Phase Two Environmental Site Assessment

Part of Lot 20, Concession 2

Oakville, Ontario

Revision 1

Prepared For:

ARGO Neyagawa Corporation

4900 Palladium Way, Unit 105

Burlington, Ontario

L7M 0M7

DS Project No: 21-455-100

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

Executive Summary

DS Consultants Ltd. (DS) was retained by the ARGO Neyagawa Corporation (the "Client") to conduct a Phase Two Environmental Site Assessment (ESA) of the property described as Part of Lot 20, Concession 2, Oakville, Ontario, herein referred to as the "Phase Two Property" or "Site". It is DS' understanding that the Phase Two ESA has been requested in support of the proposed redevelopment of the Site for residential purposes.

The Phase Two Property is an irregularly shaped 11.29 hectares (27.90 acres) parcel of land situated within a mixed agricultural and residential neighbourhood in the Town of Oakville, Ontario. The Phase Two Property is located on the northwest corner of the intersection of Neyagawa Boulevard and Burnhamthorpe Road West.

This Phase Two ESA was completed in general accordance with the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (O.Reg. 153/04) (as amended). The objective of this Phase Two ESA is to assess whether contaminants are present, and 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 previously completed on the Site indicated that the Site appears to have been part of an agricultural and residential homestead prior to 1880. A small orchard was observed in the Country Atlas adjacent to the historical homestead. By 1934 the residential dwelling and orchard were no longer visible and the property was utilized for agricultural purposes. By 2013 the southwestern portion of the Site was leased as a landscape company storage area. The Site has otherwise been vacant and the land use remained as agricultural. A total of ten (10) Potentially Contaminating Activities (PCAs) were identified in the Phase One ESA, which were considered to be contributing to six (6) APECs on the Phase Two Property. A summary of the APECs, associated PCAs, and contaminants of potential concern (COPCs) identified is 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-1A	Southwestern portion of the Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-1	PHCs, BTEX, Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-1B	Southwestern portion of the Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-4	Metals, PAHs	Soil

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-1C	Southern portion of the Property	#30- Importation of Fill Material of Unknown Quality	On Site PCA-9	Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-2	Southwestern portion of the Property	N/S – Storage of miscellaneous construction material and debris	On Site PCA-2	PHCs, VOCs, BTEX, Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-3	Western portion of the Property	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On Site PCA-7	Metals, As, Sb, Se, CN-, OCPs	Soil
APEC-4	Southern Portion of the Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-Site PCA-10	PHCs, VOCs, BTEX, Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil and Groundwater

N/S - Not specified in Table 2, Schedule D, of O.Reg. 153/04
Notes:
PAHs = Polycyclic Aromatic Hydrocarbons
PHCs = Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
BTEX = Benzene, Toluene, Ethylbenzene, Xylene
OCPs = Organochlorine Pesticides

Based on the findings of the Phase One ESA it was concluded that a Phase Two ESA was recommended to assess the soil and groundwater conditions on the Phase Two Property with respect to the APECs identified.

The Phase Two ESA was completed in conjunction with the geotechnical and hydrogeological assessments and involved the advancement of nine (9) boreholes (MW22-1A, MW22-1B, MW22-2, MW22-9, MW22-10, BH22-11, MW22-12, BH22-13 and MW22-14), completed between May 17 and May 25, 2022. The boreholes were advanced to a maximum depth of 17.0 metres below ground surface (mbgs) under the supervision of DS personnel. Additionally, six (6) boreholes (BH22-3 to BH22-8) were hand augured between May 17 and May 19 to a depth of between 0.8 to 1.5 mbgs by DS personnel.

Groundwater monitoring wells were installed in seven (7) of the boreholes advanced on Site. All seven (7) monitoring wells were installed to facilitate the assessment of groundwater flow and to monitor the groundwater levels on Site. One (1) of the monitoring wells (designated MW22-2) was used to facilitate the collection of groundwater samples, the remainder of the wells were utilized for groundwater level and flow direction, as well as hydrogeological investigation. The borehole locations were determined based on the findings of the Phase One ESA.

Soil samples were collected and submitted for chemical analysis as follows:

- Eight (8) samples for analysis of Metals and ORPs. An additional nine (9) samples, including one (1) QAQC field duplicate, were submitted for analysis of pH only;
- Four (4) samples for analysis of PHCs and BTEX;
- Six (6) soil samples (including two (2) QA/QC duplicates) for analysis of VOCs;
- Seven (7) soil samples (including two (2) QA/QC duplicates) for analysis of polycyclic aromatic compounds (PAHs);
- Three (3) soil samples for analysis of organochlorine pesticides (OCPs).

Groundwater samples were collected from monitoring well MW22-2, and submitted for chemical analysis of PHCs, VOCs, Metals, ORPs, and PAHs on May 30, 2022. Groundwater samples were also collected from monitoring well MW22-2 and submitted for chemical analysis of PHCs on June 28, 2022.

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* (Table 2 SCS) 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*".

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

- A surficial topsoil layer approximately 100 to 250 mm thick was encountered BH22-3, BH22-8, MW22-10 and BH22-11. Fill material was encountered in boreholes MW22-1A, MW22-1B, MW22-2 and BH22-5 and it consisted of clayey silt, sandy silt and sand without any indication of deleterious materials. The fill material was generally heterogeneous and ranged in thickness from 1.0 to 1.5 mbgs. Re-worked native soils were encountered in boreholes MW22-9, MW22-10, BH22-11, MW22-12, BH22-13, MW22-14. The reworked native soils and native overburden material encountered below the fill material generally consisted of clayey silt till/sandy silt till/ silty clay till and extended to depths ranging from 4.6 to 13.7 mbgs. Shale Bedrock was encountered in MW22-1B, MW22-2 and MW22-14 at a depth of between 12.2 to 15.2 mbgs;

- The depth to groundwater was measured in all monitoring wells installed during the course of this investigation. The groundwater levels were found to range between 0.80 to 8.43 mbgs, with corresponding elevations of 174.12 to 180.86 metres above sea level (masl). Based on the groundwater elevations recorded, the groundwater flow direction appears to be south to southeast towards the Osenego Creek. 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.

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

- The results of the chemical analyses conducted on soil and groundwater samples indicate that the applicable Site Condition Standards have been met, as of the Certification Date of June 28, 2022. No further sub-surface investigation is required regarding the environmental quality of the soil and groundwater at the Phase Two Property.
- Any excess soils generated by the Site redevelopment activity may be subject to the rules and requirements of O.Reg. 406/19, which is scheduled to come back into effect January 1, 2023. Surplus soils generated by future earthworks may require additional chemical characterization prior to export.
- 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 ARGO Neyagawa Corporation (the "Client") to conduct a Phase Two Environmental Site Assessment (ESA) of the land described as Part of Lot 20, Concession 2, Oakville, Ontario, herein referred to as the "Phase Two Property" or "Site". It is DS' understanding that the Phase Two ESA has been requested in support 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 former commercial land use; therefore the filling of a Record of Site Condition (RSC) with the Ontario Ministry of Environment, Conservation and Parks (MECP) is mandated under O.Reg. 153/04.

The Phase Two ESA was completed in general accordance with the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (as amended) but was limited to the areas of the Site accessible at the time of the investigation. The objective of this Phase Two ESA is to assess whether contaminants are present, and 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.

1.1 Site Description

The Phase Two Property is an irregularly shaped 11.3 hectares (28.0 acres) parcel of land situated within an agricultural and residential neighbourhood in the Town of Oakville, Ontario. The Phase Two Property is located immediately northwest of the intersection of Neyagawa Boulevard and Burnhamthorpe Road West and was vacant at the time of this investigation. A Site Location Plan depicting the general location of the Phase Two Property is provided in Figure 1.

For the purposes of this report, Burnhamthorpe Road West is assumed to be aligned in an east-west orientation, and Neyagawa Boulevard in a north-south orientation. A Plan of Survey for the Phase Two Property was not available at the time of this assessment.

The Site is currently vacant and the majority of the property was comprised of agricultural fields.

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	PART LOT 20 CON 2 NDS TRAFALGAR, PART 1 20R9368 LYING W OF PART 1, PE200 EXCEPT PART 4 20R13713 & PARTS 1, 2 HR1104980 AND PART 1 20R20812, Town of Oakville, Ontario	Ontario Land Registry
Property Identification Number (PIN)	24929-6762 (LT)	Ontario Land Registry

Criteria	Information	Source
Current Site Occupants	Vacant	Site Reconnaissance
Site Area	11.3 hectares (28.0 acres)	Ontario Land Registry

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	Contact
Argo Neyagawa Corp.	Bartosz Lopat 4900 Palladium Way Unit 105, Burlington, ON L7M 0W7 Phone: 905-462-4970 Email: bart@argoland.com

1.3 Current and Proposed Future Use

The Phase Two Property is currently vacant and the majority of the property was comprised of agricultural fields. The southwestern portion of the Site was formerly leased to a landscaping company to store various landscaping equipment and trailers on-Site. It is DS's 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 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, as defined in O. Reg 153/04;
- The pH of the soils analyzed during this Phase Two ESA are within the accepted range specified under O.Reg. 153/04 (as amended);
- 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

During the Site visit, standing water was not observed on the Property. The nearest body of water to the Phase Two Property is the East Sixteen Mile Creek, located approximately 500 m to the north. 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.

According to the MNRF the following species at risk are present within 1 km of the Site:

- The endangered Northern Bobwhite - Northern Bobwhites live in savannahs, grasslands, around abandoned farm fields, along brushy fencerows and other similar sites
- The threatened Silver Shiner - silver shiners prefer moderate to large size streams with swift currents that are free of weeds and have clean gravel or boulder bottoms.
- The Midland Painted Turtle – a species of special concern. Painted turtles inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation.
- The threatened Eastern Meadowlark - Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches.
- The threatened Bobolink - historically, Bobolinks lived in North American tallgrass prairie and other open meadows. With the clearing of native prairies, Bobolinks moved to living in hayfields.
- The Snapping Turtle – a species of special concern. Snapping Turtles spend most of their lives in water. They prefer shallow waters so they can hide under the soft mud and leaf litter, with only their noses exposed to the surface to breathe. During the nesting season, from early to mid-summer, females travel overland in search of a suitable nesting site, usually gravelly or sandy areas along stream.
- The eastern Milksnake – a species of special concern. Eastern Milksnakes tend to use open habitats such as rocky outcrops, fields and forest edge. In rural areas this snake may be common, especially around barns where they thrive on the abundant mice.

The Site does not contain any streams, savannahs, grassland, abandoned farm fields (the agricultural lands present are actively in use), prairie, meadows, rocky outcrops, fields or forests. The Site does contain two isolated ponds, given the distance of these ponds from the nearest creek (the East Sixteen

Mile Creek located 500m north of the Site), as well as the active use of the Site as an agricultural field, and the presence of the 407 Highway between the creek and ponds, Snapping and Midland Painted Turtles are unlikely to occur on the Site.

If required, an environmental specialist could be retained to undertake a Site-specific ecological assessment, however at this time further assessment is not warranted.

2.1.2 Topography and Surface Water Draining Features

The topography of the Phase Two Property is generally flat, with a surface elevation of 185 metres above sea level (masl). The neighbouring properties are generally at a similar elevation, and the topography within the Phase Two Study Area generally slopes to the south, towards Osenego Creek located 1 km south of the property and towards Lake Ontario, located approximately 9 km south of the property. There are no drainage features (e.g. ditches, swales, etc.) present 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

The following environmental reports were provided for DS to review:

- *"Phase I Environmental Site Assessment, Concession 2, NDS PT LOT 20, Reference Plan 20R-16344, Oakville, Ontario", prepared for 2433170 Ontario Inc., prepared by Chung & Vander Doelen (CVD) Engineering Ltd., dated December 13, 2016* (CVD 2016 Phase I ESA)
- *"Phase One Environmental Site Assessment, Part of Lot 20, Concession 2, Oakville, Ontario", prepared for ARGO Neyagawa Corporation, prepared by DS Consultants Ltd., dated February 22, 2022* (DS 2022 Phase One ESA)

<u>CVD 2016 Phase I ESA</u>

The CVD 2016 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 time of this investigation CVD (2016) concluded that the Site was an undeveloped rural agricultural land with a portion of the Site leased to a private contractor (landscaper) for the storage of miscellaneous landscaping equipment.
- Stockpiles of imported concrete and asphalt debris and miscellaneous granular material were observed on the southwestern portion of the Site.

- The west adjacent residential property was assumed to have a historic AST associated with the storage of furnace oil for heating purposes.
- During the Site reconnaissance CVD (2016) observed black granular material stored on the south adjacent property to be encroaching onto the southeastern portion of the Phase One Property.

CVD (2016) concluded that the aforementioned PCAs were of low environmental concern and did not recommend further investigation.

