas ID: RRV894
Sample ID: MW21-5 SS5
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngundu
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV895
Sample ID: MW21-6 SS1
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7802597	2022/01/27	2022/01/27	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
pH CaCl2 EXTRACT	AT	7802726	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV896
Sample ID: MW21-6 SS6
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngundu
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV896 Dup
Sample ID: MW21-6 SS6
Matrix: Soil

Collected: 2022/01/21
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

TEST SUMMARY

Bureau Veritas ID: RRV897
Sample ID: BH21-7 SS2
Matrix: Soil

Collected: 2022/01/20
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7803420	2022/01/27	2022/01/28	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj
pH CaCl2 EXTRACT	AT	7802731	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV898
Sample ID: BH21-8 SS1
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7802597	2022/01/27	2022/01/27	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
pH CaCl2 EXTRACT	AT	7802726	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV898 Dup
Sample ID: BH21-8 SS1
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri

Bureau Veritas ID: RRV899
Sample ID: BH21-8 SS2
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

TEST SUMMARY

Bureau Veritas ID: RRV900
Sample ID: BH21-9 SS2
Matrix: Soil

Collected: 2022/01/20
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Hot Water Extractable Boron	ICP	7808184	2022/01/31	2022/01/31	Meghaben Patel
Free (WAD) Cyanide	TECH	7803420	2022/01/27	2022/01/28	Louise Harding
Conductivity	AT	7808427	2022/01/31	2022/01/31	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	7800854	2022/01/26	2022/01/27	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	7805563	2022/01/28	2022/01/28	Viviana Canzonieri
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj
pH CaCl2 EXTRACT	AT	7802731	2022/01/27	2022/01/27	Surinder Rai
Sodium Adsorption Ratio (SAR)	CALC/MET	7798067	N/A	2022/02/01	Automated Statchk

Bureau Veritas ID: RRV901
Sample ID: QAQC-1
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7799964	N/A	2022/01/28	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	7805060	2022/01/28	2022/01/28	Dennis Ngundu
Moisture	BAL	7800585	N/A	2022/01/26	Muhammad Chhaidan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7801298	N/A	2022/01/27	Denis Reid

Bureau Veritas ID: RRV902
Sample ID: QAQC-2
Matrix: Soil

Collected: 2022/01/24
Shipped:
Received: 2022/01/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7799963	N/A	2022/02/01	Automated Statchk
Moisture	BAL	7800616	N/A	2022/01/26	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	7805609	2022/01/28	2022/01/29	Mitesh Raj



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

GENERAL COMMENTS

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

Package 1	7.0°C
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Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7801298	4-Bromofluorobenzene	2022/01/27	100	60 - 140	102	60 - 140	96	%		
7801298	D10-o-Xylene	2022/01/27	126	60 - 130	102	60 - 130	113	%		
7801298	D4-1,2-Dichloroethane	2022/01/27	105	60 - 140	106	60 - 140	104	%		
7801298	D8-Toluene	2022/01/27	102	60 - 140	101	60 - 140	98	%		
7805060	o-Terphenyl	2022/01/28	90	60 - 130	86	60 - 130	90	%		
7805609	D10-Anthracene	2022/01/29	90	50 - 130	95	50 - 130	89	%		
7805609	D14-Terphenyl (FS)	2022/01/29	89	50 - 130	92	50 - 130	88	%		
7805609	D8-Acenaphthylene	2022/01/29	85	50 - 130	92	50 - 130	85	%		
7800585	Moisture	2022/01/26							4.8	20
7800616	Moisture	2022/01/26							1.2	20
7800854	Chromium (VI)	2022/01/27	88	70 - 130	95	80 - 120	<0.18	ug/g	NC	35
7801298	1,1,1,2-Tetrachloroethane	2022/01/27	102	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
7801298	1,1,1-Trichloroethane	2022/01/27	95	60 - 140	94	60 - 130	<0.040	ug/g	NC	50
7801298	1,1,2,2-Tetrachloroethane	2022/01/27	109	60 - 140	113	60 - 130	<0.040	ug/g	NC	50
7801298	1,1,2-Trichloroethane	2022/01/27	109	60 - 140	110	60 - 130	<0.040	ug/g	NC	50
7801298	1,1-Dichloroethane	2022/01/27	93	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
7801298	1,1-Dichloroethylene	2022/01/27	94	60 - 140	93	60 - 130	<0.040	ug/g	NC	50
7801298	1,2-Dichlorobenzene	2022/01/27	102	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
7801298	1,2-Dichloroethane	2022/01/27	97	60 - 140	97	60 - 130	<0.049	ug/g	NC	50
7801298	1,2-Dichloropropane	2022/01/27	100	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
7801298	1,3-Dichlorobenzene	2022/01/27	102	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
7801298	1,4-Dichlorobenzene	2022/01/27	119	60 - 140	116	60 - 130	<0.040	ug/g	NC	50
7801298	Acetone (2-Propanone)	2022/01/27	116	60 - 140	116	60 - 140	<0.49	ug/g	NC	50
7801298	Benzene	2022/01/27	92	60 - 140	91	60 - 130	<0.0060	ug/g	NC	50
7801298	Bromodichloromethane	2022/01/27	103	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
7801298	Bromoform	2022/01/27	105	60 - 140	109	60 - 130	<0.040	ug/g	NC	50
7801298	Bromomethane	2022/01/27	94	60 - 140	90	60 - 140	<0.040	ug/g	NC	50
7801298	Carbon Tetrachloride	2022/01/27	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
7801298	Chlorobenzene	2022/01/27	100	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
7801298	Chloroform	2022/01/27	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
7801298	cis-1,2-Dichloroethylene	2022/01/27	97	60 - 140	96	60 - 130	<0.040	ug/g	NC	50

BUREAU
VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7801298	cis-1,3-Dichloropropene	2022/01/27	109	60 - 140	102	60 - 130	<0.030	ug/g	NC	50
7801298	Dibromochloromethane	2022/01/27	101	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
7801298	Dichlorodifluoromethane (FREON 12)	2022/01/27	59 (1)	60 - 140	60 (1)	60 - 140	<0.040	ug/g	NC	50
7801298	Ethylbenzene	2022/01/27	95	60 - 140	94	60 - 130	<0.010	ug/g	NC	50
7801298	Ethylene Dibromide	2022/01/27	101	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
7801298	F1 (C6-C10) - BTEX	2022/01/27					<10	ug/g	NC	30
7801298	F1 (C6-C10)	2022/01/27	100	60 - 140	96	80 - 120	<10	ug/g	NC	30
7801298	Hexane	2022/01/27	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
7801298	Methyl Ethyl Ketone (2-Butanone)	2022/01/27	125	60 - 140	128	60 - 140	<0.40	ug/g	NC	50
7801298	Methyl Isobutyl Ketone	2022/01/27	120	60 - 140	125	60 - 130	<0.40	ug/g	NC	50
7801298	Methyl t-butyl ether (MTBE)	2022/01/27	92	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
7801298	Methylene Chloride(Dichloromethane)	2022/01/27	95	60 - 140	94	60 - 130	<0.049	ug/g	NC	50
7801298	o-Xylene	2022/01/27	97	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
7801298	p+m-Xylene	2022/01/27	98	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
7801298	Styrene	2022/01/27	111	60 - 140	109	60 - 130	<0.040	ug/g	NC	50
7801298	Tetrachloroethylene	2022/01/27	88	60 - 140	87	60 - 130	<0.040	ug/g	NC	50
7801298	Toluene	2022/01/27	90	60 - 140	89	60 - 130	<0.020	ug/g	NC	50
7801298	Total Xylenes	2022/01/27					<0.020	ug/g	NC	50
7801298	trans-1,2-Dichloroethylene	2022/01/27	93	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
7801298	trans-1,3-Dichloropropene	2022/01/27	120	60 - 140	107	60 - 130	<0.040	ug/g	NC	50
7801298	Trichloroethylene	2022/01/27	99	60 - 140	98	60 - 130	<0.010	ug/g	NC	50
7801298	Trichlorofluoromethane (FREON 11)	2022/01/27	89	60 - 140	88	60 - 130	<0.040	ug/g	NC	50
7801298	Vinyl Chloride	2022/01/27	86	60 - 140	85	60 - 130	<0.019	ug/g	NC	50
7802597	WAD Cyanide (Free)	2022/01/27	98	75 - 125	101	80 - 120	<0.01	ug/g	NC	35
7802726	Available (CaCl2) pH	2022/01/27			101	97 - 103			2.0	N/A
7802731	Available (CaCl2) pH	2022/01/27			101	97 - 103			0.076	N/A
7803420	WAD Cyanide (Free)	2022/01/28	102	75 - 125	97	80 - 120	<0.01	ug/g	NC	35
7805060	F2 (C10-C16 Hydrocarbons)	2022/01/28	95	60 - 130	99	80 - 120	<10	ug/g	8.5	30
7805060	F3 (C16-C34 Hydrocarbons)	2022/01/28	99	60 - 130	102	80 - 120	<50	ug/g	NC	30
7805060	F4 (C34-C50 Hydrocarbons)	2022/01/28	101	60 - 130	102	80 - 120	<50	ug/g	NC	30
7805563	Acid Extractable Antimony (Sb)	2022/01/28	89	75 - 125	99	80 - 120	<0.20	ug/g	NC	30

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Bureau Veritas Job #: C220369

Report Date: 2022/07/21

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7805563	Acid Extractable Arsenic (As)	2022/01/28	91	75 - 125	101	80 - 120	<1.0	ug/g	6.0	30
7805563	Acid Extractable Barium (Ba)	2022/01/28	88	75 - 125	99	80 - 120	<0.50	ug/g	5.3	30
7805563	Acid Extractable Beryllium (Be)	2022/01/28	90	75 - 125	96	80 - 120	<0.20	ug/g	NC	30
7805563	Acid Extractable Boron (B)	2022/01/28	81	75 - 125	95	80 - 120	<5.0	ug/g	NC	30
7805563	Acid Extractable Cadmium (Cd)	2022/01/28	92	75 - 125	101	80 - 120	<0.10	ug/g	15	30
7805563	Acid Extractable Chromium (Cr)	2022/01/28	96	75 - 125	102	80 - 120	<1.0	ug/g	6.0	30
7805563	Acid Extractable Cobalt (Co)	2022/01/28	93	75 - 125	100	80 - 120	<0.10	ug/g	5.1	30
7805563	Acid Extractable Copper (Cu)	2022/01/28	89	75 - 125	97	80 - 120	<0.50	ug/g	3.8	30
7805563	Acid Extractable Lead (Pb)	2022/01/28	95	75 - 125	100	80 - 120	<1.0	ug/g	1.4	30
7805563	Acid Extractable Mercury (Hg)	2022/01/28	84	75 - 125	93	80 - 120	<0.050	ug/g	NC	30
7805563	Acid Extractable Molybdenum (Mo)	2022/01/28	92	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
7805563	Acid Extractable Nickel (Ni)	2022/01/28	94	75 - 125	100	80 - 120	<0.50	ug/g	4.8	30
7805563	Acid Extractable Selenium (Se)	2022/01/28	92	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
7805563	Acid Extractable Silver (Ag)	2022/01/28	94	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
7805563	Acid Extractable Thallium (Tl)	2022/01/28	94	75 - 125	102	80 - 120	<0.050	ug/g	NC	30
7805563	Acid Extractable Uranium (U)	2022/01/28	96	75 - 125	101	80 - 120	<0.050	ug/g	8.1	30
7805563	Acid Extractable Vanadium (V)	2022/01/28	98	75 - 125	100	80 - 120	<5.0	ug/g	12	30
7805563	Acid Extractable Zinc (Zn)	2022/01/28	NC	75 - 125	101	80 - 120	<5.0	ug/g	1.2	30
7805609	1-Methylnaphthalene	2022/01/29	88	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
7805609	2-Methylnaphthalene	2022/01/29	87	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
7805609	Acenaphthene	2022/01/29	91	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
7805609	Acenaphthylene	2022/01/29	87	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
7805609	Anthracene	2022/01/29	90	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
7805609	Benzo(a)anthracene	2022/01/29	101	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
7805609	Benzo(a)pyrene	2022/01/29	99	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
7805609	Benzo(b/j)fluoranthene	2022/01/29	97	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
7805609	Benzo(g,h,i)perylene	2022/01/29	101	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
7805609	Benzo(k)fluoranthene	2022/01/29	97	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
7805609	Chrysene	2022/01/29	101	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
7805609	Dibenzo(a,h)anthracene	2022/01/29	103	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
7805609	Fluoranthene	2022/01/29	101	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40

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VERITAS

Bureau Veritas Job #: C220369

Report Date: 2022/07/21

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: FA

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7805609	Fluorene	2022/01/29	95	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
7805609	Indeno(1,2,3-cd)pyrene	2022/01/29	104	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
7805609	Naphthalene	2022/01/29	75	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
7805609	Phenanthrene	2022/01/29	97	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
7805609	Pyrene	2022/01/29	100	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
7808184	Hot Water Ext. Boron (B)	2022/01/31	107	75 - 125	102	75 - 125	<0.050	ug/g	1.9	40
7808427	Conductivity	2022/01/31			101	90 - 110	<0.002	mS/cm	1.5	10

N/A = Not Applicable

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

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

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

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) The recovery was below the lower control limit. This may represent a low bias in some results for this specific analyte.



Bureau Veritas Job #: C220369
Report Date: 2022/07/21

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: FA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read 'Brad Newman'.

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

Bureau Veritas 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.



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CHAIN OF CUSTODY RECORD

ENV COC - 00014v2

Invoice Information		Invoice to (requires report)		Report Information (if differs from invoice)		Project Information	
Company: DS		Company: DS Consultants		Quotation #:		Ashton Gibson	
Contact Name: Accounting		Contact Name: Julia Arends		P.O. #/AFE#:		C220369	
Street:		Street: 6221 Hwy 7, Unit 16		Project #:		KSE ENV-1280	
Address:		Address: Vaughan ON L4H0H9		Site #:		Rush Confirmation is:	
City:		City: Vaughan		Site Location:		17-27 Jacobs Terrace	
Prov:		Prov: ON		Site Location:		ON	
Postal Code:		Postal Code: L4H0H9		Province:		Fahmida Anwer	
Phone:		Phone:		Sampled By:			
Email:		Email: julia.arends@dsconsultants.ca					
Copies:		Copies:					
Regulatory Criteria		Regulatory Criteria		Regulatory Criteria		Regulatory Criteria	
Table 1		Table 1		Table 1		Table 1	
Table 2		Table 2		Table 2		Table 2	
Table 3		Table 3		Table 3		Table 3	
Table		Table		Table		Table	
Include Criteria on Certificate of Analysis (check if yes):		Include Criteria on Certificate of Analysis (check if yes):		Include Criteria on Certificate of Analysis (check if yes):		Include Criteria on Certificate of Analysis (check if yes):	
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS		SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS		SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS		SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS	
Sample Identification		Date Sampled		Time (24hr)		Matrix	
YY MM DD HH MM		YY MM DD HH MM		YY MM DD HH MM		YY MM DD HH MM	
1 MW21-1 SSS		22 01 24		AmPm		Soil	
2 MW21-2 SS2		22 01 20					
3 MW21-2 SSS		22 01 20					
4 MW21-3 SS2		22 01 24					
5 MW21-3 SS5		22 01 24					
6 MW21-4 SS2		22 01 21					
7 MW21-4 SS6		22 01 21					
8 MW21-5 SS1		22 01 21					
9 MW21-5 SSS		22 01 21					
10 MW21-6 SS1		22 01 21					
11 MW21-6 SS6		22 01 21					
12 BH21-7 SS2		22 01 20		✓		✓	
LAB USE ONLY		LAB USE ONLY		LAB USE ONLY		LAB USE ONLY	
Seal present		Seal present		Seal present		Seal present	
Seal intact		Seal intact		Seal intact		Seal intact	
Cooling media present		Cooling media present		Cooling media present		Cooling media present	
Relinquished by: (Signature/ Print)		Relinquished by: (Signature/ Print)		Relinquished by: (Signature/ Print)		Relinquished by: (Signature/ Print)	
Date		Date		Date		Date	
YY MM DD HH MM		YY MM DD HH MM		YY MM DD HH MM		YY MM DD HH MM	
22 01 25 16 15		22 01 25 16 15		22 01 25 16 15		22 01 25 16 15	
Received by: (Signature/ Print)		Received by: (Signature/ Print)		Received by: (Signature/ Print)		Received by: (Signature/ Print)	
Date		Date		Date		Date	
YY MM DD HH MM		YY MM DD HH MM		YY MM DD HH MM		YY MM DD HH MM	
22 01 25 16 15		22 01 25 16 15		22 01 25 16 15		22 01 25 16 15	
Special Instructions		Special Instructions		Special Instructions		Special Instructions	



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CHAIN OF CUSTODY RECORD

ENV COC - 00014v2

Page 2 of 2

Invoice Information				Report Information (if differs from invoice)				Project Information				LAB USE ONLY - PLACE STICKER HERE			
Company: <u>DS</u> Contact Name: <u>Accounting</u> Street Address: City: Prov: Postal Code:				Company: <u>DS</u> Contact Name: <u>Julia Arends</u> Street Address: <u>6221 Hwy 7, Unit 16</u> City: <u>Vaughan</u> Prov: <u>ON</u> Postal Code:				Quotation #: P.O. #/ AFR: Project #: <u>21-018-101</u> Site #: Site Location: <u>17-27 Jacobs Terrace</u> Site Location Province: <u>ON</u> Sampled By: <u>Fahmida Anwar</u>							
Phone: Email: Copies:				Phone: Email: <u>julia.arends@dsconsultants.ca</u> Copies:				Rush Confirmation #:							

Regulatory Criteria												Regular Turnaround Time (TAT)											
REG 153: ☒ Table 1 ☒ Yes/Park ☐ Med/Fine ☐ CME ☐ Reg 406, Table: ☐ Sanitary Sewer Bylaw ☒ Table 2 ☐ Ind/Comm ☐ Course ☐ *min 3 day TAT ☐ Storm Sewer Bylaw ☐ Table 3 ☐ Agri/other ☐ For RSC ☐ MISA ☐ Municipality ☐ Table ☐ PWQO ☐ Other:												☒ 5 to 7 Day ☐ 10 Day Rush Turnaround Time (TAT) Surcharges apply ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 Day											
Include Criteria on Certificate of Analysis (check if yes): ☐ SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS																							

Sample Identification	Date Sampled			Time (24hr)		Matrix	ANALYSIS												# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	Date Required: YY MM DD	Comments								
	YY	MM	DD	HH	MM		1	2	3	4	5	6	7	8	9	10	11	12					13	14	15	16	17	18	19	20
1 BH21-8 SS1	22	01	24	AM	PM	Soil																						1		
2 BH21-8 SS2	22	01	24																									1		
3 BH21-9 SS2	22	01	20																									2		
4 QAQC-1	22	01	24																									3		
5 QAQC-2	22	01	24																									1		
6																														
7																														
8																														
9																														
10																														
11																														
12																														

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY				LAB USE ONLY				LAB USE ONLY				LAB USE ONLY			
Seal present	Yes	No	°C	Seal present	Yes	No	°C	Seal present	Yes	No	°C	Seal present	Yes	No	°C
Seal intact				Seal intact				Seal intact				Seal intact			
Cooling media present				Cooling media present				Cooling media present				Cooling media present			
Relinquished by: (Signature/ Print) <u>Fahmida</u> <u>FAHMIDA</u> <u>22</u> <u>01</u> <u>25</u> <u>16</u> <u>15</u>				Received by: (Signature/ Print) <u>[Signature]</u> <u>22</u> <u>01</u> <u>25</u> <u>16</u> <u>28</u>				Special instructions				Temperature reading by:			



Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Your Project #: 21-018-101
Site#: BARRIE
Site Location: 17-27 JACOBS TERRACE
Your C.O.C. #: n/a

Report Date: 2022/12/15

Report #: R7431479

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AB189

Received: 2022/12/08, 16:15

Sample Matrix: Soil
Samples Received: 4

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	4	N/A	2022/12/14	CAM SOP-00301	EPA 8270D m
Moisture	4	N/A	2022/12/13	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	4	2022/12/13	2022/12/14	CAM SOP-00318	EPA 8270D 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.

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

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



Your Project #: 21-018-101
Site#: BARRIE
Site Location: 17-27 JACOBS TERRACE
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/12/15
Report #: R7431479
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AB189

Received: 2022/12/08, 16:15

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

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O.REG 153 PAHS (SOIL)

Bureau Veritas ID		UNM080	UNM081		UNM082			UNM082		
Sampling Date		2022/12/08 15:00	2022/12/08 15:00		2022/12/08 15:00			2022/12/08 15:00		
COC Number		n/a	n/a		n/a			n/a		
	UNITS	S1	S2	QC Batch	S3	RDL	QC Batch	S3 Lab-Dup	RDL	QC Batch
Inorganics										
Moisture	%	6.8	7.1	8402105	9.8	1.0	8401954	10	1.0	8401954
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	8392963	<0.0071	0.0071	8392963			
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Acenaphthylene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Anthracene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Benzo(a)pyrene	ug/g	<0.0050	0.0061	8402161	<0.0050	0.0050	8402161			
Benzo(b,j)fluoranthene	ug/g	0.0051	0.0091	8402161	<0.0050	0.0050	8402161			
Benzo(g,h,i)perylene	ug/g	0.014	0.014	8402161	<0.0050	0.0050	8402161			
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Chrysene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Fluoranthene	ug/g	<0.0050	0.0061	8402161	<0.0050	0.0050	8402161			
Fluorene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Indeno(1,2,3-cd)pyrene	ug/g	0.0051	0.0068	8402161	<0.0050	0.0050	8402161			
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Naphthalene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Phenanthrene	ug/g	<0.0050	<0.0050	8402161	<0.0050	0.0050	8402161			
Pyrene	ug/g	<0.0050	0.0095	8402161	<0.0050	0.0050	8402161			
Surrogate Recovery (%)										
D10-Anthracene	%	105	101	8402161	102		8402161			
D14-Terphenyl (FS)	%	103	96	8402161	107		8402161			
D8-Acenaphthylene	%	104	95	8402161	101		8402161			
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Lab-Dup = Laboratory Initiated Duplicate										



O.REG 153 PAHS (SOIL)

Bureau Veritas ID		UNM083		
Sampling Date		2022/12/08 15:00		
COC Number		n/a		
	UNITS	DUP	RDL	QC Batch
Inorganics				
Moisture	%	9.9	1.0	8402105
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	8392963
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	<0.0050	0.0050	8402161
Acenaphthylene	ug/g	<0.0050	0.0050	8402161
Anthracene	ug/g	<0.0050	0.0050	8402161
Benzo(a)anthracene	ug/g	<0.0050	0.0050	8402161
Benzo(a)pyrene	ug/g	<0.0050	0.0050	8402161
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	8402161
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	8402161
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	8402161
Chrysene	ug/g	<0.0050	0.0050	8402161
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.0050	8402161
Fluoranthene	ug/g	<0.0050	0.0050	8402161
Fluorene	ug/g	<0.0050	0.0050	8402161
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	8402161
1-Methylnaphthalene	ug/g	<0.0050	0.0050	8402161
2-Methylnaphthalene	ug/g	<0.0050	0.0050	8402161
Naphthalene	ug/g	<0.0050	0.0050	8402161
Phenanthrene	ug/g	<0.0050	0.0050	8402161
Pyrene	ug/g	<0.0050	0.0050	8402161
Surrogate Recovery (%)				
D10-Anthracene	%	97		8402161
D14-Terphenyl (FS)	%	104		8402161
D8-Acenaphthylene	%	96		8402161
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



Bureau Veritas Job #: C2AB189
Report Date: 2022/12/15

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: A

TEST SUMMARY

Bureau Veritas ID: UNM080
Sample ID: S1
Matrix: Soil

Collected: 2022/12/08
Shipped:
Received: 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8392963	N/A	2022/12/14	Automated Statchk
Moisture	BAL	8402105	N/A	2022/12/13	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8402161	2022/12/13	2022/12/14	Mitesh Raj

Bureau Veritas ID: UNM081
Sample ID: S2
Matrix: Soil

Collected: 2022/12/08
Shipped:
Received: 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8392963	N/A	2022/12/14	Automated Statchk
Moisture	BAL	8402105	N/A	2022/12/13	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8402161	2022/12/13	2022/12/14	Mitesh Raj

Bureau Veritas ID: UNM082
Sample ID: S3
Matrix: Soil

Collected: 2022/12/08
Shipped:
Received: 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8392963	N/A	2022/12/14	Automated Statchk
Moisture	BAL	8401954	N/A	2022/12/13	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8402161	2022/12/13	2022/12/14	Mitesh Raj

Bureau Veritas ID: UNM082 Dup
Sample ID: S3
Matrix: Soil

Collected: 2022/12/08
Shipped:
Received: 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8401954	N/A	2022/12/13	Simrat Bhathal

Bureau Veritas ID: UNM083
Sample ID: DUP
Matrix: Soil

Collected: 2022/12/08
Shipped:
Received: 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8392963	N/A	2022/12/14	Automated Statchk
Moisture	BAL	8402105	N/A	2022/12/13	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8402161	2022/12/13	2022/12/14	Mitesh Raj



Bureau Veritas Job #: C2AB189
Report Date: 2022/12/15

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: A

GENERAL COMMENTS

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

Package 1	3.3°C
-----------	-------

Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C2AB189

Report Date: 2022/12/15

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: A

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8402161	D10-Anthracene	2022/12/14	95	50 - 130	101	50 - 130	98	%		
8402161	D14-Terphenyl (FS)	2022/12/14	112	50 - 130	116	50 - 130	108	%		
8402161	D8-Acenaphthylene	2022/12/14	97	50 - 130	105	50 - 130	97	%		
8401954	Moisture	2022/12/13							5.0	20
8402105	Moisture	2022/12/13							0.87	20
8402161	1-Methylnaphthalene	2022/12/14	87	50 - 130	96	50 - 130	<0.0050	ug/g	14	40
8402161	2-Methylnaphthalene	2022/12/14	84	50 - 130	91	50 - 130	<0.0050	ug/g	13	40
8402161	Acenaphthene	2022/12/14	89	50 - 130	97	50 - 130	<0.0050	ug/g	32	40
8402161	Acenaphthylene	2022/12/14	91	50 - 130	97	50 - 130	<0.0050	ug/g	2.5	40
8402161	Anthracene	2022/12/14	85	50 - 130	95	50 - 130	<0.0050	ug/g	38	40
8402161	Benzo(a)anthracene	2022/12/14	73	50 - 130	96	50 - 130	<0.0050	ug/g	31	40
8402161	Benzo(a)pyrene	2022/12/14	69	50 - 130	91	50 - 130	<0.0050	ug/g	28	40
8402161	Benzo(b/j)fluoranthene	2022/12/14	71	50 - 130	92	50 - 130	<0.0050	ug/g	25	40
8402161	Benzo(g,h,i)perylene	2022/12/14	79	50 - 130	99	50 - 130	<0.0050	ug/g	21	40
8402161	Benzo(k)fluoranthene	2022/12/14	69	50 - 130	85	50 - 130	<0.0050	ug/g	31	40
8402161	Chrysene	2022/12/14	77	50 - 130	96	50 - 130	<0.0050	ug/g	32	40
8402161	Dibenzo(a,h)anthracene	2022/12/14	77	50 - 130	88	50 - 130	<0.0050	ug/g	27	40
8402161	Fluoranthene	2022/12/14	79	50 - 130	107	50 - 130	<0.0050	ug/g	28	40
8402161	Fluorene	2022/12/14	89	50 - 130	98	50 - 130	<0.0050	ug/g	28	40
8402161	Indeno(1,2,3-cd)pyrene	2022/12/14	75	50 - 130	94	50 - 130	<0.0050	ug/g	23	40
8402161	Naphthalene	2022/12/14	85	50 - 130	93	50 - 130	<0.0050	ug/g	14	40
8402161	Phenanthrene	2022/12/14	72	50 - 130	94	50 - 130	<0.0050	ug/g	37	40
8402161	Pyrene	2022/12/14	86	50 - 130	108	50 - 130	<0.0050	ug/g	25	40

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

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

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

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

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



Bureau Veritas Job #: C2AB189
Report Date: 2022/12/15

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: A

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas 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 Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Your Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/10/31
Report #: R7366113
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2V1531

Received: 2022/10/25, 15:10

Sample Matrix: Soil
Samples Received: 5

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	5	N/A	2022/10/31	CAM SOP-00301	EPA 8270D m
Moisture	5	N/A	2022/10/29	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	5	2022/10/29	2022/10/30	CAM SOP-00318	EPA 8270D 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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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



Your Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/10/31
Report #: R7366113
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2V1531

Received: 2022/10/25, 15:10

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas 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 Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UCN241	UCN242	UCN243	UCN244	UCN245		
Sampling Date			2022/10/25	2022/10/25	2022/10/25	2022/10/25	2022/10/25		
COC Number			n/a	n/a	n/a	n/a	n/a		
	UNITS	Criteria	BH22-11 SS1	BH22-13 SS1	BH22-14 SS1	BH22-15 SS1	QAQC-001	RDL	QC Batch
Inorganics									
Moisture	%	-	6.6	5.4	6.1	7.0	5.2	1.0	8314557
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	-	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	8305509
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	7.9	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Acenaphthylene	ug/g	0.15	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Anthracene	ug/g	0.67	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Benzo(a)anthracene	ug/g	0.5	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Benzo(a)pyrene	ug/g	0.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Benzo(b/j)fluoranthene	ug/g	0.78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Benzo(g,h,i)perylene	ug/g	6.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Benzo(k)fluoranthene	ug/g	0.78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Chrysene	ug/g	7	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Fluoranthene	ug/g	0.69	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Fluorene	ug/g	62	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Indeno(1,2,3-cd)pyrene	ug/g	0.38	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
1-Methylnaphthalene	ug/g	0.99	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
2-Methylnaphthalene	ug/g	0.99	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Naphthalene	ug/g	0.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Phenanthrene	ug/g	6.2	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Pyrene	ug/g	78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8314272
Surrogate Recovery (%)									
D10-Anthracene	%	-	109	108	117	102	112		8314272
D14-Terphenyl (FS)	%	-	114	114	121	109	114		8314272
D8-Acenaphthylene	%	-	99	99	105	93	99		8314272
No Fill	No Exceedance								
Grey	Exceeds 1 criteria policy/level								
Black	Exceeds both criteria/levels								
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch									
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)									
Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition									
Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soil									



Bureau Veritas Job #: C2V1531
Report Date: 2022/10/31

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: MN

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UCN245		
Sampling Date			2022/10/25		
COC Number			n/a		
	UNITS	Criteria	QAQC-001 Lab-Dup	RDL	QC Batch
Inorganics					
Moisture	%	-	5.2	1.0	8314557
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
Lab-Dup = Laboratory Initiated Duplicate					
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)					
Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition					
Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soil					



Bureau Veritas Job #: C2V1531
Report Date: 2022/10/31

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: MN

TEST SUMMARY

Bureau Veritas ID: UCN241
Sample ID: BH22-11 SS1
Matrix: Soil

Collected: 2022/10/25
Shipped:
Received: 2022/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8305509	N/A	2022/10/31	Automated Statchk
Moisture	BAL	8314557	N/A	2022/10/29	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8314272	2022/10/29	2022/10/30	Jonghan Yoon

Bureau Veritas ID: UCN242
Sample ID: BH22-13 SS1
Matrix: Soil

Collected: 2022/10/25
Shipped:
Received: 2022/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8305509	N/A	2022/10/31	Automated Statchk
Moisture	BAL	8314557	N/A	2022/10/29	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8314272	2022/10/29	2022/10/30	Jonghan Yoon

Bureau Veritas ID: UCN243
Sample ID: BH22-14 SS1
Matrix: Soil

Collected: 2022/10/25
Shipped:
Received: 2022/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8305509	N/A	2022/10/31	Automated Statchk
Moisture	BAL	8314557	N/A	2022/10/29	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8314272	2022/10/29	2022/10/30	Jonghan Yoon

Bureau Veritas ID: UCN244
Sample ID: BH22-15 SS1
Matrix: Soil

Collected: 2022/10/25
Shipped:
Received: 2022/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8305509	N/A	2022/10/31	Automated Statchk
Moisture	BAL	8314557	N/A	2022/10/29	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8314272	2022/10/29	2022/10/30	Jonghan Yoon

Bureau Veritas ID: UCN245
Sample ID: QAQC-001
Matrix: Soil

Collected: 2022/10/25
Shipped:
Received: 2022/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8305509	N/A	2022/10/31	Automated Statchk
Moisture	BAL	8314557	N/A	2022/10/29	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8314272	2022/10/29	2022/10/30	Jonghan Yoon



Bureau Veritas Job #: C2V1531
Report Date: 2022/10/31

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: MN

TEST SUMMARY

Bureau Veritas ID: UCN245 Dup
Sample ID: QAQC-001
Matrix: Soil

Collected: 2022/10/25
Shipped:
Received: 2022/10/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8314557	N/A	2022/10/29	Simrat Bhathal



Bureau Veritas Job #: C2V1531
Report Date: 2022/10/31

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: MN

GENERAL COMMENTS

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

Package 1	3.3°C
-----------	-------

Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C2V1531

Report Date: 2022/10/31

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRACE

Sampler Initials: MN

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8314272	D10-Anthracene	2022/10/30	129	50 - 130	104	50 - 130	112	%		
8314272	D14-Terphenyl (FS)	2022/10/30	115	50 - 130	107	50 - 130	110	%		
8314272	D8-Acenaphthylene	2022/10/30	106	50 - 130	97	50 - 130	99	%		
8314272	1-Methylnaphthalene	2022/10/30	74	50 - 130	108	50 - 130	<0.0050	ug/g	34	40
8314272	2-Methylnaphthalene	2022/10/30	NC	50 - 130	101	50 - 130	<0.0050	ug/g	35	40
8314272	Acenaphthene	2022/10/30	109	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
8314272	Acenaphthylene	2022/10/30	102	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40
8314272	Anthracene	2022/10/30	117	50 - 130	106	50 - 130	<0.0050	ug/g	NC	40
8314272	Benzo(a)anthracene	2022/10/30	114	50 - 130	102	50 - 130	<0.0050	ug/g	18	40
8314272	Benzo(a)pyrene	2022/10/30	101	50 - 130	94	50 - 130	<0.0050	ug/g	13	40
8314272	Benzo(b/j)fluoranthene	2022/10/30	96	50 - 130	96	50 - 130	<0.0050	ug/g	12	40
8314272	Benzo(g,h,i)perylene	2022/10/30	92	50 - 130	89	50 - 130	<0.0050	ug/g	4.0	40
8314272	Benzo(k)fluoranthene	2022/10/30	95	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8314272	Chrysene	2022/10/30	104	50 - 130	102	50 - 130	<0.0050	ug/g	11	40
8314272	Dibenzo(a,h)anthracene	2022/10/30	89	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40
8314272	Fluoranthene	2022/10/30	126	50 - 130	106	50 - 130	<0.0050	ug/g	12	40
8314272	Fluorene	2022/10/30	94	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40
8314272	Indeno(1,2,3-cd)pyrene	2022/10/30	91	50 - 130	92	50 - 130	<0.0050	ug/g	9.8	40
8314272	Naphthalene	2022/10/30	83	50 - 130	100	50 - 130	<0.0050	ug/g	17	40
8314272	Phenanthrene	2022/10/30	105	50 - 130	100	50 - 130	<0.0050	ug/g	1.9	40
8314272	Pyrene	2022/10/30	125	50 - 130	107	50 - 130	<0.0050	ug/g	12	40
8314557	Moisture	2022/10/29							0	20

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

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

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

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C2V1531
Report Date: 2022/10/31

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: MN

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in cursive script that reads "Cristina Carriere".

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas 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 Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Bureau Veritas Job #: C2V1531
Report Date: 2022/10/31

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRACE
Sampler Initials: MN

Exceedance Summary Table – Reg153/04 T2-Soil/Res-C
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Your Project #: 21-018-101
Your C.O.C. #: N/A

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/12/02
Report #: R7413820
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Z0408

Received: 2022/11/29, 15:38

Sample Matrix: Soil
Samples Received: 2

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	2	N/A	2022/12/02	CAM SOP-00301	EPA 8270D m
Moisture	2	N/A	2022/12/01	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	2	2022/12/01	2022/12/02	CAM SOP-00318	EPA 8270D 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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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



Your Project #: 21-018-101
Your C.O.C. #: N/A

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/12/02
Report #: R7413820
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2Z0408

Received: 2022/11/29, 15:38

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

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O.REG 153 PAHS (SOIL)

Bureau Veritas ID		ULD552	ULD553		
Sampling Date		2022/11/25	2022/11/25		
COC Number		N/A	N/A		
	UNITS	BH22-13 SS3	BH22-15 SS3	RDL	QC Batch
Inorganics					
Moisture	%	14	13	1.0	8378056
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	0.0071	8374102
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	<0.0050	<0.0050	0.0050	8379052
Acenaphthylene	ug/g	<0.0050	<0.0050	0.0050	8379052
Anthracene	ug/g	<0.0050	<0.0050	0.0050	8379052
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	0.0050	8379052
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	0.0050	8379052
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	8379052
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	0.0050	8379052
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	0.0050	8379052
Chrysene	ug/g	<0.0050	<0.0050	0.0050	8379052
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	0.0050	8379052
Fluoranthene	ug/g	<0.0050	<0.0050	0.0050	8379052
Fluorene	ug/g	<0.0050	<0.0050	0.0050	8379052
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	0.0050	8379052
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	8379052
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	0.0050	8379052
Naphthalene	ug/g	<0.0050	<0.0050	0.0050	8379052
Phenanthrene	ug/g	<0.0050	<0.0050	0.0050	8379052
Pyrene	ug/g	<0.0050	<0.0050	0.0050	8379052
Surrogate Recovery (%)					
D10-Anthracene	%	100	100		8379052
D14-Terphenyl (FS)	%	101	101		8379052
D8-Acenaphthylene	%	103	105		8379052
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



Bureau Veritas Job #: C2Z0408
Report Date: 2022/12/02

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: NOR

TEST SUMMARY

Bureau Veritas ID: ULD552
Sample ID: BH22-13 SS3
Matrix: Soil

Collected: 2022/11/25
Shipped:
Received: 2022/11/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8374102	N/A	2022/12/02	Automated Statchk
Moisture	BAL	8378056	N/A	2022/12/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8379052	2022/12/01	2022/12/02	Mitesh Raj

Bureau Veritas ID: ULD553
Sample ID: BH22-15 SS3
Matrix: Soil

Collected: 2022/11/25
Shipped:
Received: 2022/11/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8374102	N/A	2022/12/02	Automated Statchk
Moisture	BAL	8378056	N/A	2022/12/01	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8379052	2022/12/01	2022/12/02	Mitesh Raj



Bureau Veritas Job #: C2Z0408
Report Date: 2022/12/02

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: NOR

GENERAL COMMENTS

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

Package 1	0.0°C
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Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C2Z0408

Report Date: 2022/12/02

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: NOR

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8379052	D10-Anthracene	2022/12/01	101	50 - 130	104	50 - 130	100	%		
8379052	D14-Terphenyl (FS)	2022/12/01	104	50 - 130	108	50 - 130	99	%		
8379052	D8-Acenaphthylene	2022/12/01	97	50 - 130	104	50 - 130	100	%		
8378056	Moisture	2022/12/01							3.3	20
8379052	1-Methylnaphthalene	2022/12/01	125	50 - 130	102	50 - 130	<0.0050	ug/g	17	40
8379052	2-Methylnaphthalene	2022/12/01	109	50 - 130	98	50 - 130	<0.0050	ug/g	23	40
8379052	Acenaphthene	2022/12/01	127	50 - 130	104	50 - 130	<0.0050	ug/g		
8379052	Acenaphthylene	2022/12/01	72	50 - 130	105	50 - 130	<0.0050	ug/g		
8379052	Anthracene	2022/12/01	100	50 - 130	101	50 - 130	<0.0050	ug/g		
8379052	Benzo(a)anthracene	2022/12/01	99	50 - 130	103	50 - 130	<0.0050	ug/g		
8379052	Benzo(a)pyrene	2022/12/01	88	50 - 130	101	50 - 130	<0.0050	ug/g		
8379052	Benzo(b/j)fluoranthene	2022/12/01	89	50 - 130	97	50 - 130	<0.0050	ug/g		
8379052	Benzo(g,h,i)perylene	2022/12/01	94	50 - 130	104	50 - 130	<0.0050	ug/g		
8379052	Benzo(k)fluoranthene	2022/12/01	95	50 - 130	102	50 - 130	<0.0050	ug/g		
8379052	Chrysene	2022/12/01	98	50 - 130	101	50 - 130	<0.0050	ug/g		
8379052	Dibenzo(a,h)anthracene	2022/12/01	87	50 - 130	95	50 - 130	<0.0050	ug/g		
8379052	Fluoranthene	2022/12/01	105	50 - 130	102	50 - 130	<0.0050	ug/g		
8379052	Fluorene	2022/12/01	97	50 - 130	101	50 - 130	<0.0050	ug/g		
8379052	Indeno(1,2,3-cd)pyrene	2022/12/01	90	50 - 130	100	50 - 130	<0.0050	ug/g		
8379052	Naphthalene	2022/12/01	95	50 - 130	100	50 - 130	<0.0050	ug/g	48 (1)	40
8379052	Phenanthrene	2022/12/01	108	50 - 130	99	50 - 130	<0.0050	ug/g		
8379052	Pyrene	2022/12/01	118	50 - 130	105	50 - 130	<0.0050	ug/g		

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.

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



Bureau Veritas Job #: C2Z0408
Report Date: 2022/12/02

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: NOR

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink that reads "Cristina Carriere".

Cristina Carriere, Senior Scientific Specialist

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Your Project #: 21-018-101
Your C.O.C. #: 866062-01-01

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/02/28

Report #: R7021898

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C244863

Received: 2022/02/18, 18:46

Sample Matrix: Water
Samples Received: 3

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	1	N/A	2022/02/26	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/02/24		EPA 8260C m
1,3-Dichloropropene Sum	2	N/A	2022/02/25		EPA 8260C m
Chloride by Automated Colourimetry	2	N/A	2022/02/23	CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	2	N/A	2022/02/23	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	2	N/A	2022/02/23	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/02/23	2022/02/24	CAM SOP-00316	CCME PHC-CWS m
Mercury	1	2022/02/23	2022/02/24	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	2	N/A	2022/02/24	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2022/02/23	2022/02/25	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	2	N/A	2022/02/24	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/02/23	CAM SOP-00228	EPA 8260C 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.

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Your Project #: 21-018-101
Your C.O.C. #: 866062-01-01

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/02/28
Report #: R7021898
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C244863

Received: 2022/02/18, 18:46

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

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

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

Encryption Key

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

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

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O.REG 153 METALS & INORGANICS PKG (WTR)

Bureau Veritas ID		RWZ509			RWZ509			RWZ510		
Sampling Date		2022/02/18			2022/02/18			2022/02/18		
COC Number		866062-01-01			866062-01-01			866062-01-01		
	UNITS	MW21-5	RDL	QC Batch	MW21-5 Lab-Dup	RDL	QC Batch	MW21-4	RDL	QC Batch
Inorganics										
WAD Cyanide (Free)	ug/L	<1	1	7846763	<1	1	7846763	7	1	7846763
Dissolved Chloride (Cl-)	mg/L	690	10	7845703				840	10	7845703
Metals										
Chromium (VI)	ug/L	1.2	0.50	7844661				2.2	0.50	7844661
Mercury (Hg)	ug/L							<0.10	0.10	7847188
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7848858				<0.50	0.50	7848858
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7848858				<1.0	1.0	7848858
Dissolved Barium (Ba)	ug/L	91	2.0	7848858				88	2.0	7848858
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7848858				<0.40	0.40	7848858
Dissolved Boron (B)	ug/L	<10	10	7848858				<10	10	7848858
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7848858				<0.090	0.090	7848858
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7848858				<5.0	5.0	7848858
Dissolved Cobalt (Co)	ug/L	1.2	0.50	7848858				0.88	0.50	7848858
Dissolved Copper (Cu)	ug/L	2.8	0.90	7848858				2.1	0.90	7848858
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7848858				<0.50	0.50	7848858
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	7848858				<0.50	0.50	7848858
Dissolved Nickel (Ni)	ug/L	1.9	1.0	7848858				1.3	1.0	7848858
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7848858				<2.0	2.0	7848858
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7848858				<0.090	0.090	7848858
Dissolved Sodium (Na)	ug/L	800000	500	7848858				760000	500	7848858
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7848858				<0.050	0.050	7848858
Dissolved Uranium (U)	ug/L	0.50	0.10	7848858				0.45	0.10	7848858
Dissolved Vanadium (V)	ug/L	1.3	0.50	7848858				0.79	0.50	7848858
Dissolved Zinc (Zn)	ug/L	5.1	5.0	7848858				<5.0	5.0	7848858
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Lab-Dup = Laboratory Initiated Duplicate										

O.REG 153 PAHS (WATER)

Bureau Veritas ID		RWZ509		
Sampling Date		2022/02/18		
COC Number		866062-01-01		
	UNITS	MW21-5	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/L	0.15	0.071	7844750
Polyaromatic Hydrocarbons				
Acenaphthene	ug/L	<0.050	0.050	7847879
Acenaphthylene	ug/L	<0.050	0.050	7847879
Anthracene	ug/L	<0.050	0.050	7847879
Benzo(a)anthracene	ug/L	<0.050	0.050	7847879
Benzo(a)pyrene	ug/L	0.012	0.0090	7847879
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	7847879
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	7847879
Benzo(k)fluoranthene	ug/L	<0.050	0.050	7847879
Chrysene	ug/L	<0.050	0.050	7847879
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	7847879
Fluoranthene	ug/L	<0.050	0.050	7847879
Fluorene	ug/L	<0.050	0.050	7847879
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	7847879
1-Methylnaphthalene	ug/L	0.065	0.050	7847879
2-Methylnaphthalene	ug/L	0.085	0.050	7847879
Naphthalene	ug/L	0.056	0.050	7847879
Phenanthrene	ug/L	0.039	0.030	7847879
Pyrene	ug/L	<0.050	0.050	7847879
Surrogate Recovery (%)				
D10-Anthracene	%	88		7847879
D14-Terphenyl (FS)	%	55		7847879
D8-Acenaphthylene	%	95		7847879
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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