2022 DS Phase One ESA

The Phase One ESA was conducted for the purpose of pre-purchase due diligence. The Phase One identified that the Site appears to have been part of an agricultural and residential homestead prior to 1880. A small orchard was observed in the Country Atlas adjacent to the historical homestead. By 1934 the residential dwelling and orchard were no longer visible and the property was utilized as an active agricultural field. By 2013 the southwestern portion of the Site was leased as a storage area to a landscaping contractor. The Phase One Property has otherwise been vacant and is still operating as an agricultural field.

A total of ten (10) PCAs were identified within the Phase One Property and Phase One Study Area, six (6) of which are contributing to six (6) APECs:

- The following issues of potential environmental concern (PCAs)were identified on the Phase One Property:
    - Historic aerial imagery and CVD's (2016) report indicates that the southwestern portion of the Site – which was reportedly leased to a landscaping company – was occupied by more than ten soil stockpiles of varying sizes over time. CVD (2016) describes the material as imported concrete, asphalt debris and miscellaneous granular material. The landscaping company was not available to identify the source of the soil.
    - Historic aerial imagery indicates that the southwestern portion of the Site – which was reportedly leased to a landscaping company – was occupied by various vehicles as well as miscellaneous materials and refuse.
    - During the Site reconnaissance CVD (2016) observed black granular material stored on the south adjacent property to be encroaching onto the southeastern portion of the Phase One Property.
    - According to the Halton County Atlas from 1880, the Phase One Property appears to have a residential dwelling with an orchard located along the western boundary of the Site.

- In the 1934 aerial imagery, the residential dwelling and orchard are no longer visible on the Phase One Property. However, the area where the historic residential dwelling and orchard were appears to be graded.

- The neighboring properties within the Phase One Study Area generally consist of residential and agricultural land uses. The following issue was identified on the Phase One Study Area to contribute to a PCA:
  - The south adjacent Property was occupied by a residential dwelling and a Quonset Hut at the time of the Site reconnaissance, and was used for residential and commercial purposes. There were two (2) ASTs on the property.

Based on the findings, it was concluded that a Phase Two ESA would be recommended in order to investigate the aforementioned APECs and to assess the environmental soil and groundwater conditions on the Phase One Property.

2.2.1 Use of Previous Analytical Results

Not applicable. No previous analytical results were available for DS to review.

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 Areas of Potential Environmental Concern. 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 9.1 to 17.0 mbgs on May 18 to 25, 2022 in conjunction with a Geotechnical and Hydrogeological Investigation. Seven (7) of the boreholes (MW22-1A, MW22-1B, MW22-2, MW22-9, MW22-10, MW22-12, and MW22-14) 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 an RKI Eagle 2 MultiGas Detector in methane elimination, 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;
- In addition to the above, six (6) boreholes were drilled using an AMS Hand Held Auger, to depths ranging between 0.8 to 1.5 mbgs on May 17 to 19, 2022.
- 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 monitoring well MW22-2 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.
Sediment	Excluded	Sediment is not present on the Phase Two Property.
Surface Water	Excluded	No water bodies – as defined by O. Reg 153/04 – were present on the Site, only man-made ponds were present. Surface water sampling was not completed as a result.

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 between 9.1 to 17.0 mbgs. and six (6) soil samples were collected from depth of between 0.8 to 1.5 mbgs using AMS hand held auger. Soil samples were collected and submitted for analysis of all relevant COPCs.
Groundwater	A total of seven (7) monitoring well were installed on the Phase One Property for the purpose of this Phase Two ESA investigation. Representative groundwater sample was collected from a single monitoring well (MW22-2) and submitted for analysis of all relevant COPCs. The remaining wells were utilized for hydrostratigraphic characterization.

3.3 Phase One Conceptual Site Model

A Conceptual Site Model was developed for the Phase One Property, located at Part of Lot 20, Concession 2, Oakville, Ontario. The Phase One Conceptual Site Model is presented in Figures 4 and 5 and 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	PCA-30: Importation of Fill Material of Unknown Quality	Historic aerial imagery and CVD's (2016) report indicates that the southwestern portion of the Site – which was reportedly leased to a landscaping company – was occupied by more than ten soil stockpiles of varying sizes over time. CVD (2016) describes the material as imported concrete, asphalt debris and miscellaneous granular material. The landscaping company was not available to identify the source of the soil.	PCA is on-Site
2	PCA N/S - Storage of miscellaneous construction material and debris	Historic aerial imagery indicates that the southwestern portion of the Site – which was reportedly leased to a landscaping company – was occupied by various vehicles as well as miscellaneous materials and refuse.	PCA is on-Site
4	PCA-30: Importation of Fill Material of Unknown Quality	During the Site reconnaissance CVD (2016) observed black granular material stored on the south adjacent property to be encroaching onto the Phase One Property.	PCA is on the south adjacent property.
7	PCA-40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	According to the Halton County Atlas from 1880, the Phase One Property appears to have a residential dwelling with an orchard located along the western boundary of the Site.	PCA is on-Site

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
9	PCA-30: Importation of Fill Material of Unknown Quality	In the 1934 aerial imagery, the residential dwelling and orchard are no longer visible on the Phase One Property. However, the area where the historic residential dwelling and orchard were appears to be graded.	PCA is on the south adjacent property.
10	PCA-28: Gasoline and Associated Products Storage in Fixed Tanks	The south adjacent Property was occupied by a residential dwelling and a Quonset Hut at the time of the Site reconnaissance, and was used for residential and commercial purposes. There were two (2) ASTs on the property.	PCA is on the south adjacent property.

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

3.3.2 Contaminants of Potential Concern

A summary of the contaminants of potential concern identified for each respective APEC is presented in Table 3-3 above. The following contaminants of potential concern were identified for the Phase One Property: PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, EC, SAR, OCPs 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.

Underground utilities were not identified at the Phase One Property. Plans were not available to confirm the depths of these utilities, however if present 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 has been calculated at depths of between 0.80 to 8.43 mbgs; therefore, the utility corridors (if present) may intersect the water table and 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 Phase Two Property is generally flat, with a surface elevation of 185 metres above sea level (masl). Two ponds/depressions are present on the Phase Two Property. The nearest large body of water is East Sixteen Mile Creek, located approximately 500 m north of the Phase One Property. The topography within the Phase Two Study Area generally slopes to the south, towards Osenego Creek located 1km south of the property and towards Lake Ontario, located approximately 9 km south of the property. The shallow groundwater flow direction within the Phase Two Study Area is inferred to be parallel with the local topography, extending south/southeast towards Osenego Creek.

The Site is situated within a Till Moraines physiographic region. The surficial geology within the Phase Two Study area is described as "clay to silt-textured till (derived from glaciolacustrine deposits or shale)", and the bedrock is described as shale, limestone, dolostone and siltstone from the Queenston Formation. The bedrock in the Phase Two Study Area was encountered at an approximate depth range of 10.7-17.0 metres below ground surface (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 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 Site, anticipated direction of local groundwater flow, and the potential environmental impact on the Site 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

The Phase Two ESA was completed in accordance with the SAP.

3.5 Impediments

DS was granted complete access to the Phase Two Property throughout the course of the investigation. No impediments were encountered.

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);
- 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
May 2022	
Drilling Contractor	Groundworks Drilling Inc.
Drilling Dates	May 18, 2022 – May 26, 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; and ◆ 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.
May 2022	
Date of Investigation	May 17 – May 19, 2022
Equipment Used	AMS Hand Held Auger
Measures taken to minimize the potential for cross contamination	◆ The AMS Hand Held Auger was brushed free of debris in between each sample; ◆ Soil samples were extracted from the interior of the sampler rather than from areas in contact with the sampler sidewalls; and ◆ 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	Soil samples were collected between 0.8 and 1.5 mbgs.

4.3 Soil Sampling

Soil samples were collected using 50 mm stainless steel split spoon sampler or AMS Hand Held Auger tool. Discrete soil samples were collected from the split-spoon samplers/augers 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 containers 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 B. 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 olfactory evidence of potential contamination was noted. Visual evidence of potential contamination was noted in soil within the mixed fill on Site. Additional details are available in Section 5.5.

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 Serial Number: E2G721
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

Parameter	Details
Accuracy of the measurements	VOCs: ± 10% display reading + one digit Hydrocarbons: ± 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 +/- 10%.

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

4.5 Groundwater Monitoring Well Installation

Monitoring wells were installed upon completion of seven (7) of 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 monument casings. Details regarding the monitoring well construction can be found in Table 1 (Enclosed), and on the borehole logs provided in Appendix B. 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.

Monitoring well MW22-2 was developed prior to sampling. 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 at the time of pre-sampling purging, due to the low yield and slow recovery of the monitoring wells. The measurements were conducted at regular intervals 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 MW22-2, using the low flow methodology. The monitoring wells were purged to dryness using Watterra™

tubing. The monitoring wells were allowed to recover prior to sampling. The groundwater sample was collected using a peristaltic pump with dedicated 6.4 mm ID polyethylene tubing.

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 under chain of custody protocols. Bureau Veritas is an independent laboratory accredited by the Canadian Association for Laboratory Accreditation. Bureau Veritas 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 were 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. Upon receipt of the groundwater analytical results the groundwater was re-infiltrated locally.

4.10.3 Fluids from Equipment Cleaning

Excess equipment cleaning fluids were stored in 205 L drums and temporarily store on Site by a MECP approved waste-hauler for disposal at a MECP-approved waste management facility.

4.11 Elevation Surveying

The ground surface elevations of the boreholes/monitoring wells were surveyed using a Sokkia GCX-2 GNSS RTK receiver, based on global positioning systems satellites, with datum NAD83, UTM zone 17T.

The ground surface elevations can be found on the borehole logs presented in Appendix B.

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 4-3: 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.
Groundwater	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
	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

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 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 B. 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.

A surficial topsoil layer approximately 100 to 250 mm thick was encountered BH22-3, BH22-8, MW22-10 and BH22-11. Fill material was encountered in boreholes MW22-1A, MW22-1B, MW22-2 and BH22-5 and it consisted of clayey silt, sandy silt and sand without any indication of deleterious materials. The fill material was generally heterogeneous and ranged in thickness from 1.0 to 1.5 mbgs. Re-worked native soils were encountered in boreholes MW22-9, MW22-10, BH22-11, MW22-12, BH22-13, MW22-14. The reworked native soils and native overburden material encountered below the fill material generally consisted of clayey silt till/sandy silt till/ silty clay till and extended to depths ranging from 4.6 to 13.7 mbgs. Shale Bedrock was encountered in MW22-1B, MW22-2 and MW22-14 at a depth of between 12.2 to 15.2 mbgs. A summary of the geologic units encountered is provided in Table 5-1 below.

Table 5-1: Summary of Geologic Units Investigated

Geologic Unit	Inferred Thickness (m)	Top Elevation (masl)	Bottom Elevation (masl)	Properties
Topsoil	0.1-0.25	180.9	180.7	--
Fill Material	1.0-1.5	180.7	179.7	Mixed fill with clayey silt to silty clay, sandy silt, sand and gravel

Clayey silt till/sandy silt till/ silty clay till	1.2-6.1	189.4	167.2	Brown, some sand, moist
Lower Clayey Silt/Shale Complex	0.1-2.2	172.6	165.7	Reddish brown, moist
Shale Bedrock	Unknown	165.7	Unknown	Weathered bedrock

5.2 Ground Water Elevations and Flow Direction

5.2.1 Rationale for Monitoring Well Location and Well Screen Intervals

A total of one (1) monitoring well was installed on the Phase Two Property in order to assess the groundwater quality in relation to APEC-4. The monitoring well was generally screened to intersect the first water bearing information encountered, in order to allow for the assessment of LNAPL, and to provide information regarding the quality of the groundwater at the water table. Six (6) other monitoring wells were installed on the Phase Two Property to support the hydrogeological investigation completed concurrently with this Phase Two ESA. MW22-1A, MW22-9, MW22-12, MW22-14 were screened at depth ranging from 6.1 – 9.1 mbgs within silty clay till unit encountered. MW22-1B was screened at depth ranging from 12.2-15.2 mbgs within the sandy silt till/clayey silt till unit encountered on the lower water bearing zone. The findings of the hydrogeological investigation are enclosed under a separate report.

5.2.2 Results of Interface Probe Measurements

A summary of the groundwater level measurements is provided in Table 1 (Enclosed). The groundwater level measurements were collected using a Solinst interface probe (model 122). The depth to groundwater was found to range between 0.80 and 8.43 mbgs on June 8, 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 (enclosed). Generally, the groundwater elevation was found to range from 174.12 to 180.86 masl in 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 recorded, the groundwater flow direction appears to be south to southeast towards the Osenego Creek. 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.

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 advances 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 at the shallow water bearing formations was encountered at depths ranging from 0.80 to 8.43 mbgs on the Phase Two Property. There is potential for the utility trenches to act as preferential pathways for contaminant migration. However, no groundwater impacts were identified, therefore the potential for preferential migration of contaminants is no 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 June 8, 2022.