Bureau Veritas ID		RWZ509	RWZ510		
Sampling Date		2022/02/18	2022/02/18		
COC Number		866062-01-01	866062-01-01		
	UNITS	MW21-5	MW21-4	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	7844751
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	7844681
Benzene	ug/L	<0.17	<0.17	0.17	7844681
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	7844681
Bromoform	ug/L	<1.0	<1.0	1.0	7844681
Bromomethane	ug/L	<0.50	<0.50	0.50	7844681
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	7844681
Chlorobenzene	ug/L	<0.20	<0.20	0.20	7844681
Chloroform	ug/L	<0.20	<0.20	0.20	7844681
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	7844681
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7844681
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7844681
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7844681
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	7844681
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	7844681
1,2-Dichloroethane	ug/L	<0.50	<0.50	0.50	7844681
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	7844681
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7844681
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7844681
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	7844681
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	7844681
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	7844681
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7844681
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	7844681
Hexane	ug/L	<1.0	<1.0	1.0	7844681
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	7844681
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	7844681
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	7844681
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	7844681
Styrene	ug/L	<0.50	<0.50	0.50	7844681
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7844681
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7844681
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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

Bureau Veritas ID		RWZ509	RWZ510		
Sampling Date		2022/02/18	2022/02/18		
COC Number		866062-01-01	866062-01-01		
	UNITS	MW21-5	MW21-4	RDL	QC Batch
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	7844681
Toluene	ug/L	0.47	<0.20	0.20	7844681
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	7844681
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	7844681
Trichloroethylene	ug/L	<0.20	<0.20	0.20	7844681
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	7844681
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	7844681
p+m-Xylene	ug/L	0.23	<0.20	0.20	7844681
o-Xylene	ug/L	<0.20	<0.20	0.20	7844681
Total Xylenes	ug/L	0.23	<0.20	0.20	7844681
F1 (C6-C10)	ug/L	<25	<25	25	7844681
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7844681
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7847899
F3 (C16-C34 Hydrocarbons)	ug/L	360	320	200	7847899
F4 (C34-C50 Hydrocarbons)	ug/L	270	<200	200	7847899
Reached Baseline at C50	ug/L	Yes	Yes		7847899
Surrogate Recovery (%)					
o-Terphenyl	%	97	96		7847899
4-Bromofluorobenzene	%	92	91		7844681
D4-1,2-Dichloroethane	%	115	116		7844681
D8-Toluene	%	100	99		7844681
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RWZ511		
Sampling Date		2022/02/18		
COC Number		866062-01-01		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	7844751
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	7844670
Benzene	ug/L	<0.20	0.20	7844670
Bromodichloromethane	ug/L	<0.50	0.50	7844670
Bromoform	ug/L	<1.0	1.0	7844670
Bromomethane	ug/L	<0.50	0.50	7844670
Carbon Tetrachloride	ug/L	<0.19	0.19	7844670
Chlorobenzene	ug/L	<0.20	0.20	7844670
Chloroform	ug/L	<0.20	0.20	7844670
Dibromochloromethane	ug/L	<0.50	0.50	7844670
1,2-Dichlorobenzene	ug/L	<0.40	0.40	7844670
1,3-Dichlorobenzene	ug/L	<0.40	0.40	7844670
1,4-Dichlorobenzene	ug/L	<0.40	0.40	7844670
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	7844670
1,1-Dichloroethane	ug/L	<0.20	0.20	7844670
1,2-Dichloroethane	ug/L	<0.49	0.49	7844670
1,1-Dichloroethylene	ug/L	<0.20	0.20	7844670
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	7844670
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7844670
1,2-Dichloropropane	ug/L	<0.20	0.20	7844670
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	7844670
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	7844670
Ethylbenzene	ug/L	<0.20	0.20	7844670
Ethylene Dibromide	ug/L	<0.19	0.19	7844670
Hexane	ug/L	<1.0	1.0	7844670
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	7844670
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	7844670
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	7844670
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	7844670
Styrene	ug/L	<0.40	0.40	7844670
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	7844670
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	7844670
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RWZ511		
Sampling Date		2022/02/18		
COC Number		866062-01-01		
	UNITS	TRIP BLANK	RDL	QC Batch
Tetrachloroethylene	ug/L	<0.20	0.20	7844670
Toluene	ug/L	<0.20	0.20	7844670
1,1,1-Trichloroethane	ug/L	<0.20	0.20	7844670
1,1,2-Trichloroethane	ug/L	<0.40	0.40	7844670
Trichloroethylene	ug/L	<0.20	0.20	7844670
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	7844670
Vinyl Chloride	ug/L	<0.20	0.20	7844670
p+m-Xylene	ug/L	<0.20	0.20	7844670
o-Xylene	ug/L	<0.20	0.20	7844670
Total Xylenes	ug/L	<0.20	0.20	7844670
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	90		7844670
D4-1,2-Dichloroethane	%	110		7844670
D8-Toluene	%	98		7844670
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



TEST SUMMARY

Bureau Veritas ID: RWZ509
Sample ID: MW21-5
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7844750	N/A	2022/02/26	Automated Statchk
1,3-Dichloropropene Sum	CALC	7844751	N/A	2022/02/25	Automated Statchk
Chloride by Automated Colourimetry	KONE	7845703	N/A	2022/02/23	Alina Dobreanu
Chromium (VI) in Water	IC	7844661	N/A	2022/02/23	Theodora LI
Free (WAD) Cyanide	SKAL/CN	7846763	N/A	2022/02/23	Nimarta Singh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7847899	2022/02/23	2022/02/24	Agnieszka Brzuzy-Snopko
Dissolved Metals by ICPMS	ICP/MS	7848858	N/A	2022/02/24	Daniel Teclu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	7847879	2022/02/23	2022/02/25	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7844681	N/A	2022/02/24	Xueming Jiang

Bureau Veritas ID: RWZ509 Dup
Sample ID: MW21-5
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	SKAL/CN	7846763	N/A	2022/02/23	Nimarta Singh

Bureau Veritas ID: RWZ510
Sample ID: MW21-4
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7844751	N/A	2022/02/25	Automated Statchk
Chloride by Automated Colourimetry	KONE	7845703	N/A	2022/02/23	Alina Dobreanu
Chromium (VI) in Water	IC	7844661	N/A	2022/02/23	Theodora LI
Free (WAD) Cyanide	SKAL/CN	7846763	N/A	2022/02/23	Nimarta Singh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7847899	2022/02/23	2022/02/24	Agnieszka Brzuzy-Snopko
Mercury	CV/AA	7847188	2022/02/23	2022/02/24	Prempal Bhatti
Dissolved Metals by ICPMS	ICP/MS	7848858	N/A	2022/02/24	Daniel Teclu
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7844681	N/A	2022/02/24	Xueming Jiang

Bureau Veritas ID: RWZ511
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7844751	N/A	2022/02/24	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	7844670	N/A	2022/02/23	Ancheol Jeong



GENERAL COMMENTS

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

Package 1	12.0°C
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Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844670	4-Bromofluorobenzene	2022/02/23	94	70 - 130	95	70 - 130	93	%		
7844670	D4-1,2-Dichloroethane	2022/02/23	112	70 - 130	107	70 - 130	109	%		
7844670	D8-Toluene	2022/02/23	99	70 - 130	102	70 - 130	100	%		
7844681	4-Bromofluorobenzene	2022/02/24	95	70 - 130	95	70 - 130	94	%		
7844681	D4-1,2-Dichloroethane	2022/02/24	115	70 - 130	115	70 - 130	111	%		
7844681	D8-Toluene	2022/02/24	103	70 - 130	103	70 - 130	102	%		
7847879	D10-Anthracene	2022/02/25	93	50 - 130	108	50 - 130	106	%		
7847879	D14-Terphenyl (FS)	2022/02/25	77	50 - 130	103	50 - 130	105	%		
7847879	D8-Acenaphthylene	2022/02/25	97	50 - 130	111	50 - 130	104	%		
7847899	o-Terphenyl	2022/02/23	99	60 - 130	98	60 - 130	96	%		
7844661	Chromium (VI)	2022/02/23	NC	80 - 120	103	80 - 120	<0.50	ug/L	0.36	20
7844670	1,1,1,2-Tetrachloroethane	2022/02/23	96	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
7844670	1,1,1-Trichloroethane	2022/02/23	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7844670	1,1,2,2-Tetrachloroethane	2022/02/23	111	70 - 130	109	70 - 130	<0.40	ug/L	NC	30
7844670	1,1,2-Trichloroethane	2022/02/23	115	70 - 130	114	70 - 130	<0.40	ug/L	NC	30
7844670	1,1-Dichloroethane	2022/02/23	103	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
7844670	1,1-Dichloroethylene	2022/02/23	106	70 - 130	110	70 - 130	<0.20	ug/L	NC	30
7844670	1,2-Dichlorobenzene	2022/02/23	98	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
7844670	1,2-Dichloroethane	2022/02/23	107	70 - 130	105	70 - 130	<0.49	ug/L	NC	30
7844670	1,2-Dichloropropane	2022/02/23	107	70 - 130	107	70 - 130	<0.20	ug/L	NC	30
7844670	1,3-Dichlorobenzene	2022/02/23	96	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7844670	1,4-Dichlorobenzene	2022/02/23	110	70 - 130	113	70 - 130	<0.40	ug/L	NC	30
7844670	Acetone (2-Propanone)	2022/02/23	117	60 - 140	114	60 - 140	<10	ug/L	NC	30
7844670	Benzene	2022/02/23	100	70 - 130	103	70 - 130	<0.20	ug/L	1.3	30
7844670	Bromodichloromethane	2022/02/23	104	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7844670	Bromoform	2022/02/23	99	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
7844670	Bromomethane	2022/02/23	113	60 - 140	112	60 - 140	<0.50	ug/L	NC	30
7844670	Carbon Tetrachloride	2022/02/23	89	70 - 130	93	70 - 130	<0.19	ug/L	NC	30
7844670	Chlorobenzene	2022/02/23	99	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7844670	Chloroform	2022/02/23	103	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
7844670	cis-1,2-Dichloroethylene	2022/02/23	110	70 - 130	110	70 - 130	<0.50	ug/L	NC	30

BUREAU
VERITAS

Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844670	cis-1,3-Dichloropropene	2022/02/23	99	70 - 130	95	70 - 130	<0.30	ug/L	NC	30
7844670	Dibromochloromethane	2022/02/23	100	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7844670	Dichlorodifluoromethane (FREON 12)	2022/02/23	121	60 - 140	124	60 - 140	<1.0	ug/L	NC	30
7844670	Ethylbenzene	2022/02/23	90	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7844670	Ethylene Dibromide	2022/02/23	101	70 - 130	100	70 - 130	<0.19	ug/L	NC	30
7844670	Hexane	2022/02/23	110	70 - 130	111	70 - 130	<1.0	ug/L	NC	30
7844670	Methyl Ethyl Ketone (2-Butanone)	2022/02/23	125	60 - 140	121	60 - 140	<10	ug/L	NC	30
7844670	Methyl Isobutyl Ketone	2022/02/23	112	70 - 130	110	70 - 130	<5.0	ug/L	NC	30
7844670	Methyl t-butyl ether (MTBE)	2022/02/23	95	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7844670	Methylene Chloride(Dichloromethane)	2022/02/23	112	70 - 130	111	70 - 130	<2.0	ug/L	NC	30
7844670	o-Xylene	2022/02/23	92	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
7844670	p+m-Xylene	2022/02/23	94	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7844670	Styrene	2022/02/23	102	70 - 130	107	70 - 130	<0.40	ug/L	NC	30
7844670	Tetrachloroethylene	2022/02/23	84	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
7844670	Toluene	2022/02/23	97	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7844670	Total Xylenes	2022/02/23					<0.20	ug/L	NC	30
7844670	trans-1,2-Dichloroethylene	2022/02/23	106	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
7844670	trans-1,3-Dichloropropene	2022/02/23	104	70 - 130	101	70 - 130	<0.40	ug/L	NC	30
7844670	Trichloroethylene	2022/02/23	98	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7844670	Trichlorofluoromethane (FREON 11)	2022/02/23	101	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
7844670	Vinyl Chloride	2022/02/23	118	70 - 130	120	70 - 130	<0.20	ug/L	3.2	30
7844681	1,1,1,2-Tetrachloroethane	2022/02/24	93	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7844681	1,1,1-Trichloroethane	2022/02/24	99	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7844681	1,1,2,2-Tetrachloroethane	2022/02/24	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7844681	1,1,2-Trichloroethane	2022/02/24	113	70 - 130	111	70 - 130	<0.50	ug/L	NC	30
7844681	1,1-Dichloroethane	2022/02/24	95	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7844681	1,1-Dichloroethylene	2022/02/24	104	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
7844681	1,2-Dichlorobenzene	2022/02/24	95	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7844681	1,2-Dichloroethane	2022/02/24	106	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7844681	1,2-Dichloropropane	2022/02/24	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7844681	1,3-Dichlorobenzene	2022/02/24	93	70 - 130	93	70 - 130	<0.50	ug/L	NC	30



Bureau Veritas Job #: C244863
Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844681	1,4-Dichlorobenzene	2022/02/24	108	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
7844681	Acetone (2-Propanone)	2022/02/24	112	60 - 140	108	60 - 140	<10	ug/L	NC	30
7844681	Benzene	2022/02/24	90	70 - 130	92	70 - 130	<0.17	ug/L	NC	30
7844681	Bromodichloromethane	2022/02/24	100	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7844681	Bromoform	2022/02/24	87	70 - 130	86	70 - 130	<1.0	ug/L	NC	30
7844681	Bromomethane	2022/02/24	106	60 - 140	103	60 - 140	<0.50	ug/L	NC	30
7844681	Carbon Tetrachloride	2022/02/24	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7844681	Chlorobenzene	2022/02/24	95	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7844681	Chloroform	2022/02/24	102	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
7844681	cis-1,2-Dichloroethylene	2022/02/24	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7844681	cis-1,3-Dichloropropene	2022/02/24	86	70 - 130	83	70 - 130	<0.30	ug/L	NC	30
7844681	Dibromochloromethane	2022/02/24	93	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7844681	Dichlorodifluoromethane (FREON 12)	2022/02/24	95	60 - 140	96	60 - 140	<1.0	ug/L	NC	30
7844681	Ethylbenzene	2022/02/24	91	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
7844681	Ethylene Dibromide	2022/02/24	96	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7844681	F1 (C6-C10) - BTEX	2022/02/24					<25	ug/L	NC	30
7844681	F1 (C6-C10)	2022/02/24	104	60 - 140	94	60 - 140	<25	ug/L	NC	30
7844681	Hexane	2022/02/24	98	70 - 130	100	70 - 130	<1.0	ug/L	NC	30
7844681	Methyl Ethyl Ketone (2-Butanone)	2022/02/24	107	60 - 140	104	60 - 140	<10	ug/L	NC	30
7844681	Methyl Isobutyl Ketone	2022/02/24	94	70 - 130	95	70 - 130	<5.0	ug/L	NC	30
7844681	Methyl t-butyl ether (MTBE)	2022/02/24	89	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
7844681	Methylene Chloride(Dichloromethane)	2022/02/24	99	70 - 130	98	70 - 130	<2.0	ug/L	NC	30
7844681	o-Xylene	2022/02/24	88	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
7844681	p+m-Xylene	2022/02/24	90	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7844681	Styrene	2022/02/24	92	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
7844681	Tetrachloroethylene	2022/02/24	90	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
7844681	Toluene	2022/02/24	90	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
7844681	Total Xylenes	2022/02/24					<0.20	ug/L	NC	30
7844681	trans-1,2-Dichloroethylene	2022/02/24	101	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
7844681	trans-1,3-Dichloropropene	2022/02/24	97	70 - 130	89	70 - 130	<0.40	ug/L	NC	30
7844681	Trichloroethylene	2022/02/24	97	70 - 130	98	70 - 130	<0.20	ug/L	NC	30

BUREAU
VERITAS

Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844681	Trichlorofluoromethane (FREON 11)	2022/02/24	113	70 - 130	114	70 - 130	<0.50	ug/L	NC	30
7844681	Vinyl Chloride	2022/02/24	94	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7845703	Dissolved Chloride (Cl-)	2022/02/23	NC	80 - 120	102	80 - 120	<1.0	mg/L	1.0	20
7846763	WAD Cyanide (Free)	2022/02/23	102	80 - 120	97	80 - 120	<1	ug/L	NC	20
7847188	Mercury (Hg)	2022/02/24	91	75 - 125	94	80 - 120	<0.10	ug/L	NC	20
7847879	1-Methylnaphthalene	2022/02/25	103	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
7847879	2-Methylnaphthalene	2022/02/25	107	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
7847879	Acenaphthene	2022/02/25	104	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
7847879	Acenaphthylene	2022/02/25	104	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
7847879	Anthracene	2022/02/25	104	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(a)anthracene	2022/02/25	105	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(a)pyrene	2022/02/25	103	50 - 130	100	50 - 130	<0.0090	ug/L	NC	30
7847879	Benzo(b,j)fluoranthene	2022/02/25	95	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(g,h,i)perylene	2022/02/25	108	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(k)fluoranthene	2022/02/25	97	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
7847879	Chrysene	2022/02/25	104	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
7847879	Dibenzo(a,h)anthracene	2022/02/25	114	50 - 130	111	50 - 130	<0.050	ug/L	NC	30
7847879	Fluoranthene	2022/02/25	86	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
7847879	Fluorene	2022/02/25	111	50 - 130	107	50 - 130	<0.050	ug/L	19	30
7847879	Indeno(1,2,3-cd)pyrene	2022/02/25	110	50 - 130	113	50 - 130	<0.050	ug/L	NC	30
7847879	Naphthalene	2022/02/25	99	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
7847879	Phenanthrene	2022/02/25	104	50 - 130	102	50 - 130	<0.030	ug/L	52 (1)	30
7847879	Pyrene	2022/02/25	86	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
7847899	F2 (C10-C16 Hydrocarbons)	2022/02/24	89	60 - 130	93	60 - 130	<100	ug/L	28	30
7847899	F3 (C16-C34 Hydrocarbons)	2022/02/24	83	60 - 130	93	60 - 130	<200	ug/L	21	30
7847899	F4 (C34-C50 Hydrocarbons)	2022/02/24	86	60 - 130	96	60 - 130	<200	ug/L	NC	30
7848858	Dissolved Antimony (Sb)	2022/02/24	102	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7848858	Dissolved Arsenic (As)	2022/02/24	95	80 - 120	95	80 - 120	<1.0	ug/L	6.3	20
7848858	Dissolved Barium (Ba)	2022/02/24	97	80 - 120	99	80 - 120	<2.0	ug/L	0.63	20
7848858	Dissolved Beryllium (Be)	2022/02/24	99	80 - 120	99	80 - 120	<0.40	ug/L	NC	20
7848858	Dissolved Boron (B)	2022/02/24	98	80 - 120	99	80 - 120	<10	ug/L	0.32	20



BUREAU
VERITAS

Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7848858	Dissolved Cadmium (Cd)	2022/02/24	98	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7848858	Dissolved Chromium (Cr)	2022/02/24	93	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
7848858	Dissolved Cobalt (Co)	2022/02/24	91	80 - 120	93	80 - 120	<0.50	ug/L	1.1	20
7848858	Dissolved Copper (Cu)	2022/02/24	94	80 - 120	94	80 - 120	<0.90	ug/L	NC	20
7848858	Dissolved Lead (Pb)	2022/02/24	91	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
7848858	Dissolved Molybdenum (Mo)	2022/02/24	99	80 - 120	97	80 - 120	<0.50	ug/L	1.3	20
7848858	Dissolved Nickel (Ni)	2022/02/24	88	80 - 120	94	80 - 120	<1.0	ug/L	9.7	20
7848858	Dissolved Selenium (Se)	2022/02/24	96	80 - 120	98	80 - 120	<2.0	ug/L	NC	20
7848858	Dissolved Silver (Ag)	2022/02/24	87	80 - 120	95	80 - 120	<0.090	ug/L	NC	20
7848858	Dissolved Sodium (Na)	2022/02/24	NC	80 - 120	94	80 - 120	<100	ug/L	3.8	20
7848858	Dissolved Thallium (Tl)	2022/02/24	89	80 - 120	93	80 - 120	<0.050	ug/L	NC	20
7848858	Dissolved Uranium (U)	2022/02/24	93	80 - 120	96	80 - 120	<0.10	ug/L	3.8	20
7848858	Dissolved Vanadium (V)	2022/02/24	94	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
7848858	Dissolved Zinc (Zn)	2022/02/24	89	80 - 120	93	80 - 120	<5.0	ug/L	2.5	20

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

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

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

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).

(1) Duplicate results exceeded RPD acceptance criteria. The variability in the results for this analyte may be more pronounced.



Bureau Veritas Job #: C244863
Report Date: 2022/02/28

DS Consultants Limited
Client Project #: 21-018-101

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

Bureau Veritas 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.

18-Feb-22 18:46

Ashton Gibson

C244863

Presence of Visible Particulate/Sediment

When there is >1cm of visible particulate/sediment, the amount will be recorded in the field below

Maxxam Analytics
CAM FCD-01013/5
Page 1 of 1

Bottle Types

DSG	ENV-1631	Sample ID	Inorganics										Organics										Hydrocarbons								Volatiles				Other
			All	CVI	CN	General	Hg	Metals (Discs)	Organic 1 of 2	Organic 2 of 2	PCB 1 of 2	PCB 2 of 2	Pest/ Herb 1 of 2	Pest/ Herb 2 of 2	SVOC/ ABN 1 of 2	SVOC/ ABN 2 of 2	PAH 1 of 2	PAH 2 of 2	Dioxin /furan	F1 Vial 1	F1 Vial 2	F1 Vial 3	F1 Vial 4	F2-F4 1 of 2	F2-F4 2 of 2	H4G	VOC Vial 1	VOC Vial 2	VOC Vial 3	VOC Vial 4					
1		MW21-5	TS																																
2		MW21-4	TS																																
3																																			
4																																			
5																																			
6																																			
7																																			
8																																			
9																																			
10																																			

Comments: Except Metals, CVI, Mercury. MW21-5, Mercury bottle has sediments.

Legend:

P	Suspended Particulate
TS	Trace Settled Sediment (just covers bottom of container or less)
S	Sediment greater than (>) Trace, but less than (<) 1 cm

Recorded By: (signature/print)

DIPAK SINGH



Bureau Veritas
6700 Campopelle Road, Mississauga, Ontario Canada L4N 2L8 Tel: (905) 817-5700 Toll-free: 800-553-5266 Fax: (905) 811-5777 www.bvna.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO:

Company Name: #32616 DS Consultants Limited
Attention: Accounts Payable
Address: 6221 Highway 7, Unit 16
Vaughan ON L4H 0K8
Tel: (905) 264-9393 Fax: _____
Email: accounting@dsconsultants.ca bindu.goeil@dsconsultant

REPORT TO:

Company Name: _____
Attention: _____
Address: _____
Tel: _____ Fax: _____
Email: Julia.Ptendrak@dsconsultants.ca

PROJECT INFORMATION:

Question #: C20545
P.O. #: 21-016-101
Project: _____
Project Name: _____
Site #: _____
Sampled By: _____

Laboratory Use Only:

Bureau Veritas Job #: _____
Bottle Order #: _____
COC #: _____
Project Manager: _____
Ashton Gibson
C206002-01-01

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)

Table 1 ☐ Res/Path ☐ Med/Land/Tras ☐ CCME ☐ Sanitary Sewer Bylaw
Table 2 ☐ Ind/Comm ☐ Coarse ☐ Reg 558 ☐ Storm Sewer Bylaw
Table 3 ☐ Agr/Other ☐ For RBC ☐ MSA ☐ Municipality
Table ☐ PWCDO ☐ Reg 408 Table ☐ Other _____

Other Regulations

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label Sample Location Identification Date Sampled Time Sampled Matrix

Field Filtered (please circle):
Metals / Hg / Cr VI

O Reg 153 VOCs by HS & F1-F4

O Reg 153 Metals & Inorganics Pkg (Wtr)

O Reg 153 PAHs

VOCs
PHCs

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Regular (Standard) TAT:

(not be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working Days for most tests.
Please note: Standard TAT for certain tests such as EOD and Downstream use > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: _____ Time Required: _____
Rush Confirmation Number: _____
of Batches: _____
Comments: _____

1	2	3	4	5	6	7	8	9	10
MM21-1	MM21-2	MM21-3	MM21-5	MM21-4	MM21-6	Trip Blank	Feb 18 PM	Feb 18 PM	
Feb 18 PM	Feb 18 PM	Feb 18 PM	Feb 18 PM	Feb 18 PM	Feb 18 PM	Feb 18 PM	Feb 18 PM	Feb 18 PM	

* RELINQUISHED BY (Signature/Print)

Date: (YY/MM/DD)

Time

RECEIVED BY (Signature/Print)

Date: (YY/MM/DD)

Time

Batches used and not submitted

Time Sampling

Laboratory Use Only
Temperature (°C) on Receipt

Custody Seal

Present

Yes

No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGEMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCE/CHAIN-OF-CUSTODY-FORMS.

Bureau Veritas Canada (2019) Inc.

SAMPLES MUST BE KEPT COOL (1-10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client
on file



Your Project #: 21-018-101
Your C.O.C. #: 866062-01-01

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/02/28

Report #: R7021898

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C244863

Received: 2022/02/18, 18:46

Sample Matrix: Water
Samples Received: 3

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	1	N/A	2022/02/26	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/02/24		EPA 8260C m
1,3-Dichloropropene Sum	2	N/A	2022/02/25		EPA 8260C m
Chloride by Automated Colourimetry	2	N/A	2022/02/23	CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	2	N/A	2022/02/23	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	2	N/A	2022/02/23	CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/02/23	2022/02/24	CAM SOP-00316	CCME PHC-CWS m
Mercury	1	2022/02/23	2022/02/24	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	2	N/A	2022/02/24	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2022/02/23	2022/02/25	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds and F1 PHCs	2	N/A	2022/02/24	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/02/23	CAM SOP-00228	EPA 8260C 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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.



Your Project #: 21-018-101
Your C.O.C. #: 866062-01-01

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/02/28
Report #: R7021898
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C244863

Received: 2022/02/18, 18:46

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

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

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

Encryption Key

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

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas 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.



O.REG 153 METALS & INORGANICS PKG (WTR)

Bureau Veritas ID		RWZ509			RWZ509			RWZ510		
Sampling Date		2022/02/18			2022/02/18			2022/02/18		
COC Number		866062-01-01			866062-01-01			866062-01-01		
	UNITS	MW21-5	RDL	QC Batch	MW21-5 Lab-Dup	RDL	QC Batch	MW21-4	RDL	QC Batch
Inorganics										
WAD Cyanide (Free)	ug/L	<1	1	7846763	<1	1	7846763	7	1	7846763
Dissolved Chloride (Cl-)	mg/L	690	10	7845703				840	10	7845703
Metals										
Chromium (VI)	ug/L	1.2	0.50	7844661				2.2	0.50	7844661
Mercury (Hg)	ug/L							<0.10	0.10	7847188
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7848858				<0.50	0.50	7848858
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7848858				<1.0	1.0	7848858
Dissolved Barium (Ba)	ug/L	91	2.0	7848858				88	2.0	7848858
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7848858				<0.40	0.40	7848858
Dissolved Boron (B)	ug/L	<10	10	7848858				<10	10	7848858
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7848858				<0.090	0.090	7848858
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7848858				<5.0	5.0	7848858
Dissolved Cobalt (Co)	ug/L	1.2	0.50	7848858				0.88	0.50	7848858
Dissolved Copper (Cu)	ug/L	2.8	0.90	7848858				2.1	0.90	7848858
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7848858				<0.50	0.50	7848858
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	7848858				<0.50	0.50	7848858
Dissolved Nickel (Ni)	ug/L	1.9	1.0	7848858				1.3	1.0	7848858
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7848858				<2.0	2.0	7848858
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7848858				<0.090	0.090	7848858
Dissolved Sodium (Na)	ug/L	800000	500	7848858				760000	500	7848858
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7848858				<0.050	0.050	7848858
Dissolved Uranium (U)	ug/L	0.50	0.10	7848858				0.45	0.10	7848858
Dissolved Vanadium (V)	ug/L	1.3	0.50	7848858				0.79	0.50	7848858
Dissolved Zinc (Zn)	ug/L	5.1	5.0	7848858				<5.0	5.0	7848858
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch										
Lab-Dup = Laboratory Initiated Duplicate										

O.REG 153 PAHS (WATER)

Bureau Veritas ID		RWZ509		
Sampling Date		2022/02/18		
COC Number		866062-01-01		
	UNITS	MW21-5	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/L	0.15	0.071	7844750
Polyaromatic Hydrocarbons				
Acenaphthene	ug/L	<0.050	0.050	7847879
Acenaphthylene	ug/L	<0.050	0.050	7847879
Anthracene	ug/L	<0.050	0.050	7847879
Benzo(a)anthracene	ug/L	<0.050	0.050	7847879
Benzo(a)pyrene	ug/L	0.012	0.0090	7847879
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	7847879
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	7847879
Benzo(k)fluoranthene	ug/L	<0.050	0.050	7847879
Chrysene	ug/L	<0.050	0.050	7847879
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	7847879
Fluoranthene	ug/L	<0.050	0.050	7847879
Fluorene	ug/L	<0.050	0.050	7847879
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	7847879
1-Methylnaphthalene	ug/L	0.065	0.050	7847879
2-Methylnaphthalene	ug/L	0.085	0.050	7847879
Naphthalene	ug/L	0.056	0.050	7847879
Phenanthrene	ug/L	0.039	0.030	7847879
Pyrene	ug/L	<0.050	0.050	7847879
Surrogate Recovery (%)				
D10-Anthracene	%	88		7847879
D14-Terphenyl (FS)	%	55		7847879
D8-Acenaphthylene	%	95		7847879
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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

Bureau Veritas ID		RWZ509	RWZ510		
Sampling Date		2022/02/18	2022/02/18		
COC Number		866062-01-01	866062-01-01		
	UNITS	MW21-5	MW21-4	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	7844751
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	7844681
Benzene	ug/L	<0.17	<0.17	0.17	7844681
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	7844681
Bromoform	ug/L	<1.0	<1.0	1.0	7844681
Bromomethane	ug/L	<0.50	<0.50	0.50	7844681
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	7844681
Chlorobenzene	ug/L	<0.20	<0.20	0.20	7844681
Chloroform	ug/L	<0.20	<0.20	0.20	7844681
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	7844681
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7844681
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7844681
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7844681
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	7844681
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	7844681
1,2-Dichloroethane	ug/L	<0.50	<0.50	0.50	7844681
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	7844681
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7844681
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7844681
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	7844681
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	7844681
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	7844681
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7844681
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	7844681
Hexane	ug/L	<1.0	<1.0	1.0	7844681
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	7844681
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	7844681
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	7844681
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	7844681
Styrene	ug/L	<0.50	<0.50	0.50	7844681
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7844681
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7844681
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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

Bureau Veritas ID		RWZ509	RWZ510		
Sampling Date		2022/02/18	2022/02/18		
COC Number		866062-01-01	866062-01-01		
	UNITS	MW21-5	MW21-4	RDL	QC Batch
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	7844681
Toluene	ug/L	0.47	<0.20	0.20	7844681
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	7844681
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	7844681
Trichloroethylene	ug/L	<0.20	<0.20	0.20	7844681
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	7844681
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	7844681
p+m-Xylene	ug/L	0.23	<0.20	0.20	7844681
o-Xylene	ug/L	<0.20	<0.20	0.20	7844681
Total Xylenes	ug/L	0.23	<0.20	0.20	7844681
F1 (C6-C10)	ug/L	<25	<25	25	7844681
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7844681
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7847899
F3 (C16-C34 Hydrocarbons)	ug/L	360	320	200	7847899
F4 (C34-C50 Hydrocarbons)	ug/L	270	<200	200	7847899
Reached Baseline at C50	ug/L	Yes	Yes		7847899
Surrogate Recovery (%)					
o-Terphenyl	%	97	96		7847899
4-Bromofluorobenzene	%	92	91		7844681
D4-1,2-Dichloroethane	%	115	116		7844681
D8-Toluene	%	100	99		7844681
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RWZ511		
Sampling Date		2022/02/18		
COC Number		866062-01-01		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	7844751
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	7844670
Benzene	ug/L	<0.20	0.20	7844670
Bromodichloromethane	ug/L	<0.50	0.50	7844670
Bromoform	ug/L	<1.0	1.0	7844670
Bromomethane	ug/L	<0.50	0.50	7844670
Carbon Tetrachloride	ug/L	<0.19	0.19	7844670
Chlorobenzene	ug/L	<0.20	0.20	7844670
Chloroform	ug/L	<0.20	0.20	7844670
Dibromochloromethane	ug/L	<0.50	0.50	7844670
1,2-Dichlorobenzene	ug/L	<0.40	0.40	7844670
1,3-Dichlorobenzene	ug/L	<0.40	0.40	7844670
1,4-Dichlorobenzene	ug/L	<0.40	0.40	7844670
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	7844670
1,1-Dichloroethane	ug/L	<0.20	0.20	7844670
1,2-Dichloroethane	ug/L	<0.49	0.49	7844670
1,1-Dichloroethylene	ug/L	<0.20	0.20	7844670
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	7844670
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7844670
1,2-Dichloropropane	ug/L	<0.20	0.20	7844670
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	7844670
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	7844670
Ethylbenzene	ug/L	<0.20	0.20	7844670
Ethylene Dibromide	ug/L	<0.19	0.19	7844670
Hexane	ug/L	<1.0	1.0	7844670
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	7844670
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	7844670
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	7844670
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	7844670
Styrene	ug/L	<0.40	0.40	7844670
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	7844670
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	7844670
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RWZ511		
Sampling Date		2022/02/18		
COC Number		866062-01-01		
	UNITS	TRIP BLANK	RDL	QC Batch
Tetrachloroethylene	ug/L	<0.20	0.20	7844670
Toluene	ug/L	<0.20	0.20	7844670
1,1,1-Trichloroethane	ug/L	<0.20	0.20	7844670
1,1,2-Trichloroethane	ug/L	<0.40	0.40	7844670
Trichloroethylene	ug/L	<0.20	0.20	7844670
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	7844670
Vinyl Chloride	ug/L	<0.20	0.20	7844670
p+m-Xylene	ug/L	<0.20	0.20	7844670
o-Xylene	ug/L	<0.20	0.20	7844670
Total Xylenes	ug/L	<0.20	0.20	7844670
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	90		7844670
D4-1,2-Dichloroethane	%	110		7844670
D8-Toluene	%	98		7844670
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



TEST SUMMARY

Bureau Veritas ID: RWZ509
Sample ID: MW21-5
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	7844750	N/A	2022/02/26	Automated Statchk
1,3-Dichloropropene Sum	CALC	7844751	N/A	2022/02/25	Automated Statchk
Chloride by Automated Colourimetry	KONE	7845703	N/A	2022/02/23	Alina Dobreanu
Chromium (VI) in Water	IC	7844661	N/A	2022/02/23	Theodora LI
Free (WAD) Cyanide	SKAL/CN	7846763	N/A	2022/02/23	Nimarta Singh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7847899	2022/02/23	2022/02/24	Agnieszka Brzuzy-Snopko
Dissolved Metals by ICPMS	ICP/MS	7848858	N/A	2022/02/24	Daniel Teclu
PAH Compounds in Water by GC/MS (SIM)	GC/MS	7847879	2022/02/23	2022/02/25	Jonghan Yoon
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7844681	N/A	2022/02/24	Xueming Jiang

Bureau Veritas ID: RWZ509 Dup
Sample ID: MW21-5
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Free (WAD) Cyanide	SKAL/CN	7846763	N/A	2022/02/23	Nimarta Singh

Bureau Veritas ID: RWZ510
Sample ID: MW21-4
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7844751	N/A	2022/02/25	Automated Statchk
Chloride by Automated Colourimetry	KONE	7845703	N/A	2022/02/23	Alina Dobreanu
Chromium (VI) in Water	IC	7844661	N/A	2022/02/23	Theodora LI
Free (WAD) Cyanide	SKAL/CN	7846763	N/A	2022/02/23	Nimarta Singh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7847899	2022/02/23	2022/02/24	Agnieszka Brzuzy-Snopko
Mercury	CV/AA	7847188	2022/02/23	2022/02/24	Prempal Bhatti
Dissolved Metals by ICPMS	ICP/MS	7848858	N/A	2022/02/24	Daniel Teclu
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7844681	N/A	2022/02/24	Xueming Jiang

Bureau Veritas ID: RWZ511
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2022/02/18
Shipped:
Received: 2022/02/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7844751	N/A	2022/02/24	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	7844670	N/A	2022/02/23	Ancheol Jeong



GENERAL COMMENTS

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

Package 1	12.0°C
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Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844670	4-Bromofluorobenzene	2022/02/23	94	70 - 130	95	70 - 130	93	%		
7844670	D4-1,2-Dichloroethane	2022/02/23	112	70 - 130	107	70 - 130	109	%		
7844670	D8-Toluene	2022/02/23	99	70 - 130	102	70 - 130	100	%		
7844681	4-Bromofluorobenzene	2022/02/24	95	70 - 130	95	70 - 130	94	%		
7844681	D4-1,2-Dichloroethane	2022/02/24	115	70 - 130	115	70 - 130	111	%		
7844681	D8-Toluene	2022/02/24	103	70 - 130	103	70 - 130	102	%		
7847879	D10-Anthracene	2022/02/25	93	50 - 130	108	50 - 130	106	%		
7847879	D14-Terphenyl (FS)	2022/02/25	77	50 - 130	103	50 - 130	105	%		
7847879	D8-Acenaphthylene	2022/02/25	97	50 - 130	111	50 - 130	104	%		
7847899	o-Terphenyl	2022/02/23	99	60 - 130	98	60 - 130	96	%		
7844661	Chromium (VI)	2022/02/23	NC	80 - 120	103	80 - 120	<0.50	ug/L	0.36	20
7844670	1,1,1,2-Tetrachloroethane	2022/02/23	96	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
7844670	1,1,1-Trichloroethane	2022/02/23	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7844670	1,1,2,2-Tetrachloroethane	2022/02/23	111	70 - 130	109	70 - 130	<0.40	ug/L	NC	30
7844670	1,1,2-Trichloroethane	2022/02/23	115	70 - 130	114	70 - 130	<0.40	ug/L	NC	30
7844670	1,1-Dichloroethane	2022/02/23	103	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
7844670	1,1-Dichloroethylene	2022/02/23	106	70 - 130	110	70 - 130	<0.20	ug/L	NC	30
7844670	1,2-Dichlorobenzene	2022/02/23	98	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
7844670	1,2-Dichloroethane	2022/02/23	107	70 - 130	105	70 - 130	<0.49	ug/L	NC	30
7844670	1,2-Dichloropropane	2022/02/23	107	70 - 130	107	70 - 130	<0.20	ug/L	NC	30
7844670	1,3-Dichlorobenzene	2022/02/23	96	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7844670	1,4-Dichlorobenzene	2022/02/23	110	70 - 130	113	70 - 130	<0.40	ug/L	NC	30
7844670	Acetone (2-Propanone)	2022/02/23	117	60 - 140	114	60 - 140	<10	ug/L	NC	30
7844670	Benzene	2022/02/23	100	70 - 130	103	70 - 130	<0.20	ug/L	1.3	30
7844670	Bromodichloromethane	2022/02/23	104	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7844670	Bromoform	2022/02/23	99	70 - 130	99	70 - 130	<1.0	ug/L	NC	30
7844670	Bromomethane	2022/02/23	113	60 - 140	112	60 - 140	<0.50	ug/L	NC	30
7844670	Carbon Tetrachloride	2022/02/23	89	70 - 130	93	70 - 130	<0.19	ug/L	NC	30
7844670	Chlorobenzene	2022/02/23	99	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7844670	Chloroform	2022/02/23	103	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
7844670	cis-1,2-Dichloroethylene	2022/02/23	110	70 - 130	110	70 - 130	<0.50	ug/L	NC	30

BUREAU
VERITAS

Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844670	cis-1,3-Dichloropropene	2022/02/23	99	70 - 130	95	70 - 130	<0.30	ug/L	NC	30
7844670	Dibromochloromethane	2022/02/23	100	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7844670	Dichlorodifluoromethane (FREON 12)	2022/02/23	121	60 - 140	124	60 - 140	<1.0	ug/L	NC	30
7844670	Ethylbenzene	2022/02/23	90	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7844670	Ethylene Dibromide	2022/02/23	101	70 - 130	100	70 - 130	<0.19	ug/L	NC	30
7844670	Hexane	2022/02/23	110	70 - 130	111	70 - 130	<1.0	ug/L	NC	30
7844670	Methyl Ethyl Ketone (2-Butanone)	2022/02/23	125	60 - 140	121	60 - 140	<10	ug/L	NC	30
7844670	Methyl Isobutyl Ketone	2022/02/23	112	70 - 130	110	70 - 130	<5.0	ug/L	NC	30
7844670	Methyl t-butyl ether (MTBE)	2022/02/23	95	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7844670	Methylene Chloride(Dichloromethane)	2022/02/23	112	70 - 130	111	70 - 130	<2.0	ug/L	NC	30
7844670	o-Xylene	2022/02/23	92	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
7844670	p+m-Xylene	2022/02/23	94	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7844670	Styrene	2022/02/23	102	70 - 130	107	70 - 130	<0.40	ug/L	NC	30
7844670	Tetrachloroethylene	2022/02/23	84	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
7844670	Toluene	2022/02/23	97	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7844670	Total Xylenes	2022/02/23					<0.20	ug/L	NC	30
7844670	trans-1,2-Dichloroethylene	2022/02/23	106	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
7844670	trans-1,3-Dichloropropene	2022/02/23	104	70 - 130	101	70 - 130	<0.40	ug/L	NC	30
7844670	Trichloroethylene	2022/02/23	98	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7844670	Trichlorofluoromethane (FREON 11)	2022/02/23	101	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
7844670	Vinyl Chloride	2022/02/23	118	70 - 130	120	70 - 130	<0.20	ug/L	3.2	30
7844681	1,1,1,2-Tetrachloroethane	2022/02/24	93	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7844681	1,1,1-Trichloroethane	2022/02/24	99	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
7844681	1,1,2,2-Tetrachloroethane	2022/02/24	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7844681	1,1,2-Trichloroethane	2022/02/24	113	70 - 130	111	70 - 130	<0.50	ug/L	NC	30
7844681	1,1-Dichloroethane	2022/02/24	95	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7844681	1,1-Dichloroethylene	2022/02/24	104	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
7844681	1,2-Dichlorobenzene	2022/02/24	95	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7844681	1,2-Dichloroethane	2022/02/24	106	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
7844681	1,2-Dichloropropane	2022/02/24	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7844681	1,3-Dichlorobenzene	2022/02/24	93	70 - 130	93	70 - 130	<0.50	ug/L	NC	30



QUALITY ASSURANCE REPORT(CONT'D)

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844681	1,4-Dichlorobenzene	2022/02/24	108	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
7844681	Acetone (2-Propanone)	2022/02/24	112	60 - 140	108	60 - 140	<10	ug/L	NC	30
7844681	Benzene	2022/02/24	90	70 - 130	92	70 - 130	<0.17	ug/L	NC	30
7844681	Bromodichloromethane	2022/02/24	100	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7844681	Bromoform	2022/02/24	87	70 - 130	86	70 - 130	<1.0	ug/L	NC	30
7844681	Bromomethane	2022/02/24	106	60 - 140	103	60 - 140	<0.50	ug/L	NC	30
7844681	Carbon Tetrachloride	2022/02/24	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7844681	Chlorobenzene	2022/02/24	95	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7844681	Chloroform	2022/02/24	102	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
7844681	cis-1,2-Dichloroethylene	2022/02/24	97	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7844681	cis-1,3-Dichloropropene	2022/02/24	86	70 - 130	83	70 - 130	<0.30	ug/L	NC	30
7844681	Dibromochloromethane	2022/02/24	93	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7844681	Dichlorodifluoromethane (FREON 12)	2022/02/24	95	60 - 140	96	60 - 140	<1.0	ug/L	NC	30
7844681	Ethylbenzene	2022/02/24	91	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
7844681	Ethylene Dibromide	2022/02/24	96	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7844681	F1 (C6-C10) - BTEX	2022/02/24					<25	ug/L	NC	30
7844681	F1 (C6-C10)	2022/02/24	104	60 - 140	94	60 - 140	<25	ug/L	NC	30
7844681	Hexane	2022/02/24	98	70 - 130	100	70 - 130	<1.0	ug/L	NC	30
7844681	Methyl Ethyl Ketone (2-Butanone)	2022/02/24	107	60 - 140	104	60 - 140	<10	ug/L	NC	30
7844681	Methyl Isobutyl Ketone	2022/02/24	94	70 - 130	95	70 - 130	<5.0	ug/L	NC	30
7844681	Methyl t-butyl ether (MTBE)	2022/02/24	89	70 - 130	90	70 - 130	<0.50	ug/L	NC	30
7844681	Methylene Chloride(Dichloromethane)	2022/02/24	99	70 - 130	98	70 - 130	<2.0	ug/L	NC	30
7844681	o-Xylene	2022/02/24	88	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
7844681	p+m-Xylene	2022/02/24	90	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7844681	Styrene	2022/02/24	92	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
7844681	Tetrachloroethylene	2022/02/24	90	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
7844681	Toluene	2022/02/24	90	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
7844681	Total Xylenes	2022/02/24					<0.20	ug/L	NC	30
7844681	trans-1,2-Dichloroethylene	2022/02/24	101	70 - 130	102	70 - 130	<0.50	ug/L	NC	30
7844681	trans-1,3-Dichloropropene	2022/02/24	97	70 - 130	89	70 - 130	<0.40	ug/L	NC	30
7844681	Trichloroethylene	2022/02/24	97	70 - 130	98	70 - 130	<0.20	ug/L	NC	30