Table 5-2: Summary of Horizontal Hydraulic Gradient Calculations

Hydrogeological Unit	Calculated Horizontal Hydraulic Gradient
Clayey Silt/Silty Clay Till	Minimum: 0.0001347 Average: 0.01607 Maximum: 0.05631

5.3.2 Vertical Hydraulic Gradient

The vertical hydraulic gradient was calculated based on the groundwater levels recorded on June 8, 2022.

Table 5-3: Summary of Vertical Hydraulic Gradient Calculations

Monitoring Well Nest	Calculated Vertical Hydraulic Gradient
MW22-1A MW22-1B	0.9472 (downward)

5.4 Fine-Medium Soil Texture

5.4.1 Rational for use of Fine-Medium Soil Texture Category

A total of nineteen (19) grain size analyses were conducted as part of this investigation in conjunction with the Geotechnical Investigation. The results of the grain size analyses indicate that more than two-thirds of the soils encountered are medium to fine textured. However, for the purpose of determining the Site Condition Standards the more conservative coarse grain standards are applied.

5.4.2 Results of Grain Size Analysis

A summary of the soil samples analyzed, and the corresponding grain size results is presented in the table below:

Table 5-4: Summary of Grain Size Analyses

Sample	% Gravel	% Sand	% Silt	% Clay	% Silt +Clay	Classification
BH22-1B SS8	6	31	43	20	63	Medium-fine textured
BH22-1B SS11	13	29	42	16	58	Medium-fine textured
BH22-9 SS8	6	28	43	23	66	Medium-fine textured
BH22-9 SS9	22	27	39	12	51	Medium-fine textured
BH22-10 SS6	5	27	43	25	68	Medium-fine textured
BH22-10 SS8	6	33	42	19	61	Medium-fine textured
BH22-11 SS7	4	32	46	18	64	Medium-fine textured
BH22-11 SS9	8	29	44	19	63	Medium-fine textured
BH22-11 SS11	1	24	69	6	75	Medium-fine textured
BH22-12 SS4	7	24	48	21	69	Medium-fine textured
BH22-12 SS7	8	29	43	20	63	Medium-fine textured
BH22-12 SS12	5	25	49	21	70	Medium-fine textured
BH22-12 SS13	13	50	30	7	37	Coarse textured
BH22-13 SS4	8	23	48	21	69	Medium-fine textured
BH22-13 SS8	7	32	42	19	61	Medium-fine textured
BH22-13 SS11	13	31	46	10	56	Medium-fine textured
BH22-14 SS6	6	28	46	20	66	Medium-fine textured
BH22-14 SS7	6	28	46	20	66	Medium-fine textured
BH22-14 SS10	3	22	63	12	75	Medium-fine textured

5.4.3 Rational for the Number of Samples Collected and Analyzed

In general, one sample was analyzed per stratigraphic unit encountered in order to characterize the various strata encountered.

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 B). The soil vapour headspace readings were collected using an RKI Eagle 2 equipped with a dual PID and CGD sensor, operated in methane elimination mode. The PID readings ranged between 0 and 50 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). No visual or olfactory signs of impacts were observed at the time of sampling.

5.6 Soil Quality

The results of the chemical analyses conducted are presented in Tables 5 through 9 (Enclosed). A visual summary of the location of the sample locations is provided in Figures 7A through 7F. The laboratory certificates of analysis have been provided under Appendix C.

5.6.1 Metals and ORPs

A total of eight (8) samples were submitted for analysis of metals and ORPs. An additional nine (9) samples, including one (1) QAQC field duplicate, were submitted for analysis of pH only.

The results of the analyses are tabulated in Table 5 (Enclosed) and presented on Figure 7A and 7B. All of the samples analyzed met the MECP Table 2 RPI SCS.

A total of seventeen (17) pH samples were collected and submitted for analysis on the Phase Two Property. Ten (10) pH samples were collected from depths of between 0 to 1.5m representing surficial soils. Seven (7) pH samples were collected from depths greater than 1.5 m, representing subsurface soils. The pH values of the soils measured between 6.73 and 7.88 units, which is within the acceptable limits for surface and subsurface soils of non-sensitive sites.

5.6.2 Petroleum Hydrocarbons

A total of four (4) samples were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 6 and presented on Figure 7C. All of the samples analyzed met the MECP Table 2 RPI SCS.

5.6.1 Volatile Organic Compounds

A total of six (6) samples, including two (2) field duplicate for QA/QC purposes were submitted for analysis of VOCs. The result of the analysis is tabulated in Table 7 (Enclosed) and presented on Figure

7D. The result of the analysis indicated that all of the samples analyzed met the applicable Table 2 SCS.

5.6.2 Polycyclic Aromatic Hydrocarbons

A total of seven (7) samples, including two (2) field duplicates for QA/QC purposes were submitted for analysis of PAHs. The results of the analyses are tabulated in Table 8 (Enclosed) and presented on Figure 7E. The results of the analyses indicated that all samples met the applicable Table 2 SCS.

5.6.3 Organochlorine Pesticides

A total of three (3) samples were submitted for analysis of OCPs. The result of the analysis is tabulated in Table 9 and presented on Figure 7F. The result of the analysis indicated that the samples met the applicable Table 2 SCS.

5.6.4 Commentary on Soil Quality

No evidence of NAPL was observed in the samples recovered during the field investigation. The results of the soil chemical analysis indicated that all samples analyzed met the applicable MECP Table 2 SCS.

5.7 Ground Water Quality

The results of the chemical analyses conducted are presented in Tables 10 through 13 (Enclosed). A visual summary of the location of the sample locations is provided in Figures 8A through 8E. The laboratory certificates of analysis have been provided under Appendix C.

5.7.1 Metals and ORPs

Groundwater samples were obtained from monitoring well MW22-2 and submitted for analysis of metals and ORPs. The results of the analyses are tabulated in Table 10 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 that all samples submitted met the MECP Table 2 SCS.

5.7.2 Petroleum Hydrocarbons

May 30, 2022 Sampling Event

A total of two (2) samples, including one (1) field duplicate for QA/QC purposes were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 11 (Enclosed) and presented on Figure 8B. During the analytical characterization of PHCs, samples were diluted by the laboratory due to sample heterogeneity. The results of the analyses indicated that all samples analyzed meet the MECP Table 2 SCS, with the exception of the below:

Table 5-5: Summary of PHCs Exceedances in Groundwater

Sample ID	Well Screen (mbgs)	Parameter	Units	Table 2 SCS	Reported Value
MW22-2	1.22 – 4.27	PHC F2	µg/L	150	<300
		PHC F3		500	<600
		PHC F4		500	<600

Notes:
Yellow – The laboratory detection limit exceeds the applicable Site Condition Standards.

As shown in Tables 11 and 15, a duplicate sample was submitted for this well sample and the results indicated that PHCs met the applicable standards.

June 28, 2022 Sampling Event

A total of two (2) samples, including one (1) field duplicate for QA/QC purposes were submitted for analysis of PHCs on June 28, 2022. The results of the analyses are tabulated in Table 11 (Enclosed) and presented on Figure 8B. The results of the analyses indicated that all samples analyzed meet the MECP Table 2 SCS.

5.7.3 Polycyclic Aromatic Hydrocarbons

A total of one (1) sample was submitted for analysis of PAHs from monitoring well MW22-2. The results of the analyses are tabulated in Table 12 and presented on Figure 8C. The results of the analyses indicated that all samples submitted met the MECP Table 2 SCS.

5.7.4 Volatile Organic Compounds

A total of one (1) sample was submitted for analysis of VOCs from monitoring well MW22-2. The results of the analyses are tabulated in Table 13 and presented on Figure 8D. The results of the analyses indicated that all samples submitted met the MECP Table 2 SCS.

5.7.5 Commentary on Groundwater Quality

No evidence of NAPL was observed in the samples recovered during the field investigation. The results of the groundwater chemical analysed indicated that all samples analysed met the MECP Table 2 SCS.

It is noted that the laboratory detection limit for PHCs F2 to F4 exceeded the applicable Site Condition Standards for the groundwater sample collected on May 30, 2022 due to sample heterogeneity. As such this data could not be used to determine compliance with the MECP Table 2 SCS for PHCs F2 to F4. Subsequent groundwater sampling and analysis on June 28, 2022, utilizing low flow methodology, indicated PHC F2 to F4 concentration at MW22-2 was within the MECP Table 2 SCS.

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 5.12, 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 5-6: Summary of QA/QC Results

Sample ID	QA/QC duplicate	Medium	Parameter Analyzed	QA/QC Result
DUP 1	BH22-1B/SS2	Soil	PAHs	All results were within the analytical protocol criteria for RPD.
DUP 2	BH22-5/SS2	Soil	VOCs	All results were within the analytical protocol criteria for RPD.
DUP 3	MW22-2/SS1	Soil	PAHs	All results were within the analytical protocol criteria for RPD.
DUP 4	MW22-2/SS4	Soil	VOCs	All results were within the analytical protocol criteria for RPD.
DUP	MW22-2	Groundwater	PHCs	All results were within the analytical protocol criteria for RPD, with the exception of the PHC F2 to F4 concentration. The laboratory detection limit of PHC F2 to F4 was raised to be greater than 300 µg/L, 600 µg/L and 600 µg/L. As such it was not possible to calculate the RPD.
DUP1	MW22-2	Groundwater	PHCs	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 C.

The following comments were provided by BV on the laboratory Certificates of Analysis. Commentary on the comments has been provided below:

- Laboratory Certificate C2E5133 – Samples MW22-2/SS3 contained more than 5g of soil in the field preserved vials. Additional methanol was added to the vial to ensure extraction efficiency. As no parameters exceeded the MECP Table 2 SCS, DS does not consider this to be an issue of significant concern and it has no impact on the overall interpretation of the analytical data.

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 C.

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 included as Appendix D.

6.0 Conclusions

This Phase Two ESA involved the advancement of two (2) boreholes and six (6) hand augured boreholes, the installation of two (2) monitoring wells, and the collection of soil and groundwater samples for analysis of the potential contaminants of concern, including: PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, OCPs and PAHs.

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

- A surficial topsoil layer approximately 100 to 250 mm thick was encountered BH22-3, BH22-8, MW22-10 and BH22-11. Fill material was encountered in boreholes MW22-1A, MW22-1B, MW22-2 and BH22-5 and it consisted of clayey silt, sandy silt and sand without any indication of deleterious materials. The fill material was generally heterogeneous and ranged in thickness from 1.0 to 1.5 mbgs. Re-worked native soils were encountered in boreholes MW22-9, MW22-10, BH22-11, MW22-12, BH22-13, MW22-14. The reworked native soils and

native overburden material encountered below the fill material generally consisted of clayey silt till/sandy silt till/ silty clay till and extended to depths ranging from 4.6 to 13.7 mbgs. Shale Bedrock was encountered in MW22-1B, MW22-2 and MW22-14 at a depth of between 12.2 to 15.2 mbgs;

- The depth to groundwater was found to range between 0.80 and 8.43 mbgs, with an elevation of between 174.12 to 180.86 masl on June 8, 2022. Based on the groundwater elevations recorded, the groundwater flow direction appears to be south to southeast towards the Osenego Creek. 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 chemical analyses conducted on soil and groundwater samples indicate that the applicable Site Condition Standards have been met;
- Based on the findings of this Phase Two ESA, a Record of Site Condition may be filed for the Phase Two Property (if required);
- All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required;

It is the opinion of the QP_{ESA} that the applicable SCS for the soil and groundwater at the Phase Two Property have been met as of the Certification Date of June 28, 2022. No further sub-surface investigation is required regarding the environmental quality of the soil and groundwater at the Phase Two Property.

6.1 Qualifications of the Assessors

Ms. Alice Gong, B.Sc

Ms. Gong is an Environmental Specialist with DS Consultants Ltd and holds a Bachelor's degree in Environmental Science from McMaster University and a Post Graduate Certificate in Environmental Management and Assessment from Niagara College. Alice has been involved with Phase One and Phase Two Environmental Site Assessments, data interpretation and reporting.

Ms. Kirstin Olsen, MSc.

Ms. Olsen is a Project Manager in the Environmental Services Department at DS Consultants Ltd. Ms. Olsen has a bachelor's degree in Animal, Plant and Environmental Science, as well as a Master of Science Degree in Environmental Science, Ecology and Conservation from the University of the Witwatersrand (Johannesburg, South Africa). Ms. Olsen has personally completed over three hundred detailed environmental assessments across a wide array of scientific disciplines including: Phase One & Two Environmental Site Assessments, Remedial Excavation & Injection Oversight, Hydrogeological Investigations, EASR Registration/PTTW Application, Aquatic Ecological Delineation, Assessment & Planning, Toxicological, Soil & Water Impact and Risk Assessment, as well as Environmental Construction Monitoring & Performance Auditing.