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Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7844681	Trichlorofluoromethane (FREON 11)	2022/02/24	113	70 - 130	114	70 - 130	<0.50	ug/L	NC	30
7844681	Vinyl Chloride	2022/02/24	94	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7845703	Dissolved Chloride (Cl-)	2022/02/23	NC	80 - 120	102	80 - 120	<1.0	mg/L	1.0	20
7846763	WAD Cyanide (Free)	2022/02/23	102	80 - 120	97	80 - 120	<1	ug/L	NC	20
7847188	Mercury (Hg)	2022/02/24	91	75 - 125	94	80 - 120	<0.10	ug/L	NC	20
7847879	1-Methylnaphthalene	2022/02/25	103	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
7847879	2-Methylnaphthalene	2022/02/25	107	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
7847879	Acenaphthene	2022/02/25	104	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
7847879	Acenaphthylene	2022/02/25	104	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
7847879	Anthracene	2022/02/25	104	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(a)anthracene	2022/02/25	105	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(a)pyrene	2022/02/25	103	50 - 130	100	50 - 130	<0.0090	ug/L	NC	30
7847879	Benzo(b,j)fluoranthene	2022/02/25	95	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(g,h,i)perylene	2022/02/25	108	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
7847879	Benzo(k)fluoranthene	2022/02/25	97	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
7847879	Chrysene	2022/02/25	104	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
7847879	Dibenzo(a,h)anthracene	2022/02/25	114	50 - 130	111	50 - 130	<0.050	ug/L	NC	30
7847879	Fluoranthene	2022/02/25	86	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
7847879	Fluorene	2022/02/25	111	50 - 130	107	50 - 130	<0.050	ug/L	19	30
7847879	Indeno(1,2,3-cd)pyrene	2022/02/25	110	50 - 130	113	50 - 130	<0.050	ug/L	NC	30
7847879	Naphthalene	2022/02/25	99	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
7847879	Phenanthrene	2022/02/25	104	50 - 130	102	50 - 130	<0.030	ug/L	52 (1)	30
7847879	Pyrene	2022/02/25	86	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
7847899	F2 (C10-C16 Hydrocarbons)	2022/02/24	89	60 - 130	93	60 - 130	<100	ug/L	28	30
7847899	F3 (C16-C34 Hydrocarbons)	2022/02/24	83	60 - 130	93	60 - 130	<200	ug/L	21	30
7847899	F4 (C34-C50 Hydrocarbons)	2022/02/24	86	60 - 130	96	60 - 130	<200	ug/L	NC	30
7848858	Dissolved Antimony (Sb)	2022/02/24	102	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7848858	Dissolved Arsenic (As)	2022/02/24	95	80 - 120	95	80 - 120	<1.0	ug/L	6.3	20
7848858	Dissolved Barium (Ba)	2022/02/24	97	80 - 120	99	80 - 120	<2.0	ug/L	0.63	20
7848858	Dissolved Beryllium (Be)	2022/02/24	99	80 - 120	99	80 - 120	<0.40	ug/L	NC	20
7848858	Dissolved Boron (B)	2022/02/24	98	80 - 120	99	80 - 120	<10	ug/L	0.32	20

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Bureau Veritas Job #: C244863

Report Date: 2022/02/28

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited

Client Project #: 21-018-101

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7848858	Dissolved Cadmium (Cd)	2022/02/24	98	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7848858	Dissolved Chromium (Cr)	2022/02/24	93	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
7848858	Dissolved Cobalt (Co)	2022/02/24	91	80 - 120	93	80 - 120	<0.50	ug/L	1.1	20
7848858	Dissolved Copper (Cu)	2022/02/24	94	80 - 120	94	80 - 120	<0.90	ug/L	NC	20
7848858	Dissolved Lead (Pb)	2022/02/24	91	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
7848858	Dissolved Molybdenum (Mo)	2022/02/24	99	80 - 120	97	80 - 120	<0.50	ug/L	1.3	20
7848858	Dissolved Nickel (Ni)	2022/02/24	88	80 - 120	94	80 - 120	<1.0	ug/L	9.7	20
7848858	Dissolved Selenium (Se)	2022/02/24	96	80 - 120	98	80 - 120	<2.0	ug/L	NC	20
7848858	Dissolved Silver (Ag)	2022/02/24	87	80 - 120	95	80 - 120	<0.090	ug/L	NC	20
7848858	Dissolved Sodium (Na)	2022/02/24	NC	80 - 120	94	80 - 120	<100	ug/L	3.8	20
7848858	Dissolved Thallium (Tl)	2022/02/24	89	80 - 120	93	80 - 120	<0.050	ug/L	NC	20
7848858	Dissolved Uranium (U)	2022/02/24	93	80 - 120	96	80 - 120	<0.10	ug/L	3.8	20
7848858	Dissolved Vanadium (V)	2022/02/24	94	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
7848858	Dissolved Zinc (Zn)	2022/02/24	89	80 - 120	93	80 - 120	<5.0	ug/L	2.5	20

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

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

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

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

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

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

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$).

(1) Duplicate results exceeded RPD acceptance criteria. The variability in the results for this analyte may be more pronounced.



Bureau Veritas Job #: C244863
Report Date: 2022/02/28

DS Consultants Limited
Client Project #: 21-018-101

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to read "Anastassia Hamanov", written over a horizontal line.

Anastassia Hamanov, Scientific Specialist

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Your Project #: 21-018-101
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/03/07
Report #: R7032563
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C252750

Received: 2022/02/28, 19:00

Sample Matrix: Ground Water
Samples Received: 4

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
1,3-Dichloropropene Sum	1	N/A	2022/03/02	EPA 8260C m
1,3-Dichloropropene Sum	2	N/A	2022/03/07	EPA 8260C m
Chloride by Automated Colourimetry	1	N/A	2022/03/02 CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	1	N/A	2022/03/02 CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	1	N/A	2022/03/02 CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/03/03	2022/03/03 CAM SOP-00316	CCME PHC-CWS m
Mercury	2	2022/03/02	2022/03/02 CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	1	N/A	2022/03/02 CAM SOP-00447	EPA 6020B m
Volatile Organic Compounds and F1 PHCs	2	N/A	2022/03/04 CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/03/02 CAM SOP-00228	EPA 8260C 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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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



Your Project #: 21-018-101
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/03/07
Report #: R7032563
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C252750

Received: 2022/02/28, 19:00

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

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

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For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

Bureau Veritas ID		RYT869		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	MW21-5	RDL	QC Batch
Metals				
Mercury (Hg)	ug/L	<0.10	0.10	7860105
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



O.REG 153 METALS & INORGANICS PKG (WTR)

Bureau Veritas ID		RYT872		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	MW21-6	RDL	QC Batch
Inorganics				
WAD Cyanide (Free)	ug/L	<1	1	7860150
Dissolved Chloride (Cl-)	mg/L	50	1.0	7858653
Metals				
Chromium (VI)	ug/L	0.71	0.50	7859755
Mercury (Hg)	ug/L	<0.10	0.10	7860105
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7859616
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7859616
Dissolved Barium (Ba)	ug/L	19	2.0	7859616
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7859616
Dissolved Boron (B)	ug/L	49	10	7859616
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7859616
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7859616
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7859616
Dissolved Copper (Cu)	ug/L	5.4	0.90	7859616
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7859616
Dissolved Molybdenum (Mo)	ug/L	1.4	0.50	7859616
Dissolved Nickel (Ni)	ug/L	7.8	1.0	7859616
Dissolved Selenium (Se)	ug/L	2.0	2.0	7859616
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7859616
Dissolved Sodium (Na)	ug/L	53000	100	7859616
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7859616
Dissolved Uranium (U)	ug/L	0.34	0.10	7859616
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7859616
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7859616
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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

Bureau Veritas ID		RYT871	RYT872		
Sampling Date		2022/02/28	2022/02/28		
COC Number		n/a	n/a		
	UNITS	DUP7	MW21-6	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	7857249
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	7857650
Benzene	ug/L	<0.17	<0.17	0.17	7857650
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	7857650
Bromoform	ug/L	<1.0	<1.0	1.0	7857650
Bromomethane	ug/L	<0.50	<0.50	0.50	7857650
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	7857650
Chlorobenzene	ug/L	<0.20	<0.20	0.20	7857650
Chloroform	ug/L	<0.20	<0.20	0.20	7857650
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	7857650
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7857650
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7857650
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7857650
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	7857650
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	7857650
1,2-Dichloroethane	ug/L	<0.50	<0.50	0.50	7857650
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	7857650
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7857650
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7857650
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	7857650
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	7857650
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	7857650
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7857650
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	7857650
Hexane	ug/L	<1.0	<1.0	1.0	7857650
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	7857650
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	7857650
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	7857650
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	7857650
Styrene	ug/L	<0.50	<0.50	0.50	7857650
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7857650
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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

Bureau Veritas ID		RYT871	RYT872		
Sampling Date		2022/02/28	2022/02/28		
COC Number		n/a	n/a		
	UNITS	DUP7	MW21-6	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7857650
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	7857650
Toluene	ug/L	<0.20	<0.20	0.20	7857650
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	7857650
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	7857650
Trichloroethylene	ug/L	<0.20	<0.20	0.20	7857650
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	7857650
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	7857650
p+m-Xylene	ug/L	<0.20	<0.20	0.20	7857650
o-Xylene	ug/L	<0.20	<0.20	0.20	7857650
Total Xylenes	ug/L	<0.20	<0.20	0.20	7857650
F1 (C6-C10)	ug/L	<25	<25	25	7857650
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7857650
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7861880
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	7861880
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	7861880
Reached Baseline at C50	ug/L	Yes	Yes		7861880
Surrogate Recovery (%)					
o-Terphenyl	%	100	98		7861880
4-Bromofluorobenzene	%	96	97		7857650
D4-1,2-Dichloroethane	%	96	97		7857650
D8-Toluene	%	101	101		7857650
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RYT870		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	7857249
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	7857616
Benzene	ug/L	<0.20	0.20	7857616
Bromodichloromethane	ug/L	<0.50	0.50	7857616
Bromoform	ug/L	<1.0	1.0	7857616
Bromomethane	ug/L	<0.50	0.50	7857616
Carbon Tetrachloride	ug/L	<0.19	0.19	7857616
Chlorobenzene	ug/L	<0.20	0.20	7857616
Chloroform	ug/L	<0.20	0.20	7857616
Dibromochloromethane	ug/L	<0.50	0.50	7857616
1,2-Dichlorobenzene	ug/L	<0.40	0.40	7857616
1,3-Dichlorobenzene	ug/L	<0.40	0.40	7857616
1,4-Dichlorobenzene	ug/L	<0.40	0.40	7857616
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	7857616
1,1-Dichloroethane	ug/L	<0.20	0.20	7857616
1,2-Dichloroethane	ug/L	<0.49	0.49	7857616
1,1-Dichloroethylene	ug/L	<0.20	0.20	7857616
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	7857616
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7857616
1,2-Dichloropropane	ug/L	<0.20	0.20	7857616
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	7857616
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	7857616
Ethylbenzene	ug/L	<0.20	0.20	7857616
Ethylene Dibromide	ug/L	<0.19	0.19	7857616
Hexane	ug/L	<1.0	1.0	7857616
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	7857616
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	7857616
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	7857616
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	7857616
Styrene	ug/L	<0.40	0.40	7857616
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	7857616
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RYT870		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	TRIP BLANK	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	7857616
Tetrachloroethylene	ug/L	<0.20	0.20	7857616
Toluene	ug/L	<0.20	0.20	7857616
1,1,1-Trichloroethane	ug/L	<0.20	0.20	7857616
1,1,2-Trichloroethane	ug/L	<0.40	0.40	7857616
Trichloroethylene	ug/L	<0.20	0.20	7857616
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	7857616
Vinyl Chloride	ug/L	<0.20	0.20	7857616
p+m-Xylene	ug/L	<0.20	0.20	7857616
o-Xylene	ug/L	<0.20	0.20	7857616
Total Xylenes	ug/L	<0.20	0.20	7857616
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	93		7857616
D4-1,2-Dichloroethane	%	109		7857616
D8-Toluene	%	90		7857616
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

TEST SUMMARY

Bureau Veritas ID: RYT869
Sample ID: MW21-5
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury	CV/AA	7860105	2022/03/02	2022/03/02	Indira HarryPaul

Bureau Veritas ID: RYT870
Sample ID: TRIP BLANK
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7857249	N/A	2022/03/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	7857616	N/A	2022/03/02	Manpreet Sarao

Bureau Veritas ID: RYT871
Sample ID: DUP7
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7857249	N/A	2022/03/07	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7861880	2022/03/03	2022/03/03	Jeevaraj Jeevaratnam
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7857650	N/A	2022/03/04	Chandni Khawas

Bureau Veritas ID: RYT872
Sample ID: MW21-6
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7857249	N/A	2022/03/07	Automated Statchk
Chloride by Automated Colourimetry	KONE	7858653	N/A	2022/03/02	Alina Dobreanu
Chromium (VI) in Water	IC	7859755	N/A	2022/03/02	Theodora LI
Free (WAD) Cyanide	SKAL/CN	7860150	N/A	2022/03/02	Nimarta Singh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7861880	2022/03/03	2022/03/03	Jeevaraj Jeevaratnam
Mercury	CV/AA	7860105	2022/03/02	2022/03/02	Indira HarryPaul
Dissolved Metals by ICPMS	ICP/MS	7859616	N/A	2022/03/02	Nan Raykha
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7857650	N/A	2022/03/04	Chandni Khawas



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

GENERAL COMMENTS

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

Package 1	0.7°C
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Results relate only to the items tested.

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Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7857616	4-Bromofluorobenzene	2022/03/02	104	70 - 130	103	70 - 130	98	%		
7857616	D4-1,2-Dichloroethane	2022/03/02	102	70 - 130	98	70 - 130	108	%		
7857616	D8-Toluene	2022/03/02	103	70 - 130	104	70 - 130	91	%		
7857650	4-Bromofluorobenzene	2022/03/04	102	70 - 130	101	70 - 130	98	%		
7857650	D4-1,2-Dichloroethane	2022/03/04	100	70 - 130	101	70 - 130	100	%		
7857650	D8-Toluene	2022/03/04	100	70 - 130	101	70 - 130	99	%		
7861880	o-Terphenyl	2022/03/03	102	60 - 130	99	60 - 130	101	%		
7857616	1,1,1,2-Tetrachloroethane	2022/03/02	103	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
7857616	1,1,1-Trichloroethane	2022/03/02	101	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
7857616	1,1,2,2-Tetrachloroethane	2022/03/02	102	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7857616	1,1,2-Trichloroethane	2022/03/02	102	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
7857616	1,1-Dichloroethane	2022/03/02	95	70 - 130	97	70 - 130	<0.20	ug/L	10	30
7857616	1,1-Dichloroethylene	2022/03/02	96	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7857616	1,2-Dichlorobenzene	2022/03/02	96	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
7857616	1,2-Dichloroethane	2022/03/02	96	70 - 130	94	70 - 130	<0.49	ug/L	NC	30
7857616	1,2-Dichloropropane	2022/03/02	101	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7857616	1,3-Dichlorobenzene	2022/03/02	93	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
7857616	1,4-Dichlorobenzene	2022/03/02	109	70 - 130	112	70 - 130	<0.40	ug/L	NC	30
7857616	Acetone (2-Propanone)	2022/03/02	107	60 - 140	102	60 - 140	<10	ug/L	NC	30
7857616	Benzene	2022/03/02	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7857616	Bromodichloromethane	2022/03/02	102	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7857616	Bromoform	2022/03/02	106	70 - 130	103	70 - 130	<1.0	ug/L	NC	30
7857616	Bromomethane	2022/03/02	105	60 - 140	104	60 - 140	<0.50	ug/L	NC	30
7857616	Carbon Tetrachloride	2022/03/02	99	70 - 130	102	70 - 130	<0.19	ug/L	NC	30
7857616	Chlorobenzene	2022/03/02	98	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7857616	Chloroform	2022/03/02	98	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
7857616	cis-1,2-Dichloroethylene	2022/03/02	103	70 - 130	104	70 - 130	<0.50	ug/L	3.8	30
7857616	cis-1,3-Dichloropropene	2022/03/02	99	70 - 130	94	70 - 130	<0.30	ug/L	NC	30
7857616	Dibromochloromethane	2022/03/02	101	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
7857616	Dichlorodifluoromethane (FREON 12)	2022/03/02	81	60 - 140	91	60 - 140	<1.0	ug/L	NC	30
7857616	Ethylbenzene	2022/03/02	89	70 - 130	93	70 - 130	<0.20	ug/L	NC	30

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Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7857616	Ethylene Dibromide	2022/03/02	102	70 - 130	99	70 - 130	<0.19	ug/L	NC	30
7857616	Hexane	2022/03/02	100	70 - 130	104	70 - 130	<1.0	ug/L	NC	30
7857616	Methyl Ethyl Ketone (2-Butanone)	2022/03/02	116	60 - 140	111	60 - 140	<10	ug/L	NC	30
7857616	Methyl Isobutyl Ketone	2022/03/02	113	70 - 130	110	70 - 130	<5.0	ug/L	NC	30
7857616	Methyl t-butyl ether (MTBE)	2022/03/02	95	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7857616	Methylene Chloride(Dichloromethane)	2022/03/02	101	70 - 130	100	70 - 130	<2.0	ug/L	NC	30
7857616	o-Xylene	2022/03/02	89	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7857616	p+m-Xylene	2022/03/02	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7857616	Styrene	2022/03/02	106	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
7857616	Tetrachloroethylene	2022/03/02	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7857616	Toluene	2022/03/02	96	70 - 130	98	70 - 130	<0.20	ug/L	4.2	30
7857616	Total Xylenes	2022/03/02					<0.20	ug/L	NC	30
7857616	trans-1,2-Dichloroethylene	2022/03/02	99	70 - 130	101	70 - 130	<0.50	ug/L	8.3	30
7857616	trans-1,3-Dichloropropene	2022/03/02	108	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7857616	Trichloroethylene	2022/03/02	104	70 - 130	107	70 - 130	<0.20	ug/L	5.0	30
7857616	Trichlorofluoromethane (FREON 11)	2022/03/02	99	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7857616	Vinyl Chloride	2022/03/02	100	70 - 130	105	70 - 130	<0.20	ug/L	5.9	30
7857650	1,1,1,2-Tetrachloroethane	2022/03/04	93	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7857650	1,1,1-Trichloroethane	2022/03/04	93	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
7857650	1,1,2,2-Tetrachloroethane	2022/03/04	94	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7857650	1,1,2-Trichloroethane	2022/03/04	97	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
7857650	1,1-Dichloroethane	2022/03/04	88	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7857650	1,1-Dichloroethylene	2022/03/04	92	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
7857650	1,2-Dichlorobenzene	2022/03/04	93	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
7857650	1,2-Dichloroethane	2022/03/04	90	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7857650	1,2-Dichloropropane	2022/03/04	90	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7857650	1,3-Dichlorobenzene	2022/03/04	94	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
7857650	1,4-Dichlorobenzene	2022/03/04	109	70 - 130	110	70 - 130	<0.50	ug/L	NC	30
7857650	Acetone (2-Propanone)	2022/03/04	97	60 - 140	87	60 - 140	<10	ug/L	NC	30
7857650	Benzene	2022/03/04	86	70 - 130	91	70 - 130	<0.17	ug/L	NC	30
7857650	Bromodichloromethane	2022/03/04	94	70 - 130	98	70 - 130	<0.50	ug/L	NC	30

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Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7857650	Bromoform	2022/03/04	91	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
7857650	Bromomethane	2022/03/04	93	60 - 140	104	60 - 140	<0.50	ug/L	NC	30
7857650	Carbon Tetrachloride	2022/03/04	91	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
7857650	Chlorobenzene	2022/03/04	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7857650	Chloroform	2022/03/04	92	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7857650	cis-1,2-Dichloroethylene	2022/03/04	92	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7857650	cis-1,3-Dichloropropene	2022/03/04	94	70 - 130	98	70 - 130	<0.30	ug/L	NC	30
7857650	Dibromochloromethane	2022/03/04	91	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7857650	Dichlorodifluoromethane (FREON 12)	2022/03/04	76	60 - 140	89	60 - 140	<1.0	ug/L	NC	30
7857650	Ethylbenzene	2022/03/04	89	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7857650	Ethylene Dibromide	2022/03/04	91	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7857650	F1 (C6-C10) - BTEX	2022/03/04					<25	ug/L	NC	30
7857650	F1 (C6-C10)	2022/03/04	90	60 - 140	92	60 - 140	<25	ug/L	NC	30
7857650	Hexane	2022/03/04	91	70 - 130	98	70 - 130	<1.0	ug/L	NC	30
7857650	Methyl Ethyl Ketone (2-Butanone)	2022/03/04	99	60 - 140	91	60 - 140	<10	ug/L	NC	30
7857650	Methyl Isobutyl Ketone	2022/03/04	95	70 - 130	92	70 - 130	<5.0	ug/L	NC	30
7857650	Methyl t-butyl ether (MTBE)	2022/03/04	89	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7857650	Methylene Chloride(Dichloromethane)	2022/03/04	101	70 - 130	105	70 - 130	<2.0	ug/L	NC	30
7857650	o-Xylene	2022/03/04	88	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7857650	p+m-Xylene	2022/03/04	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7857650	Styrene	2022/03/04	98	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7857650	Tetrachloroethylene	2022/03/04	86	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
7857650	Toluene	2022/03/04	87	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
7857650	Total Xylenes	2022/03/04					<0.20	ug/L	NC	30
7857650	trans-1,2-Dichloroethylene	2022/03/04	93	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7857650	trans-1,3-Dichloropropene	2022/03/04	97	70 - 130	102	70 - 130	<0.40	ug/L	NC	30
7857650	Trichloroethylene	2022/03/04	95	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7857650	Trichlorofluoromethane (FREON 11)	2022/03/04	97	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
7857650	Vinyl Chloride	2022/03/04	90	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7858653	Dissolved Chloride (Cl-)	2022/03/02	NC	80 - 120	102	80 - 120	<1.0	mg/L	3.1	20
7859616	Dissolved Antimony (Sb)	2022/03/02	110	80 - 120	103	80 - 120	<0.50	ug/L	NC	20

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Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7859616	Dissolved Arsenic (As)	2022/03/02	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7859616	Dissolved Barium (Ba)	2022/03/02	100	80 - 120	100	80 - 120	<2.0	ug/L	3.1	20
7859616	Dissolved Beryllium (Be)	2022/03/02	102	80 - 120	103	80 - 120	<0.40	ug/L	NC	20
7859616	Dissolved Boron (B)	2022/03/02	98	80 - 120	99	80 - 120	<10	ug/L	NC	20
7859616	Dissolved Cadmium (Cd)	2022/03/02	102	80 - 120	101	80 - 120	<0.090	ug/L	NC	20
7859616	Dissolved Chromium (Cr)	2022/03/02	93	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7859616	Dissolved Cobalt (Co)	2022/03/02	95	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7859616	Dissolved Copper (Cu)	2022/03/02	100	80 - 120	99	80 - 120	<0.90	ug/L	11	20
7859616	Dissolved Lead (Pb)	2022/03/02	91	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7859616	Dissolved Molybdenum (Mo)	2022/03/02	111	80 - 120	104	80 - 120	<0.50	ug/L	5.9	20
7859616	Dissolved Nickel (Ni)	2022/03/02	89	80 - 120	97	80 - 120	<1.0	ug/L	1.7	20
7859616	Dissolved Selenium (Se)	2022/03/02	98	80 - 120	103	80 - 120	<2.0	ug/L	NC	20
7859616	Dissolved Silver (Ag)	2022/03/02	99	80 - 120	104	80 - 120	<0.090	ug/L	NC	20
7859616	Dissolved Sodium (Na)	2022/03/02	NC	80 - 120	99	80 - 120	120, RDL=100 (1)	ug/L	2.8	20
7859616	Dissolved Thallium (Tl)	2022/03/02	93	80 - 120	102	80 - 120	<0.050	ug/L	NC	20
7859616	Dissolved Uranium (U)	2022/03/02	95	80 - 120	100	80 - 120	<0.10	ug/L	0.039	20
7859616	Dissolved Vanadium (V)	2022/03/02	99	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7859616	Dissolved Zinc (Zn)	2022/03/02	92	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7859755	Chromium (VI)	2022/03/02	103	80 - 120	104	80 - 120	<0.50	ug/L	NC	20
7860105	Mercury (Hg)	2022/03/02	92	75 - 125	97	80 - 120	<0.10	ug/L	NC	20
7860150	WAD Cyanide (Free)	2022/03/02	98	80 - 120	96	80 - 120	<1	ug/L	NC	20
7861880	F2 (C10-C16 Hydrocarbons)	2022/03/03	112	60 - 130	108	60 - 130	<100	ug/L	NC	30
7861880	F3 (C16-C34 Hydrocarbons)	2022/03/03	113	60 - 130	111	60 - 130	<200	ug/L	NC	30

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Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7861880	F4 (C34-C50 Hydrocarbons)	2022/03/03	113	60 - 130	110	60 - 130	<200	ug/L	NC	30
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement. Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference. Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy. Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination. Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency. NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration) NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$). (1) Analyte was detected in the method blank at a level marginally above the detection limit. Sample results have not been blank corrected. Those results at or near the detection limit may be biased high..										



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

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

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Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

Exceedance Summary Table – Reg153/04 T3-Soil/Res-C
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

CHAIN OF CUSTODY RECORD

ENV COC - 00014v2

Page 1 of

Invoice Information Invoice to (requires report) ☐			Report Information (if differs from invoice)			Project Information			LAB USE ONLY - PLACE STICKER HERE																				
Company: DS Consultants			Company: DS			Quotation #:			21-018-101																				
Contact Name: Accounts Payable			Contact Name: Julia Arends			P.O. #/ AFR:																							
Street Address: 6221 HWY 7 West 16			Street Address:			Project #:																							
City: Vaughan Prov: ON Postal Code: M4H 1G8			City: Prov: Postal Code:			Site #:																							
Phone:			Phone:			Site Location:			Rush Confirmation #:																				
Email: accounting@dsconsultants.ca			Email: Julia.Arends@dsconsultants.ca			Site Location Province:			Regular Turnaround Time (TAT) ☒ 5 to 7 Day ☐ 10 Day Rush Turnaround Time (TAT) Surcharges apply ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 Day Date Required: YY MM DD Comments																				
Copies:			Copies:			Sampled By: AH																							
Regulatory Criteria REG 153 ☒ Table 1 ☒ Res/Park ☐ Med/Fine ☐ CME ☐ Reg 406, Table: ☐ Xeg 558* ☐ Sanitary Sewer Bylaw ☒ Table 2 ☐ Ind/Comm ☐ Course ☐ min 3 day TAT ☐ Storm Sewer Bylaw ☒ Table 3 ☐ Agri/other ☐ For RSC ☐ WISA ☐ Municipality ☐ Table ☐ HWQO ☐ Other: ☐												1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22																	
Include Criteria on Certificate of Analysis (check if yes): ☒												FIELD FILTERED FIELD PRESERVED LAB FILTRATION REQUIRED BTX/F1 F2 - F4 VOCs Reg 153 metals and inorganics Reg 153 ICPMS metals Reg 153 metals (Hg, Cr VI, ICPMS metals, HHS - B) mercury Pb Cd Cu Mn Ni Zn Fe Al As Ba Be Bi Br Ca Cd Co Cr Cs Cu Fe Hg K Li Mg Mn Mo Na Ni P Pb S Se Si Sr Tl V W Zn Zr																	
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS												# OF CONTAINERS SUBMITTED HOLD - DO NOT ANALYZE																	
Sample Identification												Date Sampled YY MM DD Time (24hr) HH MM Matrix																	
1 MW21-5												22 02 28 PM Gw																	
2 Trip Blank																													
3 Du P-7																													
4 MW21-6																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													
28-Feb-22 19:00 Ashton Gibson C252750 ATM ENV-1665																													
*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY																													
LAB USE ONLY Seal present Seal intact Cooling media present			Yes No ✓ ✓ ✓			°C 0 1 1			LAB USE ONLY Seal present Seal intact Cooling media present			Yes No ✓ ✓ ✓			°C 1 2 3			LAB USE ONLY Seal present Seal intact Cooling media present			Yes No ✓ ✓ ✓			°C 1 2 3			Temperature reading by:		
Relinquished by: (Signature/Print)			Date YY MM DD 22 02 28			Time HH MM 19 00			Received by: (Signature/Print)			Date YY MM DD 2022 02 28			Time HH MM 19 00			Special instructions											
Alexii Hernandez									Vidhi M. Vidhi Bhawar																				



Your Project #: 21-018-101
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/03/07
Report #: R7032563
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C252750

Received: 2022/02/28, 19:00

Sample Matrix: Ground Water
Samples Received: 4

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
1,3-Dichloropropene Sum	1	N/A	2022/03/02	EPA 8260C m
1,3-Dichloropropene Sum	2	N/A	2022/03/07	EPA 8260C m
Chloride by Automated Colourimetry	1	N/A	2022/03/02 CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	1	N/A	2022/03/02 CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	1	N/A	2022/03/02 CAM SOP-00457	OMOE E3015 m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/03/03	2022/03/03 CAM SOP-00316	CCME PHC-CWS m
Mercury	2	2022/03/02	2022/03/02 CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS	1	N/A	2022/03/02 CAM SOP-00447	EPA 6020B m
Volatile Organic Compounds and F1 PHCs	2	N/A	2022/03/04 CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Water	1	N/A	2022/03/02 CAM SOP-00228	EPA 8260C 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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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



Your Project #: 21-018-101
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/03/07
Report #: R7032563
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C252750

Received: 2022/02/28, 19:00

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

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

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For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

Bureau Veritas ID		RYT869		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	MW21-5	RDL	QC Batch
Metals				
Mercury (Hg)	ug/L	<0.10	0.10	7860105
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



O.REG 153 METALS & INORGANICS PKG (WTR)

Bureau Veritas ID		RYT872		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	MW21-6	RDL	QC Batch
Inorganics				
WAD Cyanide (Free)	ug/L	<1	1	7860150
Dissolved Chloride (Cl-)	mg/L	50	1.0	7858653
Metals				
Chromium (VI)	ug/L	0.71	0.50	7859755
Mercury (Hg)	ug/L	<0.10	0.10	7860105
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7859616
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7859616
Dissolved Barium (Ba)	ug/L	19	2.0	7859616
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7859616
Dissolved Boron (B)	ug/L	49	10	7859616
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7859616
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7859616
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7859616
Dissolved Copper (Cu)	ug/L	5.4	0.90	7859616
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7859616
Dissolved Molybdenum (Mo)	ug/L	1.4	0.50	7859616
Dissolved Nickel (Ni)	ug/L	7.8	1.0	7859616
Dissolved Selenium (Se)	ug/L	2.0	2.0	7859616
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7859616
Dissolved Sodium (Na)	ug/L	53000	100	7859616
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7859616
Dissolved Uranium (U)	ug/L	0.34	0.10	7859616
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7859616
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7859616
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



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

Bureau Veritas ID		RYT871	RYT872		
Sampling Date		2022/02/28	2022/02/28		
COC Number		n/a	n/a		
	UNITS	DUP7	MW21-6	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	0.50	7857249
Volatile Organics					
Acetone (2-Propanone)	ug/L	<10	<10	10	7857650
Benzene	ug/L	<0.17	<0.17	0.17	7857650
Bromodichloromethane	ug/L	<0.50	<0.50	0.50	7857650
Bromoform	ug/L	<1.0	<1.0	1.0	7857650
Bromomethane	ug/L	<0.50	<0.50	0.50	7857650
Carbon Tetrachloride	ug/L	<0.20	<0.20	0.20	7857650
Chlorobenzene	ug/L	<0.20	<0.20	0.20	7857650
Chloroform	ug/L	<0.20	<0.20	0.20	7857650
Dibromochloromethane	ug/L	<0.50	<0.50	0.50	7857650
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7857650
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7857650
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	0.50	7857650
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	1.0	7857650
1,1-Dichloroethane	ug/L	<0.20	<0.20	0.20	7857650
1,2-Dichloroethane	ug/L	<0.50	<0.50	0.50	7857650
1,1-Dichloroethylene	ug/L	<0.20	<0.20	0.20	7857650
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7857650
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	0.50	7857650
1,2-Dichloropropane	ug/L	<0.20	<0.20	0.20	7857650
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	0.30	7857650
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	0.40	7857650
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7857650
Ethylene Dibromide	ug/L	<0.20	<0.20	0.20	7857650
Hexane	ug/L	<1.0	<1.0	1.0	7857650
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	2.0	7857650
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	10	7857650
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	5.0	7857650
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	0.50	7857650
Styrene	ug/L	<0.50	<0.50	0.50	7857650
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7857650
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



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

Bureau Veritas ID		RYT871	RYT872		
Sampling Date		2022/02/28	2022/02/28		
COC Number		n/a	n/a		
	UNITS	DUP7	MW21-6	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	0.50	7857650
Tetrachloroethylene	ug/L	<0.20	<0.20	0.20	7857650
Toluene	ug/L	<0.20	<0.20	0.20	7857650
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	0.20	7857650
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	0.50	7857650
Trichloroethylene	ug/L	<0.20	<0.20	0.20	7857650
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	0.50	7857650
Vinyl Chloride	ug/L	<0.20	<0.20	0.20	7857650
p+m-Xylene	ug/L	<0.20	<0.20	0.20	7857650
o-Xylene	ug/L	<0.20	<0.20	0.20	7857650
Total Xylenes	ug/L	<0.20	<0.20	0.20	7857650
F1 (C6-C10)	ug/L	<25	<25	25	7857650
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7857650
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7861880
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	7861880
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	7861880
Reached Baseline at C50	ug/L	Yes	Yes		7861880
Surrogate Recovery (%)					
o-Terphenyl	%	100	98		7861880
4-Bromofluorobenzene	%	96	97		7857650
D4-1,2-Dichloroethane	%	96	97		7857650
D8-Toluene	%	101	101		7857650
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RYT870		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	TRIP BLANK	RDL	QC Batch
Calculated Parameters				
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	7857249
Volatile Organics				
Acetone (2-Propanone)	ug/L	<10	10	7857616
Benzene	ug/L	<0.20	0.20	7857616
Bromodichloromethane	ug/L	<0.50	0.50	7857616
Bromoform	ug/L	<1.0	1.0	7857616
Bromomethane	ug/L	<0.50	0.50	7857616
Carbon Tetrachloride	ug/L	<0.19	0.19	7857616
Chlorobenzene	ug/L	<0.20	0.20	7857616
Chloroform	ug/L	<0.20	0.20	7857616
Dibromochloromethane	ug/L	<0.50	0.50	7857616
1,2-Dichlorobenzene	ug/L	<0.40	0.40	7857616
1,3-Dichlorobenzene	ug/L	<0.40	0.40	7857616
1,4-Dichlorobenzene	ug/L	<0.40	0.40	7857616
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	7857616
1,1-Dichloroethane	ug/L	<0.20	0.20	7857616
1,2-Dichloroethane	ug/L	<0.49	0.49	7857616
1,1-Dichloroethylene	ug/L	<0.20	0.20	7857616
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	7857616
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	7857616
1,2-Dichloropropane	ug/L	<0.20	0.20	7857616
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	7857616
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	7857616
Ethylbenzene	ug/L	<0.20	0.20	7857616
Ethylene Dibromide	ug/L	<0.19	0.19	7857616
Hexane	ug/L	<1.0	1.0	7857616
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	7857616
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	7857616
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	7857616
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	7857616
Styrene	ug/L	<0.40	0.40	7857616
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	7857616
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



O.REG 153 VOCs BY HS (WATER)

Bureau Veritas ID		RYT870		
Sampling Date		2022/02/28		
COC Number		n/a		
	UNITS	TRIP BLANK	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	<0.40	0.40	7857616
Tetrachloroethylene	ug/L	<0.20	0.20	7857616
Toluene	ug/L	<0.20	0.20	7857616
1,1,1-Trichloroethane	ug/L	<0.20	0.20	7857616
1,1,2-Trichloroethane	ug/L	<0.40	0.40	7857616
Trichloroethylene	ug/L	<0.20	0.20	7857616
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	7857616
Vinyl Chloride	ug/L	<0.20	0.20	7857616
p+m-Xylene	ug/L	<0.20	0.20	7857616
o-Xylene	ug/L	<0.20	0.20	7857616
Total Xylenes	ug/L	<0.20	0.20	7857616
Surrogate Recovery (%)				
4-Bromofluorobenzene	%	93		7857616
D4-1,2-Dichloroethane	%	109		7857616
D8-Toluene	%	90		7857616
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

TEST SUMMARY

Bureau Veritas ID: RYT869
Sample ID: MW21-5
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Mercury	CV/AA	7860105	2022/03/02	2022/03/02	Indira HarryPaul

Bureau Veritas ID: RYT870
Sample ID: TRIP BLANK
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7857249	N/A	2022/03/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	7857616	N/A	2022/03/02	Manpreet Sarao

Bureau Veritas ID: RYT871
Sample ID: DUP7
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7857249	N/A	2022/03/07	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7861880	2022/03/03	2022/03/03	Jeevaraj Jeevaratnam
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7857650	N/A	2022/03/04	Chandni Khawas

Bureau Veritas ID: RYT872
Sample ID: MW21-6
Matrix: Ground Water

Collected: 2022/02/28
Shipped:
Received: 2022/02/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	7857249	N/A	2022/03/07	Automated Statchk
Chloride by Automated Colourimetry	KONE	7858653	N/A	2022/03/02	Alina Dobreanu
Chromium (VI) in Water	IC	7859755	N/A	2022/03/02	Theodora LI
Free (WAD) Cyanide	SKAL/CN	7860150	N/A	2022/03/02	Nimarta Singh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7861880	2022/03/03	2022/03/03	Jeevaraj Jeevaratnam
Mercury	CV/AA	7860105	2022/03/02	2022/03/02	Indira HarryPaul
Dissolved Metals by ICPMS	ICP/MS	7859616	N/A	2022/03/02	Nan Raykha
Volatile Organic Compounds and F1 PHCs	GC/MSFD	7857650	N/A	2022/03/04	Chandni Khawas



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

GENERAL COMMENTS

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

Package 1	0.7°C
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Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7857616	4-Bromofluorobenzene	2022/03/02	104	70 - 130	103	70 - 130	98	%		
7857616	D4-1,2-Dichloroethane	2022/03/02	102	70 - 130	98	70 - 130	108	%		
7857616	D8-Toluene	2022/03/02	103	70 - 130	104	70 - 130	91	%		
7857650	4-Bromofluorobenzene	2022/03/04	102	70 - 130	101	70 - 130	98	%		
7857650	D4-1,2-Dichloroethane	2022/03/04	100	70 - 130	101	70 - 130	100	%		
7857650	D8-Toluene	2022/03/04	100	70 - 130	101	70 - 130	99	%		
7861880	o-Terphenyl	2022/03/03	102	60 - 130	99	60 - 130	101	%		
7857616	1,1,1,2-Tetrachloroethane	2022/03/02	103	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
7857616	1,1,1-Trichloroethane	2022/03/02	101	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
7857616	1,1,2,2-Tetrachloroethane	2022/03/02	102	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7857616	1,1,2-Trichloroethane	2022/03/02	102	70 - 130	100	70 - 130	<0.40	ug/L	NC	30
7857616	1,1-Dichloroethane	2022/03/02	95	70 - 130	97	70 - 130	<0.20	ug/L	10	30
7857616	1,1-Dichloroethylene	2022/03/02	96	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7857616	1,2-Dichlorobenzene	2022/03/02	96	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
7857616	1,2-Dichloroethane	2022/03/02	96	70 - 130	94	70 - 130	<0.49	ug/L	NC	30
7857616	1,2-Dichloropropane	2022/03/02	101	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7857616	1,3-Dichlorobenzene	2022/03/02	93	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
7857616	1,4-Dichlorobenzene	2022/03/02	109	70 - 130	112	70 - 130	<0.40	ug/L	NC	30
7857616	Acetone (2-Propanone)	2022/03/02	107	60 - 140	102	60 - 140	<10	ug/L	NC	30
7857616	Benzene	2022/03/02	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7857616	Bromodichloromethane	2022/03/02	102	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7857616	Bromoform	2022/03/02	106	70 - 130	103	70 - 130	<1.0	ug/L	NC	30
7857616	Bromomethane	2022/03/02	105	60 - 140	104	60 - 140	<0.50	ug/L	NC	30
7857616	Carbon Tetrachloride	2022/03/02	99	70 - 130	102	70 - 130	<0.19	ug/L	NC	30
7857616	Chlorobenzene	2022/03/02	98	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7857616	Chloroform	2022/03/02	98	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
7857616	cis-1,2-Dichloroethylene	2022/03/02	103	70 - 130	104	70 - 130	<0.50	ug/L	3.8	30
7857616	cis-1,3-Dichloropropene	2022/03/02	99	70 - 130	94	70 - 130	<0.30	ug/L	NC	30
7857616	Dibromochloromethane	2022/03/02	101	70 - 130	99	70 - 130	<0.50	ug/L	NC	30
7857616	Dichlorodifluoromethane (FREON 12)	2022/03/02	81	60 - 140	91	60 - 140	<1.0	ug/L	NC	30
7857616	Ethylbenzene	2022/03/02	89	70 - 130	93	70 - 130	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7857616	Ethylene Dibromide	2022/03/02	102	70 - 130	99	70 - 130	<0.19	ug/L	NC	30
7857616	Hexane	2022/03/02	100	70 - 130	104	70 - 130	<1.0	ug/L	NC	30
7857616	Methyl Ethyl Ketone (2-Butanone)	2022/03/02	116	60 - 140	111	60 - 140	<10	ug/L	NC	30
7857616	Methyl Isobutyl Ketone	2022/03/02	113	70 - 130	110	70 - 130	<5.0	ug/L	NC	30
7857616	Methyl t-butyl ether (MTBE)	2022/03/02	95	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7857616	Methylene Chloride(Dichloromethane)	2022/03/02	101	70 - 130	100	70 - 130	<2.0	ug/L	NC	30
7857616	o-Xylene	2022/03/02	89	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7857616	p+m-Xylene	2022/03/02	97	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7857616	Styrene	2022/03/02	106	70 - 130	111	70 - 130	<0.40	ug/L	NC	30
7857616	Tetrachloroethylene	2022/03/02	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7857616	Toluene	2022/03/02	96	70 - 130	98	70 - 130	<0.20	ug/L	4.2	30
7857616	Total Xylenes	2022/03/02					<0.20	ug/L	NC	30
7857616	trans-1,2-Dichloroethylene	2022/03/02	99	70 - 130	101	70 - 130	<0.50	ug/L	8.3	30
7857616	trans-1,3-Dichloropropene	2022/03/02	108	70 - 130	98	70 - 130	<0.40	ug/L	NC	30
7857616	Trichloroethylene	2022/03/02	104	70 - 130	107	70 - 130	<0.20	ug/L	5.0	30
7857616	Trichlorofluoromethane (FREON 11)	2022/03/02	99	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
7857616	Vinyl Chloride	2022/03/02	100	70 - 130	105	70 - 130	<0.20	ug/L	5.9	30
7857650	1,1,1,2-Tetrachloroethane	2022/03/04	93	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7857650	1,1,1-Trichloroethane	2022/03/04	93	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
7857650	1,1,2,2-Tetrachloroethane	2022/03/04	94	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7857650	1,1,2-Trichloroethane	2022/03/04	97	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
7857650	1,1-Dichloroethane	2022/03/04	88	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7857650	1,1-Dichloroethylene	2022/03/04	92	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
7857650	1,2-Dichlorobenzene	2022/03/04	93	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
7857650	1,2-Dichloroethane	2022/03/04	90	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7857650	1,2-Dichloropropane	2022/03/04	90	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
7857650	1,3-Dichlorobenzene	2022/03/04	94	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
7857650	1,4-Dichlorobenzene	2022/03/04	109	70 - 130	110	70 - 130	<0.50	ug/L	NC	30
7857650	Acetone (2-Propanone)	2022/03/04	97	60 - 140	87	60 - 140	<10	ug/L	NC	30
7857650	Benzene	2022/03/04	86	70 - 130	91	70 - 130	<0.17	ug/L	NC	30
7857650	Bromodichloromethane	2022/03/04	94	70 - 130	98	70 - 130	<0.50	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7857650	Bromoform	2022/03/04	91	70 - 130	93	70 - 130	<1.0	ug/L	NC	30
7857650	Bromomethane	2022/03/04	93	60 - 140	104	60 - 140	<0.50	ug/L	NC	30
7857650	Carbon Tetrachloride	2022/03/04	91	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
7857650	Chlorobenzene	2022/03/04	93	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7857650	Chloroform	2022/03/04	92	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
7857650	cis-1,2-Dichloroethylene	2022/03/04	92	70 - 130	96	70 - 130	<0.50	ug/L	NC	30
7857650	cis-1,3-Dichloropropene	2022/03/04	94	70 - 130	98	70 - 130	<0.30	ug/L	NC	30
7857650	Dibromochloromethane	2022/03/04	91	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
7857650	Dichlorodifluoromethane (FREON 12)	2022/03/04	76	60 - 140	89	60 - 140	<1.0	ug/L	NC	30
7857650	Ethylbenzene	2022/03/04	89	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7857650	Ethylene Dibromide	2022/03/04	91	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7857650	F1 (C6-C10) - BTEX	2022/03/04					<25	ug/L	NC	30
7857650	F1 (C6-C10)	2022/03/04	90	60 - 140	92	60 - 140	<25	ug/L	NC	30
7857650	Hexane	2022/03/04	91	70 - 130	98	70 - 130	<1.0	ug/L	NC	30
7857650	Methyl Ethyl Ketone (2-Butanone)	2022/03/04	99	60 - 140	91	60 - 140	<10	ug/L	NC	30
7857650	Methyl Isobutyl Ketone	2022/03/04	95	70 - 130	92	70 - 130	<5.0	ug/L	NC	30
7857650	Methyl t-butyl ether (MTBE)	2022/03/04	89	70 - 130	92	70 - 130	<0.50	ug/L	NC	30
7857650	Methylene Chloride(Dichloromethane)	2022/03/04	101	70 - 130	105	70 - 130	<2.0	ug/L	NC	30
7857650	o-Xylene	2022/03/04	88	70 - 130	92	70 - 130	<0.20	ug/L	NC	30
7857650	p+m-Xylene	2022/03/04	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
7857650	Styrene	2022/03/04	98	70 - 130	101	70 - 130	<0.50	ug/L	NC	30
7857650	Tetrachloroethylene	2022/03/04	86	70 - 130	89	70 - 130	<0.20	ug/L	NC	30
7857650	Toluene	2022/03/04	87	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
7857650	Total Xylenes	2022/03/04					<0.20	ug/L	NC	30
7857650	trans-1,2-Dichloroethylene	2022/03/04	93	70 - 130	97	70 - 130	<0.50	ug/L	NC	30
7857650	trans-1,3-Dichloropropene	2022/03/04	97	70 - 130	102	70 - 130	<0.40	ug/L	NC	30
7857650	Trichloroethylene	2022/03/04	95	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
7857650	Trichlorofluoromethane (FREON 11)	2022/03/04	97	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
7857650	Vinyl Chloride	2022/03/04	90	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
7858653	Dissolved Chloride (Cl-)	2022/03/02	NC	80 - 120	102	80 - 120	<1.0	mg/L	3.1	20
7859616	Dissolved Antimony (Sb)	2022/03/02	110	80 - 120	103	80 - 120	<0.50	ug/L	NC	20

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QUALITY ASSURANCE REPORT(CONT'D)

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Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7859616	Dissolved Arsenic (As)	2022/03/02	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7859616	Dissolved Barium (Ba)	2022/03/02	100	80 - 120	100	80 - 120	<2.0	ug/L	3.1	20
7859616	Dissolved Beryllium (Be)	2022/03/02	102	80 - 120	103	80 - 120	<0.40	ug/L	NC	20
7859616	Dissolved Boron (B)	2022/03/02	98	80 - 120	99	80 - 120	<10	ug/L	NC	20
7859616	Dissolved Cadmium (Cd)	2022/03/02	102	80 - 120	101	80 - 120	<0.090	ug/L	NC	20
7859616	Dissolved Chromium (Cr)	2022/03/02	93	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7859616	Dissolved Cobalt (Co)	2022/03/02	95	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7859616	Dissolved Copper (Cu)	2022/03/02	100	80 - 120	99	80 - 120	<0.90	ug/L	11	20
7859616	Dissolved Lead (Pb)	2022/03/02	91	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7859616	Dissolved Molybdenum (Mo)	2022/03/02	111	80 - 120	104	80 - 120	<0.50	ug/L	5.9	20
7859616	Dissolved Nickel (Ni)	2022/03/02	89	80 - 120	97	80 - 120	<1.0	ug/L	1.7	20
7859616	Dissolved Selenium (Se)	2022/03/02	98	80 - 120	103	80 - 120	<2.0	ug/L	NC	20
7859616	Dissolved Silver (Ag)	2022/03/02	99	80 - 120	104	80 - 120	<0.090	ug/L	NC	20
7859616	Dissolved Sodium (Na)	2022/03/02	NC	80 - 120	99	80 - 120	120, RDL=100 (1)	ug/L	2.8	20
7859616	Dissolved Thallium (Tl)	2022/03/02	93	80 - 120	102	80 - 120	<0.050	ug/L	NC	20
7859616	Dissolved Uranium (U)	2022/03/02	95	80 - 120	100	80 - 120	<0.10	ug/L	0.039	20
7859616	Dissolved Vanadium (V)	2022/03/02	99	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7859616	Dissolved Zinc (Zn)	2022/03/02	92	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7859755	Chromium (VI)	2022/03/02	103	80 - 120	104	80 - 120	<0.50	ug/L	NC	20
7860105	Mercury (Hg)	2022/03/02	92	75 - 125	97	80 - 120	<0.10	ug/L	NC	20
7860150	WAD Cyanide (Free)	2022/03/02	98	80 - 120	96	80 - 120	<1	ug/L	NC	20
7861880	F2 (C10-C16 Hydrocarbons)	2022/03/03	112	60 - 130	108	60 - 130	<100	ug/L	NC	30
7861880	F3 (C16-C34 Hydrocarbons)	2022/03/03	113	60 - 130	111	60 - 130	<200	ug/L	NC	30

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Bureau Veritas Job #: C252750

Report Date: 2022/03/07

QUALITY ASSURANCE REPORT(CONT'D)

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7861880	F4 (C34-C50 Hydrocarbons)	2022/03/03	113	60 - 130	110	60 - 130	<200	ug/L	NC	30
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement. Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference. Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy. Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination. Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency. NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration) NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference $\leq 2 \times \text{RDL}$). (1) Analyte was detected in the method blank at a level marginally above the detection limit. Sample results have not been blank corrected. Those results at or near the detection limit may be biased high..										