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 and Climate Change. 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 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

Alice Gong, B. Sc.
Environmental Specialist

Reviewed by:

Kirstin Olsen, M.Sc
Project Manager - Environmental

Patrick Fioravanti, B.Sc., P.Geo., QP_{ESA}
Manger – Environmental Services

6.3 Limitations

This report was prepared for the sole use of ARGO Neyagawa Corporation and is intended to provide an assessment of the environmental condition on the property located at Part of Lot 20, Concession 2, Oakville, 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.
- DS Consultants, 11 January 2022. *Phase One Environmental Site Assessment Block 7, Woodsy Park Lane, 1001 Sheppard Avenue East, Toronto, Ontario prepared for Concord Adex Inc.*
- 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.1of 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 One ESA, Part of Lot 20, Concession 2, Oakville, ON"*, prepared for ARGO Neyagawa Corp, prepared by DS Consultants Limited, dated February 22, 2022.

Tables

Table 1: Summary of Monitoring Well Installation and Groundwater Data

Well ID			MW22-1A	MW22-1B	MW22-2	MW22-9	MW22-10	MW22-12	MW22-14
Installed By:			DS	DS	DS	DS	DS	DS	DS
Installation Date:			17-May-22	17-May-22	25-May-22	24-May-22	19-May-22	18-May-22	25-May-22
Well Status:			Active	Active	Active	Active	Active	Active	Active
EastUTM17			599997.075	599998.011	600057.216	600143.52	599684.377	599818.652	599947.3
NorthUTM17			4814748.14	4814748.99	4814853	4814917.5	4815025.74	4814901.67	4814946.1
Inner Diameter		mm	50	50	50	50	50	50	50
Surface Elevation		masl	180.81	180.85	181.66	181.54	187.93	184.72	183.34
Bottom of Concrete Seal/Top of Bentonite Seal		mbgs	0.30	0.30	0.30	0.30	0.30	0.30	0.30
		masl	180.51	180.55	181.36	181.24	187.63	184.42	183.04
Bottom of Bentonite Seal/Top of Sand Pack		mbgs	5.50	11.60	0.92	1.30	5.50	3.97	5.50
		masl	175.31	169.25	180.74	180.24	182.43	180.75	177.84
Top of Well Screen		mbgs	6.10	12.20	1.22	1.80	6.10	4.57	6.10
		masl	174.71	168.65	180.44	179.74	181.83	180.15	177.24
Well Screen Length		m	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Bottom of Well Screen		mbgs	9.10	15.20	4.27	4.80	9.10	7.62	9.10
		masl	171.71	165.65	177.39	176.74	178.83	177.10	174.24
GW Monitoring									
30-May-22	Depth to GW	mbgs	NM	NM	0.64	NM	NM	NM	NM
	GW Elevation	masl	NM	NM	181.02	NM	NM	NM	NM
08-Jun-22	Depth to GW	mbgs	0.95	6.73	0.80	7.39	7.41	8.43	6.13
	GW Elevation	masl	179.86	174.12	180.86	174.15	180.52	176.29	177.21
28-Jun-22	Depth to GW	mbgs	NM	NM	1.32	NM	NM	NM	NM
	GW Elevation	masl	NM	NM	180.04	NM	NM	NM	NM

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
MW22-1B	SS1	0-0.6	Clayey silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR	APEC 1A, APEC 2
	SS2	0.8-1.4	Clayey silt	PAHs	
	DUP 1			PAHs	
	SS3	1.5-2.1	Clayey Silt Till	PHCs & BTEX, VOCs	
BH22-5	SS1	0-0.6	Sandy Silt	PAHs	APEC 1A, APEC 2
	SS2	0.8-1.4	Sandy Silt	PHCs & BTEX, VOCs	
BH22-4	SS1	0-0.6	Sand, some silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, PAHs	APEC-1B
BH22-6	SS1	0-0.6	Sandy Silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, PAHs	APEC-1C
	SS2	0.8-1.4	Sandy silt	PHCs & BTEX, VOCs	
BH22-3	SS1	0-0.6	Sandy silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, OCPs	APEC 3
BH22-7	SS1	0-0.6	Sandy silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, OCPs	APEC 3
BH22-8	SS1	0-0.6	Sandy silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR	APEC 3
MW22-2	SS1	0-0.6	Clayey Silt	PAHs	APEC 4
	DUP 3			PAHs	
	SS2	0.8-1.4	Clayey Silt	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR	
	SS3	1.5-2.1	Clayey Silt Till	PHCs & BTEX, VOCs	
	SS4	2.3-2.9	Clayey Silt Till	PHCs & BTEX, VOCs	
	DUP 4	2.3-2.9	Clayey Silt Till	VOCs	

Table 3: Summary of Groundwater Samples Submitted for Chemical Analysis

Well ID	Well Screen Interval (masl)			Sample Date	Parameter Analyzed	APEC Investigated
MW22-2	177.39	-	180.44	30-May-22	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, Na, Cl-, PHCs,	APEC 4
MW22-2	177.39	-	180.44	28-Jun-22	PHCs	APEC 4

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	COPCs	Media	Boreholes Within APEC	Samples Analysed	Parameter Analyzed
APEC-1A	Historic aerial imagery and CVD's (2016) report indicates that the southwestern portion of the Site - which was reportedly leased to a landscaping company - was occupied by more than ten soil stockpiles of varying sizes over time. CVD (2016) describes the material as imported concrete, asphalt debris and miscellaneous granular material. The landscaping company was not available t o identify the source of the soil.	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-, HWS, CN-, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW22-1B	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC,SAR
					SS2	PAHs
					DUP 1	PAHs
					SS3	PHCs & BTEX, VOCs
				BH22-5	SS1	PAHs
					SS2	PHCs & BTEX, VOCs
APEC-1B	During the site reconnaissance CVD (2016) observed black granular material stored on the south adjacent property to be encroaching onto the southeastern portion of the Phase One Property.	Metals, PAHs	Soil	BH22-4	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, PAHs
APEC-1C	In the 1934 aerial imagery, the residential dwelling and orchard are no longer visible on the Phase One Property. However, the area where the historic residential dwelling and orchard were appeared to be graded.	Metals, As, Sb, Se, B-HWS, CN-,electrical conductivity, Cr(VI), Hg, low or high pH, SAR, PAHs	Soil	BH22-6	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, PAHs
					SS2	PHCs & BTEX, VOCs
APEC 2	Historic aerial imagery indicates that the southwestern portion of the Site - which was reportedly leased to a landscaping company - was occupied by various vehicles as well as miscellaneous materials and refuse.	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-, HWS, CN-, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW22-1B	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR
					SS2	PAHs
					DUP 1	PAHs
					SS3	PHCs & BTEX, VOCs
				BH22-5	SS1	PAHs
					SS2	PHCs & BTEX, VOCs
APEC 3	According to the Halton Country Atlas from 1880, the Phase One Property appears to have a residential dwelling with an orchard located along the western boundary of the Site.	Metals, As, Sb, Se, CN-, OCPs	Soil	BH22-3	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, OCPs
				BH22-7	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, OCPs
				BH22-8	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR
APEC 4	The south adjacent property was occupied by a residential dwelling and a Quonset Hut at the time of the site reconnaissance, and was used for residential and commercial purposes. There were two (2) ASTs on the property.	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-, HWS, CN-, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW22-2	SS1	PAHs
					DUP 3	PAHs
					SS2	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR
					SS3	PHCs & BTEX, VOCs
					SS4	PHCs & BTEX, VOCs
					DUP 4	VOCs
			Groundwater	MW22-2	MW22-2	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, PHCs, BTEX, 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	BH22-1B/SS1	BH22-3/SS1	BH22-7/SS1	BH22-8/SS1	BH22-5/SS1	BH22-6/SS1	BH22-4/SS1	MW22-2/SS2	BH22-12/SS4	BH22-10/SS2	BH22-10/SS4
Date of Collection		18-May-22	18-May-22	18-May-22	18-May-22	18-May-22	18-May-22	19-May-22	31-Jul-20	18-May-22	19-May-22	19-May-22
Date Reported		02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	11-Aug-20	02-Jun-22	02-Jun-22	02-Jun-22
Sampling Depth (mbgs)		0.0-0.6	0.0-0.6	0.8-1.4	0-0.6	0-0.6	0-0.6	0-0.6	0.8-1.5	2.3-2.9	0.8-1.4	2.3-2.9
Analytical Report Reference No.		C2D7426/SRH396	C2D7426/SRH400	C2D7426/SRH401	C2D7426/SRH402	C2D7426/SRH404	C2D7426/SRH406	C2D7426/SRH410	C2E5133/SSY450	C2E5133/SRH403	C2E5133/SRH412	C2E5133/SRH413
Acid Extractable Antimony (Sb)	7.5	0.23	<0.20	0.26	<0.20	<0.20	<0.20	0.24	<0.20	--	--	--
Acid Extractable Arsenic (As)	18	5.6	4.8	6.5	4.1	4.9	4.2	4.7	4.5	--	--	--
Acid Extractable Barium (Ba)	390	83	71	210	56	69	80	54	82	--	--	--
Acid Extractable Beryllium (Be)	4	1.1	0.79	1.3	0.66	0.65	0.66	0.64	0.71	--	--	--
Acid Extractable Boron (B)	120	6.6	8.7	5.1	6.8	8.9	9.3	7.6	11	--	--	--
Acid Extractable Cadmium (Cd)	1.2	0.17	0.13	0.21	0.15	0.11	0.11	0.12	<0.10	--	--	--
Acid Extractable Chromium (Cr)	160	24	22	30	19	20	18	18	20	--	--	--
Acid Extractable Cobalt (Co)	22	15	12	20	12	12	12	13	14	--	--	--
Acid Extractable Copper (Cu)	140	30	29	43	26	27	29	29	27	--	--	--
Acid Extractable Lead (Pb)	120	18	12	18	12	12	12	13	12	--	--	--
Acid Extractable Molybdenum (Mo)	6.9	0.59	<0.50	0.89	<0.50	0.55	0.53	<0.50	0.56	--	--	--
Acid Extractable Nickel (Ni)	100	30	29	47	28	27	26	28	28	--	--	--
Acid Extractable Selenium (Se)	2.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--
Acid Extractable Silver (Ag)	20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--	--	--
Acid Extractable Thallium (Tl)	1	0.16	0.13	0.17	0.15	0.16	0.14	0.14	0.17	--	--	--
Acid Extractable Uranium (U)	23	0.56	0.53	0.61	0.55	0.61	0.71	0.56	0.55	--	--	--
Acid Extractable Vanadium (V)	86	33	31	45	26	27	25	25	28	--	--	--
Acid Extractable Zinc (Zn)	340	73	65	75	66	64	64	63	65	--	--	--
WAD Cyanide (Free)	0.051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	--	--	--
Electrical Conductivity	0.7	0.32	0.2	0.34	0.14	0.18	0.15	0.17	0.17	--	--	--
Hexavalent Chromium (CrVI)	8	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	--	--	--
Acid Extractable Mercury (Hg)	0.27	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	--	--	--
Available (CaCl2) pH		7.46	7.67	6.85	7.74	7.64	7.69	7.77	7.73	7.87	7.88	7.83
Sodium Adsorption Ratio	5	1.1	0.63	0.45	0.26	0.25	0.25	1.2	1.4	--	--	--

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

Table 6: Summary of PHCs in Soil

Parameter	MECP Table 2 SCS	BH22-1B/SS3	BH22-5/SS2	BH22-6/SS2	MW22-2/SS3
Date of Collection		18-May-22	18-May-22	18-May-22	26-May-22
Date Reported		02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22
Sampling Depth (mbgs)		1.5-2.1	0.8-1.4	0.8-1.4	1.5-2.1
Analytical Report Reference No.		C2D7426/SRH398	C2D7426/SRH405	C2D7426/SRH407	C2E5133/SSY451
F1 (C6-C10) -BTEX	55	<10	<10	<10	<10
F2 (C10-C16)	98	<10	<10	<10	<10
F3 (C16-C34)	300	<50	<50	<50	<50
F4 (C34-C50)	2800	<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	BH22-1B/SS3	BH22-5/SS2	DUP 2 (BH22-5/SS2)	BH22-6/SS2	MW22-2/SS3	MW22-2/SS4	DUP 4 (MW22-2/SS4)
Date of Collection		18-May-22	18-May-22	18-May-22	18-May-22	26-May-22	26-May-22	26-May-22
Date Reported		02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22
Sampling Depth (mbgs)		1.5-2.1	0.8-1.4	0.8-1.4	0.8-1.4	1.5-2.1	2.3-2.9	2.3-2.9
Analytical Report Reference No.		C2D7426/SRH398	C2D7426/SRH405	C2D7426/SRH409	C2D7426/SRH407	C2E5133/SSY451	C2E5133/SSY452	C2E5133/SSY454
Benzene	0.21	<0.0060	<0.0060	<0.0060	<0.0060	<0.020	<0.0060	<0.0060
Toluene	2.3	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	1.1	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010
Xylene	3.1	<0.020	<0.020	<0.020	<0.020	<0.040	<0.020	<0.020
Acetone	16	<0.49	<0.49	<0.49	<0.49	--	<0.49	<0.49
Bromodichloromethane	1.5	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Bromoform	0.27	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Bromomethane	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Carbon Tetrachloride	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Chlorobenzene	2.4	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Chloroform	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Dibromochloromethane	2.3	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,2-Dichlorobenzene	1.2	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,3-Dichlorobenzene	4.8	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,4-Dichlorobenzene	0.083	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Dichlorodifluoromethane	16	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,1-Dichloroethane	0.47	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,2-Dichloroethane	0.05	<0.049	<0.049	<0.049	<0.049	--	<0.049	<0.049
1,1-Dichloroethylene	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
cis-1,2-Dichloroethylene	1.9	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
trans-1,2-Dichloroethylene	0.084	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,2-Dichloropropane	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
cis-1,3-Dichloropropene	0.05	<0.030	<0.030	<0.030	<0.030	--	<0.030	<0.030
trans-1,3-Dichloropropene	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,3-Dichloropropene (cis+trans)	0.05	<0.050	<0.050	<0.050	<0.050	--	<0.050	<0.050
Ethylene Dibromide	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Hexane (n-Hexane)	2.8	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Methyl Ethyl Ketone (MEK)	16	<0.40	<0.40	<0.40	<0.40	--	<0.40	<0.40
Methyl Isobutyl Ketone (MIBK)	1.7	<0.40	<0.40	<0.40	<0.40	--	<0.40	<0.40
Methyl tert-butyl ether (MTBE)	0.75	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Methylene Chloride (Dichlorometh	0.1	<0.049	<0.049	<0.049	<0.049	--	<0.049	<0.049
Styrene	0.7	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,1,1,2-Tetrachloroethane	0.058	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,1,2,2-Tetrachloroethane	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Tetrachloroethylene	0.28	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,1,1-Trichloroethane	0.38	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
1,1,2-Trichloroethane	0.05	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Trichloroethylene	0.061	<0.010	<0.010	<0.010	<0.010	--	<0.010	<0.010
Trichlorofluoromethane	4	<0.040	<0.040	<0.040	<0.040	--	<0.040	<0.040
Vinyl Chloride	0.02	<0.019	<0.019	<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 8: Summary of PAHs in Soil