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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

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

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



Bureau Veritas Job #: C252750
Report Date: 2022/03/07

DS Consultants Limited
Client Project #: 21-018-101
Sampler Initials: AH

Exceedance Summary Table – Reg153/04 T3-Soil/Res-C
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



6740 Campobello Road, Mississauga, Ontario L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266
CAM FCD-01191/6

CHAIN OF CUSTODY RECORD

Page ____ of ____

Invoice Information		Report Information (if differs from invoice)		Project Information (where applicable)		Turnaround Time (TAT) Required	
Company Name: <u>DS Consultants</u>	Company Name: <u>DS Consultants</u>	Quotation #: _____	☒ Regular TAT (5-7 days) Most analyses				
Contact Name: <u>Accounting</u>	Contact Name: <u>Julia Arends</u>	P.O. #/ AFE#: _____	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS				
Address: <u>6221 Highway 7</u>	Address: <u>6221 Highway 7</u>	Project #: <u>21-018-100</u>	Rush TAT (Surcharges will be applied)				
Phone: <u>905 264-9318</u> Fax: _____	Phone: <u>647 660-6804</u> Fax: _____	Site Location: <u>17-27 Jacobs Terrace</u>	☐ 1 Day ☐ 2 Days ☐ 3-4 Days				
Email: <u>accounts@dsconsulting.ca</u>	Email: <u>julia.arends@dsconsulting.ca</u>	Site #: _____	Date Required: _____				
MCE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY		Site Location Province: <u>Barrie, ON</u>	Rush Confirmation #: _____				
Sampled By: <u>OMAR MARINA N.</u>							
Regulation 153 ☐ Table 1 ☒ Res/Park ☐ Med/ Fine ☐ Table 2 ☒ Ind/Comm ☐ Coarse ☒ Table 3 ☐ Agr/ Other ☐ Table _____ FOR RSC (PLEASE CIRCLE) Y / N		Other Regulations ☐ CCME ☐ Sanitary Sewer Bylaw ☐ MISA ☐ Storm Sewer Bylaw ☐ WWO ☐ Region ☐ Other (Specify) _____ ☐ REG 558 (MIN. 3 DAY TAT REQUIRED) ☐ REG 406 Table _____		Analysis Requested # OF CONTAINERS SUBMITTED FIELD FILTERED (CIRCLE) Metals / Hg / Cr VI BTEX / PHC F1 PHC F2 - F4 VOC REG 153 METALS & INORGANICS REG 153 ICPMS METALS REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B) PAHS CYANIDE HOLD- DO NOT ANALYZE		LABORATORY USE ONLY CUSTODY SEAL (Y) / N Present Intact COOLER TEMPERATURES 4/4/9 COOLING MEDIA PRESENT: (Y) / N COMMENTS	
Include Criteria on Certificate of Analysis: <u>Y / N</u>		SAMPLES MUST BE KEPT COOL (< 10 °C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS					
SAMPLE IDENTIFICATION		DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	MATRIX			
1	MW21-1	2022/05/27	PM	GW	3	✓	
2	MW21-2	2022/05/27			5	✓	✓
3	MW21-3	2022/05/27			5	✓	✓
4	MW21-6	2022/05/27	✓		8	✓	✓
5	MW21-5	2022/05/25	PM		5	✓	✓
6	MW21-2	2022/05/25	PM		3	✓	
7	MW21-3	2022/05/25	PM		3	✓	
8	DUP 1	2022/05/27	PM	GW	3	✓	✓
9	Trip Blank	2022/05/27	PM	GW	2	✓	
10							
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)
<u>OMAR</u>		2022/05/27	PM	<u>NIRAL PATEL</u>		2022/05/27	20:01

27-May-22 20:01

Ashton Gibson



C2E5303

RPK ENV-1783



Your Project #: 21-018-100
Your C.O.C. #: 886195-01-01

Attention: Lili Ghasemi

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/07/14

Report #: R7210765

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C217319

Received: 2022/07/06, 16:47

Sample Matrix: Water
Samples Received: 2

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	2	N/A	2022/07/14	CAM SOP-00301	EPA 8270D m
PAH Compounds in Water by GC/MS (SIM)	2	2022/07/12	2022/07/13	CAM SOP-00318	EPA 8270D 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.

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

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



Your Project #: 21-018-100
Your C.O.C. #: 886195-01-01

Attention: Lili Ghasemi

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/07/14
Report #: R7210765
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2I7319

Received: 2022/07/06, 16:47

Encryption Key

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

Ashton Gibson, Project Manager

Email: Ashton.Gibson@bureauveritas.com

Phone# (905)817-5765

=====

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For Service Group specific validation please refer to the Validation Signature Page.



O.REG 153 PAHS (WATER)

Bureau Veritas ID			TCC239	TCC240		
Sampling Date			2022/07/06 12:00	2022/07/06 12:00		
COC Number			886195-01-01	886195-01-01		
	UNITS	Criteria	MW21-6	DUPE	RDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/L	1800	<0.071	<0.071	0.071	8093442
Polyaromatic Hydrocarbons						
Acenaphthene	ug/L	600	<0.050	<0.050	0.050	8103121
Acenaphthylene	ug/L	1.8	<0.050	<0.050	0.050	8103121
Anthracene	ug/L	2.4	<0.050	<0.050	0.050	8103121
Benzo(a)anthracene	ug/L	4.7	<0.050	<0.050	0.050	8103121
Benzo(a)pyrene	ug/L	0.81	<0.0090	<0.0090	0.0090	8103121
Benzo(b/j)fluoranthene	ug/L	0.75	<0.050	<0.050	0.050	8103121
Benzo(g,h,i)perylene	ug/L	0.2	<0.050	<0.050	0.050	8103121
Benzo(k)fluoranthene	ug/L	0.4	<0.050	<0.050	0.050	8103121
Chrysene	ug/L	1	<0.050	<0.050	0.050	8103121
Dibenzo(a,h)anthracene	ug/L	0.52	<0.050	<0.050	0.050	8103121
Fluoranthene	ug/L	130	<0.050	<0.050	0.050	8103121
Fluorene	ug/L	400	<0.050	<0.050	0.050	8103121
Indeno(1,2,3-cd)pyrene	ug/L	0.2	<0.050	<0.050	0.050	8103121
1-Methylnaphthalene	ug/L	1800	<0.050	<0.050	0.050	8103121
2-Methylnaphthalene	ug/L	1800	<0.050	<0.050	0.050	8103121
Naphthalene	ug/L	1400	<0.050	<0.050	0.050	8103121
Phenanthrene	ug/L	580	<0.030	<0.030	0.030	8103121
Pyrene	ug/L	68	<0.050	<0.050	0.050	8103121
Surrogate Recovery (%)						
D10-Anthracene	%	-	109	100		8103121
D14-Terphenyl (FS)	%	-	103	95		8103121
D8-Acenaphthylene	%	-	101	94		8103121
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition						
Non- Potable Ground Water - All Types of Property Uses - Coarse Textured Soil						



Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

TEST SUMMARY

Bureau Veritas ID: TCC239
Sample ID: MW21-6
Matrix: Water

Collected: 2022/07/06
Shipped:
Received: 2022/07/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8093442	N/A	2022/07/14	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8103121	2022/07/12	2022/07/13	Mitesh Raj

Bureau Veritas ID: TCC240
Sample ID: DUPE
Matrix: Water

Collected: 2022/07/06
Shipped:
Received: 2022/07/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8093442	N/A	2022/07/14	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8103121	2022/07/12	2022/07/13	Mitesh Raj



Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

GENERAL COMMENTS

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

Package 1	3.0°C
-----------	-------

Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C2I7319

Report Date: 2022/07/14

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-100

Sampler Initials: A

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8103121	D10-Anthracene	2022/07/13	95	50 - 130	102	50 - 130	100	%		
8103121	D14-Terphenyl (FS)	2022/07/13	88	50 - 130	95	50 - 130	96	%		
8103121	D8-Acenaphthylene	2022/07/13	90	50 - 130	97	50 - 130	91	%		
8103121	1-Methylnaphthalene	2022/07/13	93	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
8103121	2-Methylnaphthalene	2022/07/13	81	50 - 130	76	50 - 130	<0.050	ug/L	NC	30
8103121	Acenaphthene	2022/07/13	101	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
8103121	Acenaphthylene	2022/07/13	99	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8103121	Anthracene	2022/07/13	110	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(a)anthracene	2022/07/13	118	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(a)pyrene	2022/07/13	113	50 - 130	92	50 - 130	<0.0090	ug/L	NC	30
8103121	Benzo(b/j)fluoranthene	2022/07/13	114	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(g,h,i)perylene	2022/07/13	107	50 - 130	86	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(k)fluoranthene	2022/07/13	115	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8103121	Chrysene	2022/07/13	115	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8103121	Dibenzo(a,h)anthracene	2022/07/13	102	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
8103121	Fluoranthene	2022/07/13	124	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
8103121	Fluorene	2022/07/13	107	50 - 130	88	50 - 130	<0.050	ug/L	NC	30
8103121	Indeno(1,2,3-cd)pyrene	2022/07/13	104	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8103121	Naphthalene	2022/07/13	77	50 - 130	72	50 - 130	<0.050	ug/L	NC	30
8103121	Phenanthrene	2022/07/13	109	50 - 130	90	50 - 130	<0.030	ug/L	NC	30
8103121	Pyrene	2022/07/13	120	50 - 130	98	50 - 130	<0.050	ug/L	NC	30

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

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

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

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

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

NC (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 $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

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

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**BUREAU
VERITAS**

Bureau Veritas Job #: C2I7319

Report Date: 2022/07/14

DS Consultants Limited

Client Project #: 21-018-100

Sampler Initials: A

Exceedance Summary Table – Reg153/04 T3-GW-C

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Bureau Veritas
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #32615 DS Consultants Limited		Company Name: DS Consultants Limited		Quotation #: C20545		Bureau Veritas Job #:	
Attention: Accounts Payable		Attention: Lili Ghasemi		P.O. #:		Bottle Order #:	
Address: 6221 Highway 7, Unit 16		Address: 6221 Highway 7, Vaughan		Project: 21-018-100			
Vaughan ON L4H 0K8				Project Name:		COC #:	
Tel: (905) 264-9393		Tel:		Site #:			
Fax:		Fax:		Sampled By: ALLO		Project Manager: Ashton Gibson	
Email: accounting@dsconsultants.ca; bindu.goel@dsconsultant		Email: lili.ghasemi@dsconsultants.ca				Cf886195-01-01	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY				ANALYSIS REQUESTED (PLEASE BE SPECIFIC)												Turnaround Time (TAT) Required: Please provide advance notice for rush projects											
Regulation 153 (2011)				Other Regulations				Special Instructions				Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.															
☐ Table 1 ☒ Res/Park ☐ Medium/Fine				☐ CCME ☐ Sanitary Sewer Bylaw								☒															
☐ Table 2 ☒ Ind/Comm ☐ Coarse				☐ Reg 556 ☐ Storm Sewer Bylaw																							
☒ Table 3 ☐ Agri/Other ☐ For RSG				☐ MISA ☐ Municipality																							
☐ Table				☐ PWQC ☐ Reg 403 Table																							
☐ Other																											
Include Criteria on Certificate of Analysis (Y/N)?																											
Sample Barcode Label		Sample (Location) Identification		Date Sampled		Time Sampled		Matrix		Field Filtered (please circle): Metals / Hg / Cr / VI																	
1		MW21-6		Jul 6/22		12 PM		Ground water		N		✓															
2		Dupe		Jul 6/22		12 PM		Ground water		N		✓															
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)		Time		RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)		Time		# jars used and not submitted		Laboratory Use Only			
Lili Ghasemi		22/07/2022		3 PM		Ashton Gibson		22/07/2022		3 PM		0		Time Sensitive			
Lili Ghasemi		22/07/2022		3 PM		Ashton Gibson		22/07/2022		3 PM		0		Temperature (°C) on Recel			
												3/3/3		Custody Seal			
														Present			
														Intact			
														Yes			
														No			

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

White: Bureau Veritas Yellow: Client

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS.



Your Project #: 21-018-100
Your C.O.C. #: 886195-01-01

Attention: Lili Ghasemi

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/07/14

Report #: R7210765

Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C217319

Received: 2022/07/06, 16:47

Sample Matrix: Water
Samples Received: 2

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	2	N/A	2022/07/14	CAM SOP-00301	EPA 8270D m
PAH Compounds in Water by GC/MS (SIM)	2	2022/07/12	2022/07/13	CAM SOP-00318	EPA 8270D 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.

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

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



Your Project #: 21-018-100
Your C.O.C. #: 886195-01-01

Attention: Lili Ghasemi

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/07/14
Report #: R7210765
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2I7319

Received: 2022/07/06, 16:47

Encryption Key

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

Ashton Gibson, Project Manager

Email: Ashton.Gibson@bureauveritas.com

Phone# (905)817-5765

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O.REG 153 PAHS (WATER)

Bureau Veritas ID			TCC239	TCC240		
Sampling Date			2022/07/06 12:00	2022/07/06 12:00		
COC Number			886195-01-01	886195-01-01		
	UNITS	Criteria	MW21-6	DUPE	RDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/L	1800	<0.071	<0.071	0.071	8093442
Polyaromatic Hydrocarbons						
Acenaphthene	ug/L	600	<0.050	<0.050	0.050	8103121
Acenaphthylene	ug/L	1.8	<0.050	<0.050	0.050	8103121
Anthracene	ug/L	2.4	<0.050	<0.050	0.050	8103121
Benzo(a)anthracene	ug/L	4.7	<0.050	<0.050	0.050	8103121
Benzo(a)pyrene	ug/L	0.81	<0.0090	<0.0090	0.0090	8103121
Benzo(b/j)fluoranthene	ug/L	0.75	<0.050	<0.050	0.050	8103121
Benzo(g,h,i)perylene	ug/L	0.2	<0.050	<0.050	0.050	8103121
Benzo(k)fluoranthene	ug/L	0.4	<0.050	<0.050	0.050	8103121
Chrysene	ug/L	1	<0.050	<0.050	0.050	8103121
Dibenzo(a,h)anthracene	ug/L	0.52	<0.050	<0.050	0.050	8103121
Fluoranthene	ug/L	130	<0.050	<0.050	0.050	8103121
Fluorene	ug/L	400	<0.050	<0.050	0.050	8103121
Indeno(1,2,3-cd)pyrene	ug/L	0.2	<0.050	<0.050	0.050	8103121
1-Methylnaphthalene	ug/L	1800	<0.050	<0.050	0.050	8103121
2-Methylnaphthalene	ug/L	1800	<0.050	<0.050	0.050	8103121
Naphthalene	ug/L	1400	<0.050	<0.050	0.050	8103121
Phenanthrene	ug/L	580	<0.030	<0.030	0.030	8103121
Pyrene	ug/L	68	<0.050	<0.050	0.050	8103121
Surrogate Recovery (%)						
D10-Anthracene	%	-	109	100		8103121
D14-Terphenyl (FS)	%	-	103	95		8103121
D8-Acenaphthylene	%	-	101	94		8103121
No Fill	No Exceedance					
Grey	Exceeds 1 criteria policy/level					
Black	Exceeds both criteria/levels					
RDL = Reportable Detection Limit						
QC Batch = Quality Control Batch						
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)						
Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition						
Non- Potable Ground Water - All Types of Property Uses - Coarse Textured Soil						



Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

TEST SUMMARY

Bureau Veritas ID: TCC239
Sample ID: MW21-6
Matrix: Water

Collected: 2022/07/06
Shipped:
Received: 2022/07/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8093442	N/A	2022/07/14	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8103121	2022/07/12	2022/07/13	Mitesh Raj

Bureau Veritas ID: TCC240
Sample ID: DUPE
Matrix: Water

Collected: 2022/07/06
Shipped:
Received: 2022/07/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8093442	N/A	2022/07/14	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8103121	2022/07/12	2022/07/13	Mitesh Raj



Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

GENERAL COMMENTS

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

Package 1	3.0°C
-----------	-------

Results relate only to the items tested.

BUREAU
VERITAS

Bureau Veritas Job #: C2I7319

Report Date: 2022/07/14

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8103121	D10-Anthracene	2022/07/13	95	50 - 130	102	50 - 130	100	%		
8103121	D14-Terphenyl (FS)	2022/07/13	88	50 - 130	95	50 - 130	96	%		
8103121	D8-Acenaphthylene	2022/07/13	90	50 - 130	97	50 - 130	91	%		
8103121	1-Methylnaphthalene	2022/07/13	93	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
8103121	2-Methylnaphthalene	2022/07/13	81	50 - 130	76	50 - 130	<0.050	ug/L	NC	30
8103121	Acenaphthene	2022/07/13	101	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
8103121	Acenaphthylene	2022/07/13	99	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8103121	Anthracene	2022/07/13	110	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(a)anthracene	2022/07/13	118	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(a)pyrene	2022/07/13	113	50 - 130	92	50 - 130	<0.0090	ug/L	NC	30
8103121	Benzo(b/j)fluoranthene	2022/07/13	114	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(g,h,i)perylene	2022/07/13	107	50 - 130	86	50 - 130	<0.050	ug/L	NC	30
8103121	Benzo(k)fluoranthene	2022/07/13	115	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8103121	Chrysene	2022/07/13	115	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8103121	Dibenzo(a,h)anthracene	2022/07/13	102	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
8103121	Fluoranthene	2022/07/13	124	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
8103121	Fluorene	2022/07/13	107	50 - 130	88	50 - 130	<0.050	ug/L	NC	30
8103121	Indeno(1,2,3-cd)pyrene	2022/07/13	104	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8103121	Naphthalene	2022/07/13	77	50 - 130	72	50 - 130	<0.050	ug/L	NC	30
8103121	Phenanthrene	2022/07/13	109	50 - 130	90	50 - 130	<0.030	ug/L	NC	30
8103121	Pyrene	2022/07/13	120	50 - 130	98	50 - 130	<0.050	ug/L	NC	30

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

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

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

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

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

NC (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 $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

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

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Bureau Veritas Job #: C2I7319
Report Date: 2022/07/14

DS Consultants Limited
Client Project #: 21-018-100
Sampler Initials: A

Exceedance Summary Table – Reg153/04 T3-GW-C
Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Your Project #: 21-018-101
Site Location: 17-27 JACOBS TERRANCE, BARRIE
Your C.O.C. #: n/a

Attention: Julia Arends

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/12/17
Report #: R7434702
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AC894

Received: 2022/12/09, 15:20

Sample Matrix: Water
Samples Received: 2

Analyses	Date		Date Analyzed	Laboratory Method	Analytical Method
	Quantity	Extracted			
Methylnaphthalene Sum	2	N/A	2022/12/16	CAM SOP-00301	EPA 8270D m
PAH Compounds in Water by GC/MS (SIM)	2	2022/12/13	2022/12/14	CAM SOP-00318	EPA 8270D 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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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



Your Project #: 21-018-101
Site Location: 17-27 JACOBS TERRANCE, BARRIE
Your C.O.C. #: n/a

Attention: Julia Arends

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Vaughan, ON
CANADA L4H 0K8

Report Date: 2022/12/17
Report #: R7434702
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AC894

Received: 2022/12/09, 15:20

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

=====

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BUREAU
VERITAS

Bureau Veritas Job #: C2AC894

Report Date: 2022/12/17

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRANCE, BARRIE

Sampler Initials: MS

O.REG 153 PAHS (WATER)

Bureau Veritas ID			UNV438			UNV438			UNV439		
Sampling Date			2022/12/09			2022/12/09			2022/12/09		
COC Number			n/a			n/a			n/a		
	UNITS	Criteria	MW 21-6	RDL	QC Batch	MW 21-6 Lab-Dup	RDL	QC Batch	DUP 12/09	RDL	QC Batch

Calculated Parameters

Methylnaphthalene, 2-(1-)	ug/L	3.2	<0.071	0.071	8394680				<0.071	0.071	8394680
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Polyaromatic Hydrocarbons

Acenaphthene	ug/L	4.1	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Acenaphthylene	ug/L	1	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Anthracene	ug/L	2.4	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Benzo(a)anthracene	ug/L	1.0	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Benzo(a)pyrene	ug/L	0.01	<0.0090	0.0090	8400867	<0.0090	0.0090	8400867	<0.0090	0.0090	8400867
Benzo(b,j)fluoranthene	ug/L	0.1	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Benzo(g,h,i)perylene	ug/L	0.2	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Benzo(k)fluoranthene	ug/L	0.1	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Chrysene	ug/L	0.1	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Dibenzo(a,h)anthracene	ug/L	0.2	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Fluoranthene	ug/L	0.41	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Fluorene	ug/L	120	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Indeno(1,2,3-cd)pyrene	ug/L	0.2	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
1-Methylnaphthalene	ug/L	3.2	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
2-Methylnaphthalene	ug/L	3.2	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Naphthalene	ug/L	11	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867
Phenanthrene	ug/L	1	<0.030	0.030	8400867	<0.030	0.030	8400867	<0.030	0.030	8400867
Pyrene	ug/L	4.1	<0.050	0.050	8400867	<0.050	0.050	8400867	<0.050	0.050	8400867

Surrogate Recovery (%)

D10-Anthracene	%	-	101		8400867	99		8400867	96		8400867
D14-Terphenyl (FS)	%	-	106		8400867	104		8400867	96		8400867
D8-Acenaphthylene	%	-	97		8400867	92		8400867	96		8400867

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)

Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition

Potable Ground Water- All Types of Property Uses - Coarse Textured Soil



Bureau Veritas Job #: C2AC894
Report Date: 2022/12/17

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRANCE, BARRIE
Sampler Initials: MS

TEST SUMMARY

Bureau Veritas ID: UNV438
Sample ID: MW 21-6
Matrix: Water

Collected: 2022/12/09
Shipped:
Received: 2022/12/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8394680	N/A	2022/12/16	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8400867	2022/12/13	2022/12/14	Mitesh Raj

Bureau Veritas ID: UNV438 Dup
Sample ID: MW 21-6
Matrix: Water

Collected: 2022/12/09
Shipped:
Received: 2022/12/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8400867	2022/12/13	2022/12/14	Mitesh Raj

Bureau Veritas ID: UNV439
Sample ID: DUP 12/09
Matrix: Water

Collected: 2022/12/09
Shipped:
Received: 2022/12/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8394680	N/A	2022/12/16	Automated Statchk
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8400867	2022/12/13	2022/12/14	Mitesh Raj



Bureau Veritas Job #: C2AC894
Report Date: 2022/12/17

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRANCE, BARRIE
Sampler Initials: MS

GENERAL COMMENTS

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

Package 1	10.3°C
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Results relate only to the items tested.