Parameter	MECP Table 2 SCS	BH22-1B/SS2	DUP 1 (BH22-1B/SS2)	BH22-5/SS1	BH22-6/SS1	BH22-4/SS1	MW22-2/SS1	DUP 3 (MW22-2/SS1)
Date of Collection		18-May-22	18-May-22	18-May-22	18-May-22	18-May-22	26-May-22	26-May-22
Date Reported		02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22	02-Jun-22
Sampling Depth (mbgs)		0.8-1.4	0.8-1.4	0.0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		C2D7426/SRH397	C2D7426/SRH408	CSD7426/SRH404	C2D7426/SRH406	C2D7426/SRH410	C2E5133/SSY449	C2E5133/SSY453
Acenaphthene	7.9	<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
Anthracene	0.67	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(a)anthracene	0.5	<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
Benzo(b/j)fluoranthene	0.78	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(g,h,i)perylene	6.6	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(k)fluoranthene	0.78	<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
Dibenzo(a,h)anthracene	0.1	<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
Fluorene	62	<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	<0.0050
1-Methylnaphthalene	0.99	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
2-Methylnaphthalene	0.99	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1+2-Methylnaphthalene	0.59	<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
Phenanthrene	6.2	<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

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

Table 9: Summary of OCPs in Soil

Parameter	MECP Table 2 SCS	BH22-3/SS1	BH22-7/SS1	BH22-8/SS1
Date of Collection		18-May-22	18-May-22	18-May-22
Date Reported		02-Jun-22	02-Jun-22	02-Jun-22
Screen Interval (mbgs)		0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		C2D7426/SRH400	C2D7426/SRH401	C2D7426/SRH402
Aldrin	0.05	<0.0020	<0.0020	<0.0020
alpha-Chlordane	0.05	<0.0020	<0.0020	<0.0020
gamma-Chlordane	0.05	<0.0020	<0.0020	<0.0020
Total Chlordane	0.05	<0.0020	<0.0020	<0.0020
o,p-DDD	3.3	<0.0020	<0.0020	<0.0020
p,p-DDD	3.3	<0.0020	<0.0020	<0.0020
Total DDD	3.3	<0.0020	<0.0020	<0.0020
o,p-DDE	0.26	<0.0020	<0.0020	<0.0020
p,p-DDE	0.26	<0.0020	<0.0020	<0.0020
Total DDE	0.26	<0.0020	<0.0020	<0.0020
o,p-DDT	1.4	<0.0020	<0.0020	<0.0020
p,p-DDT	1.4	<0.0020	<0.0020	<0.0020
Total DDT	1.4	<0.0020	<0.0020	<0.0020
Dieldrin	0.05	<0.0020	<0.0020	<0.0020
Endosulfan I	0.04	<0.0020	<0.0020	<0.0020
Endosulfan II (beta)	0.04	<0.0020	<0.0020	<0.0020
Total Endosulfan	0.05	<0.0020	<0.0020	<0.0020
Endrin	0.04	<0.0020	<0.0020	<0.0020
Heptachlor	0.15	<0.0020	<0.0020	<0.0020
Heptachlor epoxide	0.05	<0.0020	<0.0020	<0.0020
Hexachlorobenzene	0.52	<0.0020	<0.0020	<0.0020
Hexachlorobutadiene	0.012	<0.0020	<0.0020	<0.0020
gamma-Hexachlorocyclohexane (Lindane)	0.056	<0.0020	<0.0020	<0.0020
Hexachloroethane	0.089	<0.0020	<0.0020	<0.0020
Methoxychlor	0.13	<0.0050	<0.0050	<0.0050

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

Table 10: Summary of Metals and ORPs in Groundwater

Parameter	MECP Table 2 SCS	MW22-2
Date of Collection		30-May-22
Date Reported		03-Jun-22
Screen Interval (mbgs)		1.22-4.3
Analytical Report Reference No.		C2E5909/STE131
Antimony	1.5	<0.50
Arsenic	13	<1.0
Barium	610	120
Beryllium	0.5	<0.40
Boron	1700	50
Cadmium	0.5	<0.090
Chromium	11	<5.0
Chromium VI	25	<0.50
Cobalt	3.8	0.55
Copper	5	<0.90
Lead	1.9	<0.50
Mercury	0.1	<0.10
Molybdenum	23	9.5
Nickel	14	1.1
Sodium	490000	140000
Selenium	5	<2.0
Silver	0.3	<0.090
Thallium	0.5	<0.050
Vanadium	3.9	<0.50
Zinc	160	<5.0
Cyanide, Free	5	<1
Chloride	790000	95
Uranium	8.9	7.7

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

Table 11: Summary of PHCs & BTEX in Groundwater

Parameter	MECP Table 2 SCS	MW22-2	DUP	MW22-2	DUP 1
Date of Collection		30-May-22	30-May-22	28-Jun-22	28-Jun-22
Date Reported		03-Jun-22	03-Jun-22	06-Jul-22	06-Jul-22
Screen Interval (mbgs)		1.22-4.3	1.22-4.3	1.22-4.3	1.22-4.3
Analytical Report Reference No.		C2E5909/STE131	C2E5909/STE132	C2H9417/TAK065	C2H9417/TAK066
F1 (C6 to C10) minus BTEX	420	< 25	< 25	< 25	< 25
F2 (C10 to C16)	150	<300	< 100	<100	< 100
F3 (C16 to C34)	500	<600	< 200	<200	< 200
F4 (C34 to C50) minus PAHs	500	<600	< 200	<200	< 200

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

Table 12:Summary of VOCs in Groundwater

Parameter	MECP Table 2 SCS	MW22-2	Trip Blank
Date of Collection		30-May-22	30-May-22
Date Reported		03-Jun-22	03-Jun-22
Screen Interval (mbgs)		1.22-4.3	-
Analytical Report Reference No.		C2E5909/STE131	C2E5909/STE132
Acetone	2700	--	<10
Benzene	5	<0.20	<0.20
Bromodichloromethane	16	--	<0.50
Bromoform	25	--	<1.0
Bromomethane	0.89	--	<0.50
Carbon Tetrachloride	0.79	--	<0.19
Chlorobenzene	30	--	<0.20
Chloroform	2.4	--	<0.20
Dibromochloromethane	25	--	<0.50
1,2-Dichlorobenzene	3	--	<0.40
1,3-Dichlorobenzene	59	--	<0.40
1,4-Dichlorobenzene	1	--	<0.40
1,1-Dichloroethane	5	--	<0.20
1,2-Dichloroethane	1.6	--	<0.49
1,1-Dichloroethylene	1.6	--	<0.20
Cis-1,2-Dichloroethylene	1.6	--	<0.50
Trans-1,2-Dichloroethylene	1.6	--	<0.50
1,2-Dichloropropane	5	--	<0.20
Ethylbenzene	2.4	<0.20	<0.20
Ethylene Dibromide	0.2	--	<0.19
Methyl Ethyl Ketone	1800	--	<10
Methylene Chloride	50	--	<2.0
Methyl Isobutyl Ketone	640	--	<5.0
Methyl-t-Butyl Ether	15	--	<0.50
Styrene	5.4	--	<0.40
1,1,1,2-Tetrachloroethane	1.1	--	<0.50
1,1,2,2-Tetrachloroethane	1	--	<0.40
Toluene	24	<0.20	<0.20
Tetrachloroethylene	1.6	--	<0.20
1,1,1-Trichloroethane	200	--	<0.20
1,1,2-Trichloroethane	4.7	--	<0.40
Trichloroethylene	1.6	--	<0.20
Vinyl Chloride	0.5	--	<0.20
Total Xylenes	300	<0.20	<0.20
Dichlorodifluoromethane	590	--	<1.0
Hexane(n)	51	--	<1.0
Trichlorofluoromethane	150	--	<0.50
1,3-Dichloropropene (cis + trans)	0.5	--	<0.50

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

Table 13: Summary of PAHs in Groundwater

Parameter	MECP Table 2 SCS	MW22-2
Date of Collection		30-May-22
Date Reported		03-Jun-22
Screen Interval (mbgs)		1.2-4.3
Analytical Report Reference No.		C2E5909/STE131
Acenaphthene	4.1	<0.050
Acenaphthylene	1	<0.050
Anthracene	2.4	<0.050
Benzo(a)anthracene	1	<0.050
Benzo(a)pyrene	0.01	<0.0090
Benzo(b/j)fluoranthene	0.1	<0.050
Benzo(ghi)perylene	0.2	<0.050
Benzo(k)fluoranthene	0.1	<0.050
Chrysene	0.1	<0.050
Dibenzo(a,h)anthracene	0.2	<0.050
Fluoranthene	0.41	<0.050
Fluorene	120	<0.050
Indeno(1,2,3-cd)pyrene	0.2	<0.050
1-Methylnaphthalene	3.2	<0.050
2-Methylnaphthalene	3.2	<0.050
Naphthalene	11	0.053
Phenanthrene	1	0.042
Pyrene	4.1	<0.050

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

Table 14: Summary of Maximum Concentrations in Soil

Parameter		Standard	Maximum Concentration	Location
Metals and ORPs	Acid Extractable Antimony (Sb)	7.5	0.26	BH22-7/SS1
	Acid Extractable Arsenic (As)	18	6.5	BH22-7/SS1
	Acid Extractable Barium (Ba)	390	210	BH22-7/SS1
	Acid Extractable Beryllium (Be)	4	1.3	BH22-7/SS1
	Acid Extractable Boron (B)	120	11	MW22-2/SS2
	Acid Extractable Cadmium (Cd)	1.2	0.21	BH22-7/SS1
	Acid Extractable Chromium (Cr)	160	30	BH22-7/SS1
	Acid Extractable Cobalt (Co)	22	20	BH22-7/SS1
	Acid Extractable Copper (Cu)	140	43	BH22-7/SS1
	Acid Extractable Lead (Pb)	120	18	BH22-1B/SS1
	Acid Extractable Molybdenum (Mo)	6.9	0.89	BH22-7/SS1
	Acid Extractable Nickel (Ni)	100	47	BH22-7/SS1
	Acid Extractable Selenium (Se)	2.4	<0.50	All Samples
	Acid Extractable Silver (Ag)	20	<0.20	All Samples
	Acid Extractable Thallium (Tl)	1	0.17	BH22-7/SS1
	Acid Extractable Uranium (U)	23	0.71	BH22-6/SS1
	Acid Extractable Vanadium (V)	86	45	BH22-7/SS1
	Acid Extractable Zinc (Zn)	340	75	BH22-7/SS1
	WAD Cyanide (Free)	0.051	<0.01	All Samples
	Electrical Conductivity	0.7	0.34	BH22-7/SS1
	Hexavalent Chromium (CrVI)	8	<0.18	All Samples
	Acid Extractable Mercury (Hg)	0.27	<0.050	All Samples
	Available (CaCl2) pH		7.88	BH22-10/SS2
	Sodium Adsorption Ratio	5	1.4	MW22-2/SS2
PHCs	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
VOCs	Acetone	16	<0.49	All Samples
	Bromodichloromethane	1.5	<0.040	All Samples
	Bromoform	0.27	<0.040	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
	Dibromochloromethane	2.3	<0.040	All Samples
	1,2-Dichlorobenzene	1.2	<0.040	All Samples
	1,3-Dichlorobenzene	4.8	<0.040	All Samples
	1,4-Dichlorobenzene	0.083	<0.040	All Samples
	Dichlorodifluoromethane	16	<0.040	All Samples
	1,1-Dichloroethane	0.47	<0.040	All Samples
	1,2-Dichloroethane	0.05	<0.049	All Samples
	1,1-Dichloroethylene	0.05	<0.040	All Samples
	cis-1,2-Dichloroethylene	1.9	<0.040	All Samples
	trans-1,2-Dichloroethylene	0.084	<0.040	All Samples

Table 14: Summary of Maximum Concentrations in Soil

Parameter		Standard	Maximum Concentration	Location
VOCs	1,2-Dichloropropane	0.05	<0.040	All Samples
	cis-1,3-Dichloropropene	0.05	<0.030	All Samples
	trans-1,3-Dichloropropene	0.05	<0.040	All Samples
	1,3-Dichloropropene (cis+trans)	0.05	<0.050	All Samples
	Ethylene Dibromide	0.05	<0.040	All Samples
	Hexane (n-Hexane)	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 (Dichloromethane)	0.1	<0.049	All Samples
	Styrene	0.7	<0.040	All Samples
	1,1,1,2-Tetrachloroethane	0.058	<0.040	All Samples
	1,1,2,2-Tetrachloroethane	0.05	<0.040	All Samples
	Vinyl Chloride	0.28	<0.019	All Samples
PAHs	Acenaphthene	7.9	<0.0050	All Samples
	Acenaphthylene	0.15	<0.0050	All Samples
	Anthracene	0.67	<0.0050	All Samples
	Benzo(a)anthracene	0.5	<0.0050	All Samples
	Benzo(a)pyrene	0.3	<0.0050	All Samples
	Benzo(b/j)fluoranthene	0.78	<0.0050	All Samples
	Benzo(g,h,i)perylene	6.6	<0.0050	All Samples
	Benzo(k)fluoranthene	0.78	<0.0050	All Samples
	Chrysene	7	<0.0050	All Samples
	Dibenzo(a,h)anthracene	0.1	<0.0050	All Samples
	Fluoranthene	0.69	<0.0050	All Samples
	Fluorene	62	<0.0050	All Samples
	Indeno(1,2,3-cd)pyrene	0.38	<0.0050	All Samples
	1-Methylnaphthalene	0.99	<0.0050	All Samples
	2-Methylnaphthalene	0.99	<0.0050	All Samples
	1+2-Methylnaphthalene	0.59	<0.0071	All Samples
	Naphthalene	0.6	<0.0050	All Samples
	Phenanthrene	6.2	<0.0050	All Samples
	Pyrene	78	<0.0050	All Samples
OCPs	Aldrin	0.05	<0.0020	All Samples
	alpha-Chlordane	0.05	<0.0020	All Samples
	gamma-Chlordane	0.05	<0.0020	All Samples
	Total Chlordane	0.05	<0.0020	All Samples
	o,p-DDD	3.3	<0.0020	All Samples
	p,p-DDD	3.3	<0.0020	All Samples
	Total DDD	3.3	<0.0020	All Samples
	o,p-DDE	0.26	<0.0020	All Samples
	p,p-DDE	0.26	<0.0020	All Samples
	Dieldrin	0.05	<0.0020	All Samples
	Endosulfan I	0.04	<0.0020	All Samples
	Endosulfan II (beta)	0.04	<0.0020	All Samples

Table 14: Summary of Maximum Concentrations in Soil

Parameter		Standard	Maximum Concentration	Location
	Total Endosulfan	0.05	<0.0020	All Samples
	Endrin	0.04	<0.0020	All Samples
	Methoxychlor	0.15	<0.0050	All Samples

Table 15: Summary of Maximum Concentrations in Groundwater

Parameter		Standard	Maximum Concentration	Location
Metals and ORPs	Antimony	1.5	<0.50	All Samples
	Arsenic	13	<1.0	All Samples
	Barium	610	120	MW22-2
	Beryllium	0.5	<0.40	All Samples
	Boron	1700	50	MW22-2
	Cadmium	0.5	<0.090	All Samples
	Chromium	11	<5.0	All Samples
	Chromium VI	25	<0.50	All Samples
	Cobalt	3.8	0.55	MW22-2
	Copper	5	<0.90	All Samples
	Lead	1.9	<0.50	All Samples
	Mercury	0.1	<0.10	All Samples
	Molybdenum	23	9.5	MW22-2
	Nickel	14	1.1	MW22-2
	Sodium	490000	140000	MW22-2
	Selenium	5	<2.0	All Samples
	Silver	0.3	<0.090	All Samples
	Thallium	0.5	<0.050	All Samples
	Vanadium	3.9	<0.50	All Samples
	Zinc	160	<5.0	All Samples
	Cyanide, Free	5	<1	All Samples
	Chloride	790000	95	MW22-2
	Uranium	8.9	7.7	MW22-2
PHCs	F1 (C6 to C10) minus BTEX	420	< 25	All Samples
	F2 (C10 to C16)	150	<300	MW22-2
	F3 (C16 to C34)	500	<600	MW22-2
	F4 (C34 to C50) minus PAHs	500	<600	MW22-2
VOCs	Acetone	2700	<10	All Samples
	Benzene	5	<0.20	All Samples
	Bromodichloromethane	16	<0.50	All Samples
	Bromoform	25	<1.0	All Samples
	Bromomethane	0.89	<0.50	All Samples
	Carbon Tetrachloride	0.79	<0.19	All Samples
	Chlorobenzene	30	<0.20	All Samples
	Chloroform	2.4	<0.20	All Samples
	Dibromochloromethane	25	<0.50	All Samples
	1,2-Dichlorobenzene	3	<0.40	All Samples
	1,3-Dichlorobenzene	59	<0.40	All Samples
	1,4-Dichlorobenzene	1	<0.40	All Samples
	1,1-Dichloroethane	5	<0.20	All Samples
	1,2-Dichloroethane	1.6	<0.49	All Samples
	1,1-Dichloroethylene	1.6	<0.20	All Samples
	Cis-1,2-Dichloroethylene	1.6	<0.50	All Samples
	Trans-1,2-Dichloroethylene	1.6	<0.50	All Samples
	1,2-Dichloropropane	5	<0.20	All Samples

Table 15: Summary of Maximum Concentrations in Groundwater

Parameter		Standard	Maximum Concentration	Location
VOCs	Ethylbenzene	2.4	<0.20	All Samples
	Ethylene Dibromide	0.2	<0.19	All Samples
	Methyl Ethyl Ketone	1800	<10	All Samples
	Methylene Chloride	50	<2.0	All Samples
	Methyl Isobutyl Ketone	640	<5.0	All Samples
	Methyl-t-Butyl Ether	15	<0.50	All Samples
	Styrene	5.4	<0.40	All Samples
	1,1,1,2-Tetrachloroethane	1.1	<0.50	All Samples
	1,1,2,2-Tetrachloroethane	1	<0.40	All Samples
	Toluene	24	<0.20	All Samples
	Tetrachloroethylene	1.6	<0.20	All Samples
	1,1,1-Trichloroethane	200	<0.20	All Samples
	1,1,2-Trichloroethane	4.7	<0.40	All Samples
	Trichloroethylene	1.6	<0.20	All Samples
	Vinyl Chloride	0.5	<0.20	All Samples
	Total Xylenes	300	<0.20	All Samples
	Dichlorodifluoromethane	590	<1.0	All Samples
	Hexane(n)	51	<1.0	All Samples
	Trichlorofluoromethane	150	<0.50	All Samples
	1,3-Dichloropropene (cis + trans)	0.5	<0.50	All Samples
PAHs	Acenaphthene	4.1	<0.050	All Samples
	Acenaphthylene	1	<0.050	All Samples
	Anthracene	2.4	<0.050	All Samples
	Benzo(a)anthracene	1	<0.050	All Samples
	Benzo(a)pyrene	0.01	<0.0090	All Samples
	Benzo(b/j)fluoranthene	0.1	<0.050	All Samples
	Benzo(ghi)perylene	0.2	<0.050	All Samples
	Benzo(k)fluoranthene	0.1	<0.050	All Samples
	Chrysene	0.1	<0.050	All Samples
	Dibenzo(a,h)anthracene	0.2	<0.050	All Samples
	Fluoranthene	0.41	<0.050	All Samples
	Fluorene	120	<0.050	All Samples
	Indeno(1,2,3-cd)pyrene	0.2	<0.050	All Samples
	1-Methylnaphthalene	3.2	<0.050	All Samples
	2-Methylnaphthalene	3.2	<0.050	All Samples
	Naphthalene	11	0.053	All Samples
	Phenanthrene	1	0.042	All Samples
	Pyrene	4.1	<0.050	All Samples

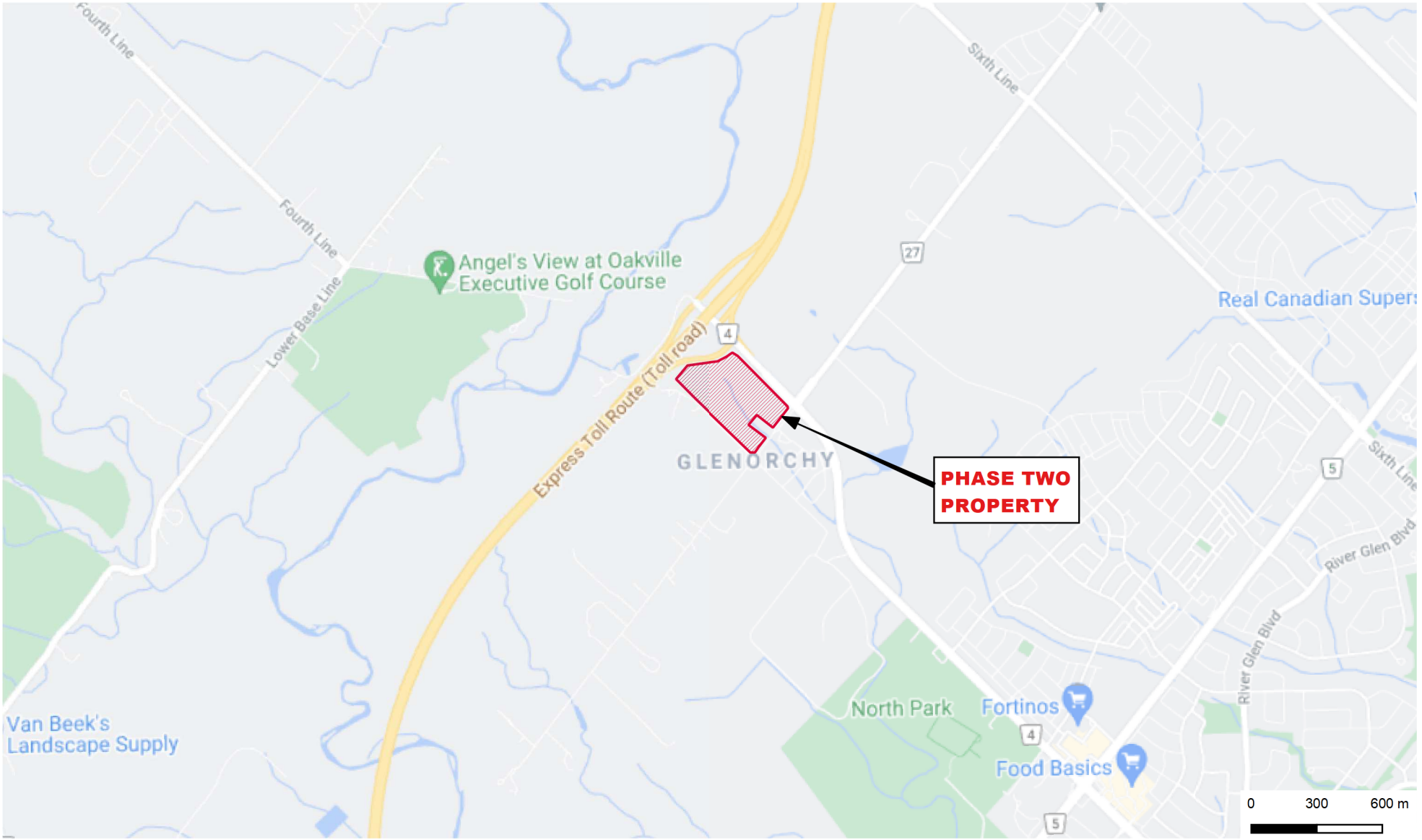
For Table Notes see **Notes for Soil and Groundwater Summary Tables,** included at the end of this Section

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	Full Depth Generic Site Condition Standards in a Potable Ground Water Condition as contained in Table 2 of the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", published by the MECP on April 15, 2011.
mbgs	Meters below ground surface
NM	Not Monitored
NA	Not Available
OCPs	Organochlorine Pesticides
PAH	Polyaromatic Hydrocarbon
PHC	Petroleum Hydrocarbon
VOCs	Volatile Organic Compounds
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