BUREAU
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Bureau Veritas Job #: C2AC894

Report Date: 2022/12/17

QUALITY ASSURANCE REPORT

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRANCE, BARRIE

Sampler Initials: MS

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8400867	D10-Anthracene	2022/12/14	97	50 - 130	101	50 - 130	103	%		
8400867	D14-Terphenyl (FS)	2022/12/14	98	50 - 130	107	50 - 130	110	%		
8400867	D8-Acenaphthylene	2022/12/14	96	50 - 130	101	50 - 130	98	%		
8400867	1-Methylnaphthalene	2022/12/14	92	50 - 130	94	50 - 130	<0.050	ug/L	NC	30
8400867	2-Methylnaphthalene	2022/12/14	85	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
8400867	Acenaphthene	2022/12/14	93	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8400867	Acenaphthylene	2022/12/14	90	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8400867	Anthracene	2022/12/14	85	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8400867	Benzo(a)anthracene	2022/12/14	81	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8400867	Benzo(a)pyrene	2022/12/14	73	50 - 130	94	50 - 130	<0.0090	ug/L	NC	30
8400867	Benzo(b/j)fluoranthene	2022/12/14	70	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
8400867	Benzo(g,h,i)perylene	2022/12/14	79	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8400867	Benzo(k)fluoranthene	2022/12/14	67	50 - 130	89	50 - 130	<0.050	ug/L	NC	30
8400867	Chrysene	2022/12/14	76	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8400867	Dibenzo(a,h)anthracene	2022/12/14	70	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8400867	Fluoranthene	2022/12/14	97	50 - 130	105	50 - 130	<0.050	ug/L	NC	30
8400867	Fluorene	2022/12/14	96	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
8400867	Indeno(1,2,3-cd)pyrene	2022/12/14	73	50 - 130	96	50 - 130	<0.050	ug/L	NC	30
8400867	Naphthalene	2022/12/14	91	50 - 130	93	50 - 130	<0.050	ug/L	NC	30
8400867	Phenanthrene	2022/12/14	93	50 - 130	95	50 - 130	<0.030	ug/L	NC	30
8400867	Pyrene	2022/12/14	91	50 - 130	100	50 - 130	<0.050	ug/L	NC	30

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

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

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

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

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

NC (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 $\leq 2 \times \text{RDL}$).



Bureau Veritas Job #: C2AC894
Report Date: 2022/12/17

DS Consultants Limited
Client Project #: 21-018-101
Site Location: 17-27 JACOBS TERRANCE, BARRIE
Sampler Initials: MS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in cursive script that reads 'Cristina Carriere'.

Cristina Carriere, Senior Scientific Specialist

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**BUREAU
VERITAS**

Bureau Veritas Job #: C2AC894

Report Date: 2022/12/17

DS Consultants Limited

Client Project #: 21-018-101

Site Location: 17-27 JACOBS TERRANCE, BARRIE

Sampler Initials: MS

Exceedance Summary Table – Reg153/04 T2-GW-C

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						
The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.						



Appendix E

Phase Two Conceptual Site Model

This Phase Two Conceptual Site Model was developed through a synthesis of the information obtained through the completion of the Phase One ESA, and the data collected as part of the Phase Two ESA. The Phase Two ESA is comprised of the following figures and text.

FIGURES

- Figure 1 – Site Location Plan
- Figure 2 – Phase One Property Site Plan
- Figure 3 – Phase One Study Area
- Figure 4 – PCA within Phase Two Study Area
- Figure 5 – Borehole Location Plan with APECs
- Figure 6 – Groundwater Contours and Flow Direction
- Figure 7A – Soil Characterization – Metals
- Figure 7B – Soil Characterization – ORPs
- Figure 7C – Soil Characterization – PHCs (incl. BTEX)
- Figure 7D – Soil Characterization – VOCs
- Figure 7E – Soil Characterization – PAHs
- Figure 8A – Groundwater Characterization – Metals and ORPs
- Figure 8B – Groundwater Characterization – PHCs (incl. BTEX)
- Figure 8C – Groundwater Characterization – VOCs
- Figure 8D – Groundwater Characterization – PAHs
- Figure 9: Contaminant Transport Diagram

I. Description and Assessment of:

A. Areas where potentially contaminating activity has occurred

A total of thirty-two (32) PCAs were identified in the Phase One ESA. A summary of the PCAs considered to be contributing to APECs on the Phase Two Property is provided in the table below.

PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Contributing to APEC (Y/N)
PCA-1	#58 - Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer	Site Building A has historically been used for warehousing and distribution, and was registered in 2017 for the generation, use, and/or storage waste	Yes – APEC-1



PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Contributing to APEC (Y/N)
	of waste, other than use of biosoils as soil conditioners	crankcase oils and lubricants, and aromatic solvent and residues. The orientation of the Site Building is depicted on Figure 2.	
PCA-2	#10 - Commercial Autobody Shops	The Site Building B was historically occupied by several autobody shops followed by a car restoration facility, including spray paint booths for autobody repair. It is inferred that the waste disposal records for the Site are associated with the historical autobody shop. At the time of the Site reconnaissance, Site Building B was occupied by Cara Panel System, a wood frame construction operation. The orientation of the Site Building is depicted on Figure 2.	Yes – APEC-2
PCA-3	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	Mckerlie Millen (a vehicle accessory operation) is depicted at 159 Anne Street west adjacent to the Site. The property was later used as Barrie Part Mart (a tire store) and Carquest (a vehicle accessory operation). It is inferred that the waste disposal records for the property are associated with these operations.	Yes – APEC-3
PCA-4	PCA-N/S: Battery Acid Spill	An unknown quantity of battery acid (sulfuric acid) was spilled at a pumping station located at 165 Anne Street southeast of the Site in 2012.	No- Due to the trans gradient orientation from the Site
PCA-5	PCA-N/S: Application of De-Icing Agents	Seasonal application of de-icing salts for vehicle and pedestrian safety is anticipated on Jacobs Terrace north adjacent to the Phase One Property.	Yes – APEC-4
PCA-6	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Esso Petroleum Canada, located at 123 Tiffin Street, approximately 30 m north of the Site, was listed for waste management systems in 1988 through 2003. Imperial Oil, a petroleum product wholesale distributor, was listed for waste management systems in 2004 through 2017, 2020, and 2021.	No- Due to the trans gradient orientation from the Site



PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Contributing to APEC (Y/N)
		Ted's Haulage, located at 123 Tiffin Street, approximately 30 m north of the Site, was listed for one (1) liquid fuel tank in 1989 and one (1) expired FS highway gas/diesel tank in 2012.	
PCA-7	#46 – Rail Yards, Tracks and Spurs	A railway line was depicted approximately 20 m north of the Site.	Yes – APEC-4
PCA-8	#30 – Importation of Fill Material of Unknown Quality	Based on the 1967 Aerial Photograph, fill of unknown environmental appeared to have been imported during the development of 49 Jacobs Terrace, approximately 90 m west of the Site.	No- Due to the distance from the Site
PCA-9	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Simcoe Block (1979) Ltd., located at 113 Tiffin Street, approximately 40 m north of the Site, was listed for one (1) liquid fuel tank in 1990.	No- Due to the trans gradient orientation from the Site
PCA-10	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Imperial Oil Ltd., located at 91 Tiffin Street, approximately 50 m northeast of the Site, was listed as an expired FS facility in 1992 and Huronia Fuels Ltd. was listed for one (1) liquid fuel tank in 1989 and one (1) expired gas/diesel highway tank in 2012. Petroleum product wholesalers (Texaco Canada Inc., Esso Petroleum Canada, and Imperial Oil Ltd.), were depicted at 91 Tiffin Street, approximately 50 m northeast of the Site, and were listed for waste management systems in 1986 through 2021.	No- Due to the trans gradient orientation from the Site
PCA-11	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Labar Sales & Distribution Ltd., located at 94 Tiffin Street, approximately 70 m west of the Site, was registered for one (1) 4500 L steel single wall UST in 2009 and one (1) 4500 L steel fuel oil tank in 2013.	No- Due to the distance from the Site and trans gradient orientation
PCA-12	PCA-N/S: Hydraulic Oil Spill	50-100L of hydraulic oil was spilled onto the ground near the intersection of Innisfil Street and Tiffin Street in 2017.	No- Due to the distance from the Site and trans gradient orientation



PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Contributing to APEC (Y/N)
PCA-13	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Stephenson's Rent All Inc., located at 134 Tiffin Street, approximately 130 m northwest of the Site, was listed for one (1) retail tank in 1994.	No- Due to the distance from the Site and trans gradient orientation
PCA-14	#40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	Piper Pest Control, located at 18 Centre Street, approximately 170 m south from the Site, was listed as an operator.	No- Due to the distance from the Site and trans gradient orientation
PCA-15	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Esso, located at 91 Essa Road, approximately 140 m southeast of the Site, was listed for one (1) liquid fuel tank and as an expired FS facility in 1992, and one (1) retail tank in 1996.	No- Due to the down gradient orientation from the Site
PCA-16	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Simcoe District Co-op (a vehicle repair operation) and Growmark Inc., located at 259 Innisfil Street, approximately 120 m east of the Site, was listed for the following records: • One (1) 5000L retail tank in 1993; • One (1) 1750L retail tank in 1994. • Seven (7) liquid fuel tanks in 1995; • Six (6) liquid fuel tanks in 2000; • An expired FS facility and gas station in 2012; • Five (5) expired highway gasoline/diesel tanks in 2012; and, • Six (6) records for expired FS piping in 2012. Additionally, the following spills were recorded for the property: • 500L of furnace oil spilled on the ground at 259 Innisfil Street, approximately 120 m east of the Site, in 1991; • 270L of diesel fuel spilled onto the ground in 1991; and, • 60L of diesel fuel spilled onto the ground due to a hose leak in 1993. It is inferred that the waste disposal records for the property are associated with the gas station and vehicle repair operation.	No- Due to the down gradient orientation from the Site



PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Contributing to APEC (Y/N)
PCA-17	#22 - Fertilizer Manufacturing, Processing and Bulk Storage	Simcoe District Co-op, located at 259 Innisfil Street, approximately 120 m east of the Site, was listed in 1942 for preparing feeds and feeds ingredients for animals and for mixed fertilizer manufacturing.	No- Due to the down gradient orientation from the Site
PCA-18	PCA-N/S: Gasoline Spill	100L of gasoline spilled onto the ground and into a catch basin at the corner of Innisfil Street and Essa Road in 2002.	No- Due to the distance from the Site and trans gradient orientation
PCA-19	#27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	An automotive refinishing facility was located at 151 Tiffin Street, approximately 160 m west of the Site.	No- Due to the trans gradient orientation from the Site
PCA-20	#27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Simcoe Oil & Lube, located at 81 Essa Road, approximately 140 m southeast of the Site, was listed for oil changes and lubrication services.	No- Due to the distance from the Site and trans gradient orientation
PCA-21	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Esso Petroleum Canada was depicted at the corner of Anne Street and Tiffin Street, approximately 110 m northeast the Site, in 1988.	No- Due to the distance from the Site and trans gradient orientation
PCA-22	PCA-N/S: Motor Oil Spill	50L of motor oil was spilled onto the ground at Essa Road and Burton Road, approximately 230 m east of the Site, in 2013.	No- Due to the distance from the Site and down gradient orientation
PCA-23	#28 – Gasoline and Associated Products Storage in Fixed Tanks	One (1) former fuel oil AST, with a capacity of 910 L, was observed at the exterior of Site Building B during the Site reconnaissance.	Yes- APEC-5
PCA-24	#28 – Gasoline and Associated Products Storage in Fixed Tanks	280 Innisfil Street, east adjacent to the Site, was occupied by Done Right Auto Care at the time of the Site reconnaissance. A truck maintenance garage and two (2) diesel USTs were depicted on the 1971 FIP.	Yes- APEC-6
PCA-25	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Present-day 131 Tiffin Street (formerly 135 Tiffin Street) was occupied by a petroleum bulk fuel outlet containing four (4) oil tanks located along the south property line.	No- Due to the down gradient orientation from the Site



PCA ID No.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Contributing to APEC (Y/N)
PCA-26	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Four (4) ASTs were depicted at 272 Innisfil Street, east adjacent to the Site, in the 1971 FIP. The approximately location of the ASTs are 70 m downgradient from the Phase One Property boundary, as such they are not anticipated to have impacted the environmental quality of the Site.	No- Due to the distance from the Site and down gradient orientation
PCA-27	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Two (2) diesel ASTs were depicted at 141 Tiffin Street, approximately 130 m northwest of the Site, in 1971.	No- Due to the distance from the Site and trans gradient orientation
PCA-28	#28 – Gasoline and Associated Products Storage in Fixed Tanks	89 Tiffin Street, approximately 80 m northeast of the Site, was listed as a gas station in 1937.	No- Due to the trans gradient orientation from the Site
PCA-29	#28 – Gasoline and Associated Products Storage in Fixed Tanks	100 Tiffin Street, approximately 130 m north of the Site, was listed as a gas station in 1952.	No- Due to the trans gradient orientation from the Site
PCA-30	#28 – Gasoline and Associated Products Storage in Fixed Tanks	84 Tiffin Street, approximately 150 m northeast of the Site, was listed as a gas station from 1961 through 1976, and a service garage in 1994 and 1999.	No- Due to the distance from the Site and trans gradient orientation
PCA-31	#10 - Commercial Autobody Shops	100 Tiffin Street, approximately 130 m north of the Site, was listed as an autobody shop in 1999.	No- Due to the trans gradient orientation from the Site
PCA-32	#30 – Importation of Fill Material of Unknown Quality	It is possible that fill material was used to backfill the structures historically present in the northeastern portion of the Site, and potentially for grading purposes at the time of development of the current Site Buildings.	Yes - APEC-7

B. Areas of potential environmental concern

A total of seven (7) APECs were identified to be present on the Phase Two Property through the completion of the Phase One ESA. A summary of the APECs identified, and the associated PCOCs is provided in the table below.



Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	Footprint of Site Building A	#58 - Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners	On Site PCA-1	Metals, As, Sb, Se, Hg, PHCs, BTEX, VOCs, PAHs	Soil and Groundwater
APEC-2	Footprint of Site Building B	#10 - Commercial Autobody Shops	On Site PCA-2	PHC, BTEX, VOCs, PAHs, metals	Soil and Groundwater
APEC-3	Western portion of the Phase One Property	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	Off Site PCA-3	PHCs, VOCs, metals	Groundwater
APEC-4	Northern portion of the Phase One Property	# N/S: Application of De-Icing Agents PCA-7: #46 – Rail Yards, Tracks and Spurs	Off Site PCA-5	Na, Cl-, metals, PAHs	Groundwater
APEC-5	Vicinity of the former AST South of Site Building B	#28 – Gasoline and Associated Products Storage in Fixed Tanks	On Site PCA-23	PHCs, BTEX, PAHs	Soil and Groundwater
APEC - 6	Southwestern Portion of the Phase One Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks Vehicles	Off Site PCA-24	PHCs, VOCs, metals	Groundwater
APEC - 7	Entire Phase One Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-32	Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil

C. Any subsurface structures and utilities on, in or under the Phase Two Property that may affect contaminant distribution and transport

Underground utilities were identified at the Phase Two Property, including water, natural gas, electrical, and sewer services to the existing Site Building. Plans were not available to confirm the depths of these utilities, however they are estimated to be installed at depths ranging from 2 to 3 metres below ground surface.

The depth to groundwater at the Site is inferred to be approximately at 3.37 to 4.20 mbgs mbgs (May 27, 2022). Based on this there is the potential for the utility trenches to act as preferential pathways. However, no groundwater impacts were identified, therefore the potential for preferential migration of contaminants is not of concern at this time.

II. Description of, and as appropriate, figures illustrating, the physical setting of the Phase Two Property and any areas under it including:

A. Stratigraphy from ground surface to the deepest aquifer or aquitard investigated

Surficial asphaltic concrete pavement was encountered in seven (7) of the nine (9) boreholes. The thickness of pavement ranged from 50 to 150 mm. Granular material consisting of sand and gravel was encountered below the asphalt. The thickness of granular material ranged from 51 to 100 mm. Topsoil was encountered in MW21-2 consisting of silty sand with trace organics to a depth of 100 mm. Sand textured fill material was encountered in all of the boreholes, ranging in thickness between 0.8 to 1.5m. The native soil encountered consisted of sand and/or silty sand extending to depths ranging from 0.1 to 5.2 m below existing ground surface in all the boreholes.

The borehole locations are depicted on Figure 5.

B. Hydrogeological Characteristics, including aquifers, aquitards and, in each hydrostratigraphic unit where one or more contaminants is present at concentrations above the applicable site condition standards, lateral and vertical gradients

The groundwater table was encountered in the sand or silty sand unit, which is considered to be an unconfined aquifer.

Based on the groundwater elevations, the groundwater flow direction is interpreted to be northeast towards Lake Simcoe.

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded on May 27, 2022:

Summary of Horizontal Hydraulic Gradient Calculations

Hydrogeological Unit	Calculated Horizontal Hydraulic Gradient
Sand and/or silty sand till	Minimum: 0.0032 Average: 0.0039 Maximum: 0.0045

Depth to bedrock

Bedrock was not encountered during borehole drilling. However, the underlying bedrock within the area generally consists of limestone, dolostone, shale, arkose and sandstone. Based on a review of the Ontario Well Records, the bedrock in the Phase Two Study Area is anticipated to be encountered at depths greater than 88.4 mbgs.

C. Approximate depth to water table

The depth to groundwater was found to range between 3.37 to 4.20 mbgs on May 27, 2022.

D. Any respect in which section 41 or 43.1 of the regulation applies to the property

Section 35

Section 35 is not applicable as the Site is located within a wellhead protection zone.

Section 41

The pH values measured were within the acceptable limits for non-sensitive sites. There are no areas of natural significance on the Phase Two Property, or within 30 m of the Phase Two Property. As such the Phase Two Property is not considered to be environmentally sensitive as defined by Section 41.

Section 43.1

The Phase Two Property is not considered a shallow soil property, nor are there any bodies of water within 30m of the Phase Two Property. Section 43.1 is not applicable.

E. Areas where soil has been brought from another property and placed on, in or under the Phase Two Property

No fill material was brought to the Phase Two Property at the time of this investigation.

F. Approximate locations, if known, of any proposed buildings and other structures

It is our understanding that redevelopment of the Site for residential purposes has been proposed and that the development will consist of two (2) buildings with an underground garage, and a landscaped amenity. One building will be a 27 storey tower and the second building will be 31 storey tower.

III. Where a contaminant is present on, in or under the Phase Two Property at a concentration greater than the applicable site condition standard, identification of

A. Each area where a contaminant is present on, in or under the Phase Two Property at a concentration greater than the applicable SCS

Soil impacted with PAHs was identified in BH21-8 SS1, located in the central portion of the Site.

A visual representation of the location of the impacts identified is presented in Figures 7E.

B. The contaminants associated with each of the areas

The contaminant identified at concentration greater than the applicable SCS is fluoranthene.

C. Medium that contaminants were identified in

Contaminants were identified at concentrations greater than the applicable SCS in soil.

D. Description and assessment of what is know about each of the areas

PAH impacts were identified in the shallow fill material in BH21-8 at an approximate depth of 0.8 to 1.50 mbgs. The impact appears to be localized in nature as the remaining samples analysed for PAHs met the applicable SCS. Further horizontal and vertical delineation is required.

E. Distribution in which the areas of each contaminant is present in the area at a concentration greater than the applicable SCS, for each medium

in which the contaminant is present, together with figures showing the distribution

The horizontal distribution of the impact identified is presented on figure 7E. Further horizontal and vertical delineation is required.

F. Anything known about the reason for the discharge of the contaminants present on, in or under the Phase Two Property at a concentrations greater than the applicable SCS

The PAH impact in soil is attributed to the historical placement of fill material of unknown quality.

G. Anything known about migration of the contaminants present on, in or under the phase two property at a concentration greater than the applicable SCS away from any area of potential environmental concern, including the identification of any preferential pathways

There is no indication of contaminant migration based on the information available at this time. Free-phase product was not identified in any of the monitoring wells sampled.

H. Climatic or meteorological conditions that may have influenced distribution and migration of the contaminants, such as temporal fluctuations in groundwater levels

The Phase Two Property is primarily covered by the footprint of the Site Building and asphalt. This is expected to have limited the effect of meteorological and climatic conditions on the contaminant distribution and migration in the subsurface. Therefore, it is the opinion of the QP that the meteorological and climatic conditions have had minimal influence on the migration of contaminants on the Phase Two Property.

I. Information concerning soil vapour intrusion of the contaminants into buildings

No volatile parameters were identified at concentrations greater than the applicable SCS, therefore vapour intrusion is not considered to be an exposure pathway at this time.

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- IV. Where contaminants on, in or under the Phase Two Property are present at concentrations greater than the applicable SCS, one or more cross-sections showing**
- A. The lateral and vertical distribution of a contaminant in each area where the contaminants are present at concentrations greater than the applicable SCS in soil, groundwater and sediment**
 - B. Approximate depth to water table**
 - C. Stratigraphy from ground surface to the deepest aquifer or aquitard investigated**
 - D. Any subsurface structures and utilities that may affect contaminants distribution and transport**

This content will be prepared upon completion of additional investigations.

- V. For each area where a contaminant is present on, in or under the property at a concentration greater than the applicable SCS for the contaminant, a diagram identifying, with narrative explanatory notes**
- A. The release mechanisms**
 - B. Contaminant transport pathway**
 - C. The human and ecological receptors located on, in or under the phase two property**
 - D. Receptor exposure points**
 - E. Routes of exposure**

Refer to Figure 9.