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 1 - Site Location Plan.qgs Jun-08 08:45



Legend

Approx Property Boundary

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Part of Lot 20, Concession 2, Oakville, ON

Title: **SITE LOCATION PLAN**

N

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	K.O	S.Y / P.P.	June 2022
Rev: 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: 1

Image/Map Source: *Google Street Map*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 2 - Phase Two Property Site Plan.qgs Jun-08 08:51

Legend

- Approx Property Boundary
- Location of historic soil stockpiling
- AST

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON

Title: **PHASE TWO STUDY AREA**

N

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	K.O	S.Y / P.P.	June 2022
Rev: 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: 2

Image/Map Source: *Google Satellite Image*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 3 - Phase Two Study Area.qgs Jun-08 08:54

Legend

- Approx Property Boundary
- 250m Buffer
- Residential
- Mixed (Commercial/Residential)
- Agricultural
- Institutional
- Open Space/Forest

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Client: ARGO NEYAGAWA CORPORATION

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON

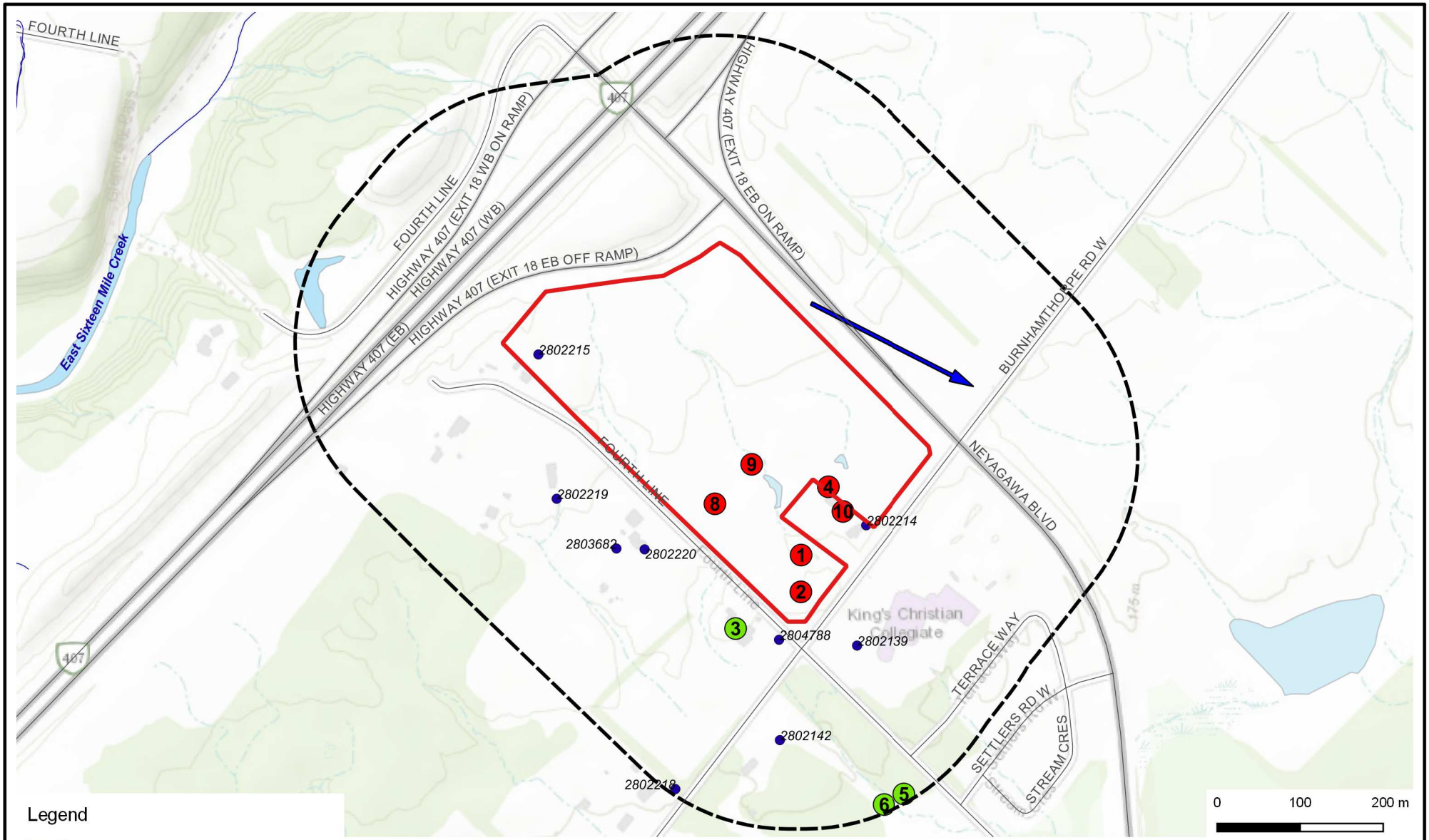
Title: **PHASE TWO STUDY AREA**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	K.O	S.Y / P.P.	June 2022
Rev: 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: 3

Image/Map Source: *Google Satellite Image*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 4 - PCA within Phase Two Study Area.qgs Jun-08 09:00



Legend

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

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Part of Lot 20, Concession 2, Oakville, ON

Title: **PCA WITHIN PHASE TWO STUDY AREA**

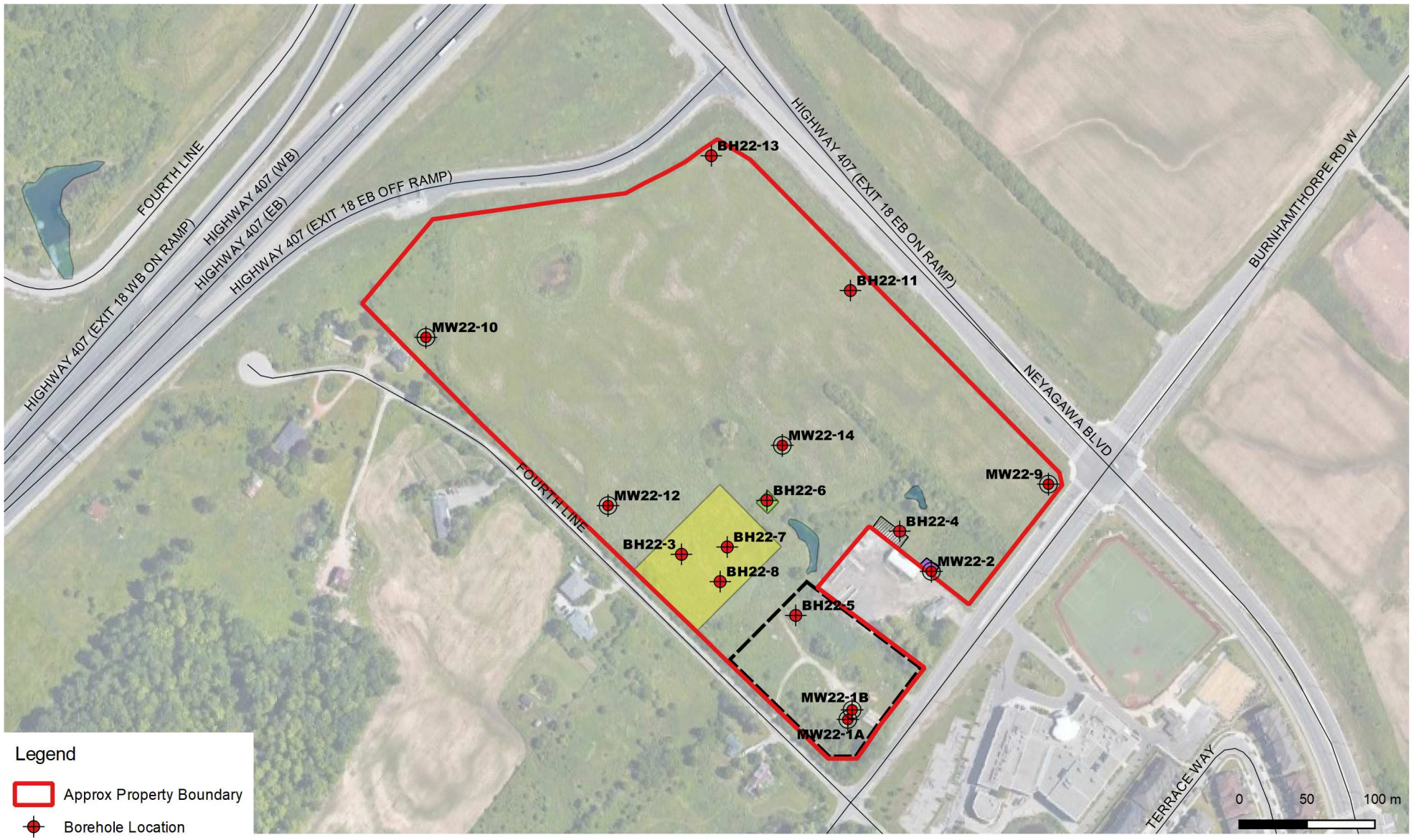
N

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	K.O	S.Y / P.P.	June 2022
Rev: 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: 4

Image/Map Source: *Google Satellite Image*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 5 - Borehole Location Plan with APECs.qgs Jul-12 10:49



Legend

- Approx Property Boundary
- Borehole Location
- Monitoring Well Location
- APEC1A & 2
- APEC-1B
- APEC-1C
- APEC-3
- APEC4

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON

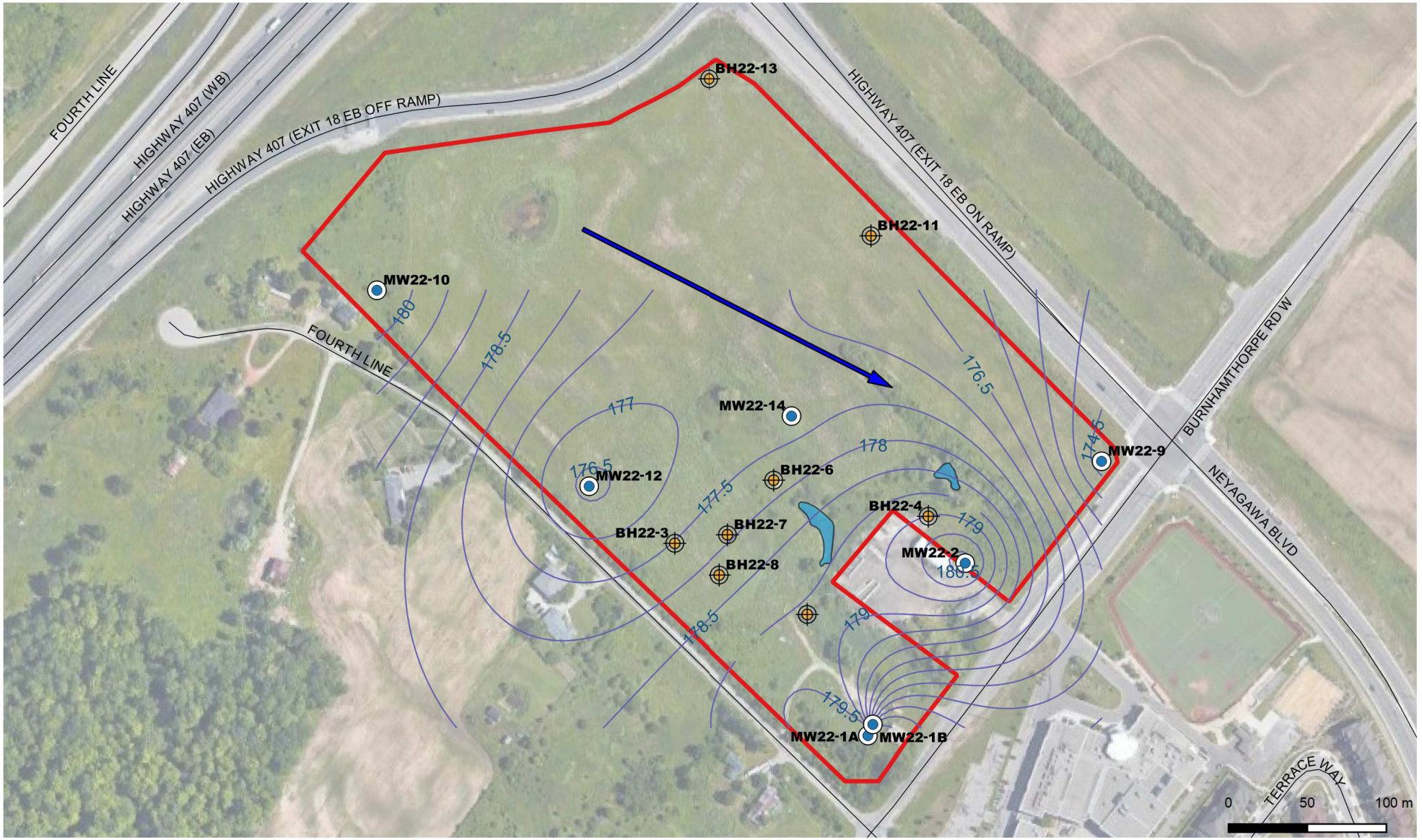
Title: **BOREHOLE LOCATION PLAN WITH APECs**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	K.O	S.Y / P.P.	July 2022
Rev: 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: 5

Image/Map Source: *Google Satellite Image*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 6 - Groundwater Elevation Contours and Flow Direction.qgs Jun-24 15:39



Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Groundwater Flow Direction

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Client: ARGO NEYAGAWA CORPORATION

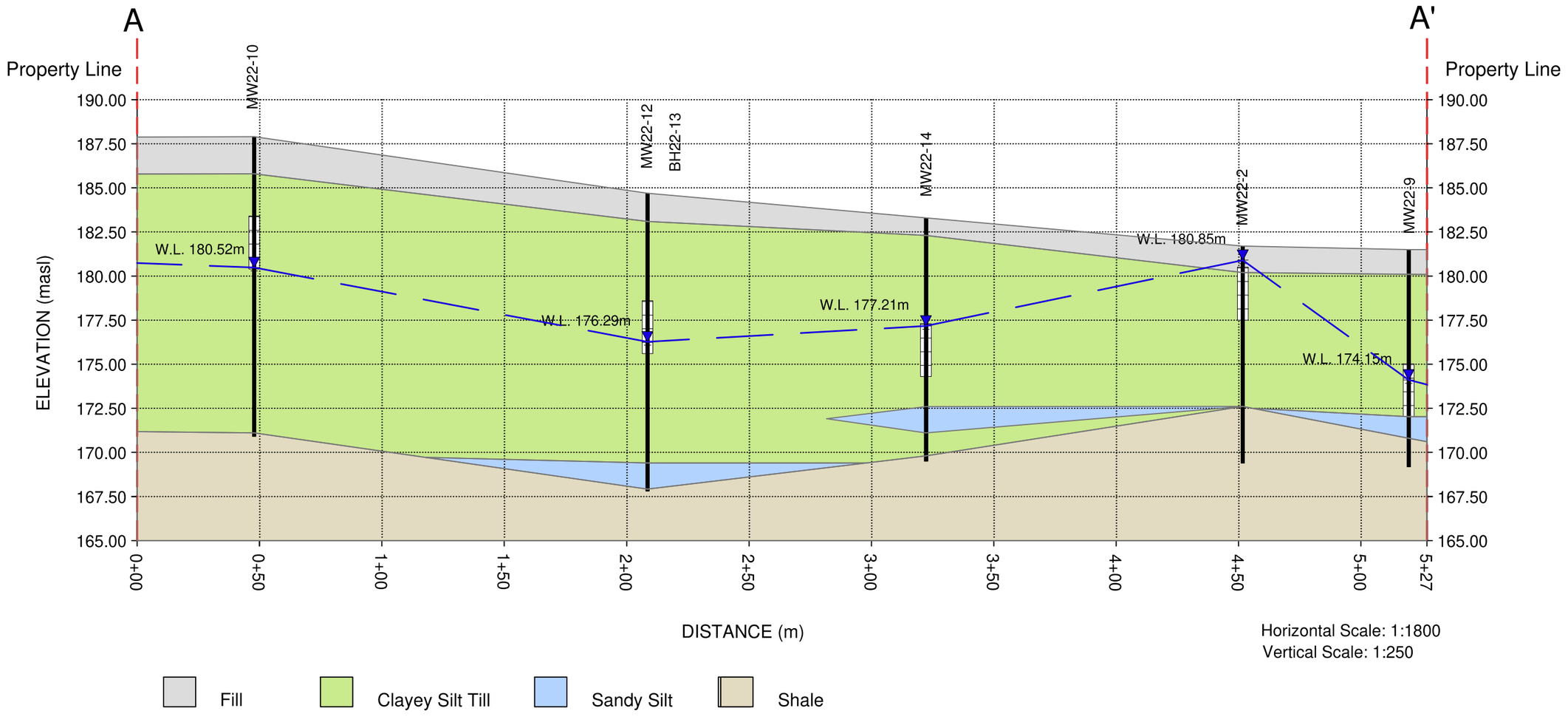
Project: PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON

Title: **GROUNDWATER ELEVATION CONTOURS AND FLOW DIRECTION**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	K.O	S.Y / P.P.	June 2022
Rev: 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: 6

Image/Map Source: *Google Satellite Image*



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Client: ARGO NEYAGAWA CORPORATION

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON

Title: **GEOLOGICAL CROSS SECTION A-A'**

Size:	Approved By:	Drawn By:	Date:
11 X 17	M.J	S.Y	June 2022
Rev.	Scale:	Project No:	Figure No.
	As Shown	21-455-100	6C

Path:c:\0sharon\21-455-100 2142 dorham, neyagawa blvd and burnhamthorpe rd\7-misc\cad\geological cross section 21-455.dwg

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 7A - Summary of Metals in Soil.qgs Jun-24 15:59

BH22-7	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0-0.6
Metals, As, Sb, Se	Met T2 SCS

BH22-3	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
Metals, As, Sb, Se	Met T2 SCS

BH22-8	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
Metals, As, Sb, Se	Met T2 SCS

BH22-5	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
Metals, As, Sb, Se	Met T2 SCS

BH22-1B	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
Metals, As, Sb, Se	Met T2 SCS

BH22-6	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
Metals, As, Sb, Se	Met T2 SCS

BH22-4	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
Metals, As, Sb, Se	Met T2 SCS

MW22-2	
Sample ID:	SS2
Date Sampled:	26-May-22
Sample Depth (mbgs):	0.8-1.4
Metals, As, Sb, Se	Met T2 SCS

FOURTH LINE
HIGHWAY 407 (EXIT 18 WB ON RAMP)
HIGHWAY 407 (WB)
HIGHWAY 407 (EB)
HIGHWAY 407 (EXIT 18 EB OFF RAMP)
HIGHWAY 407 (EXIT 18 EB ON RAMP)
BURNHAMTHORPE RD W
NEYAGAWA BLVD
TERRACE WAY

BH22-13
BH22-11
MW22-10
MW22-14
MW22-9
BH22-6
BH22-4
MW22-12
BH22-3
BH22-7
BH22-8
MW22-2
BH22-5
MW22-1A
MW22-1B

0 50 100 m

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

Title: **SOIL CHARACTERIZATION - METALS**

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By:	Drawn By:	Date:
11x17	K.O.	P.P	June 2022
Rev. 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: **7A**

Image/Map Source: *Google Satellite Image*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 7B - Soil Characterization - ORPs.qgs Jun-24 16:23

BH22-10		
Sample ID:	SS2	SS4
Date Sampled:	18-May-22	18-May-22
Sample Depth (mbgs):	0.8-1.4	2.3-2.9
pH	7.88	7.83
EC, SAR, B-HWS, CN-, Cr(VI), Hg	--	--

BH22-12	
Sample ID:	SS4
Date Sampled:	18-May-22
Sample Depth (mbgs):	2.3-2.9
pH	7.87
EC, SAR, B-HWS, CN-, Cr(VI), Hg	--

BH22-6	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
pH	7.69
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-3	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
pH	7.67
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-7	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0-0.6
pH	6.85
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-8	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
pH	7.74
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-4	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
pH	7.77
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-5	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
pH	7.64
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

MW22-2	
Sample ID:	SS2
Date Sampled:	26-May-22
Sample Depth (mbgs):	0.8-1.4
pH	7.73
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-1B	
Sample ID:	SS1
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
pH	7.46
EC, SAR, B-HWS, CN-, Cr(VI), Hg	Met T2 SCS

BH22-13
BH22-11
MW22-10
MW22-14
MW22-9
MW22-12
BH22-6
BH22-4
BH22-7
BH22-3
MW22-2
BH22-8
BH22-5
MW22-1B
MW22-1A
HIGHWAY 407 (EXIT 18 WB ON
HIGHWAY 407 (EB)
HIGHWAY 407 (EXIT 18 EB OFF RAMP
HIGHWAY 407 (EXIT 18 EB ON RAMP)
FOURTH LINE
NEYAGAWA BLVD
BURNHAMTHORPE RD W
TERRACE WAY
0
50
100 m

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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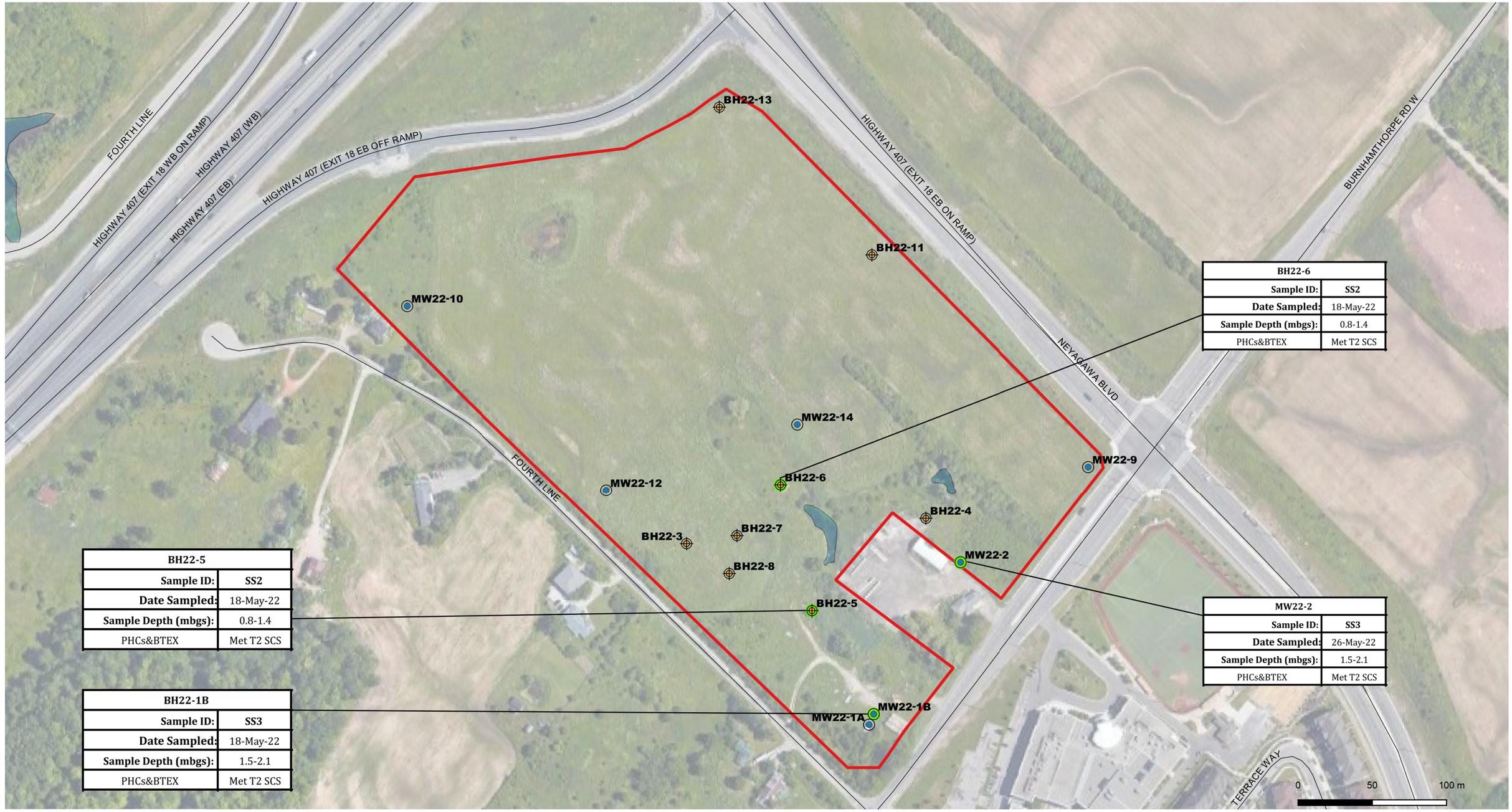
Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

Title: **SOIL CHARACTERIZATION - ORPs**

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By:	Drawn By:	Date:
11x17	K.O.	P.P	June 2022
Rev. 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: **7B**

Image/Map Source: *Google Satellite Image*



BH22-6	
Sample ID:	SS2
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.8-1.4
PHCs&BTEX	Met T2 SCS

MW22-2	
Sample ID:	SS3
Date Sampled:	26-May-22
Sample Depth (mbgs):	1.5-2.1
PHCs&BTEX	Met T2 SCS

BH22-5	
Sample ID:	SS2
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.8-1.4
PHCs&BTEX	Met T2 SCS

BH22-1B	
Sample ID:	SS3
Date Sampled:	18-May-22
Sample Depth (mbgs):	1.5-2.1
PHCs&BTEX	Met T2 SCS

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

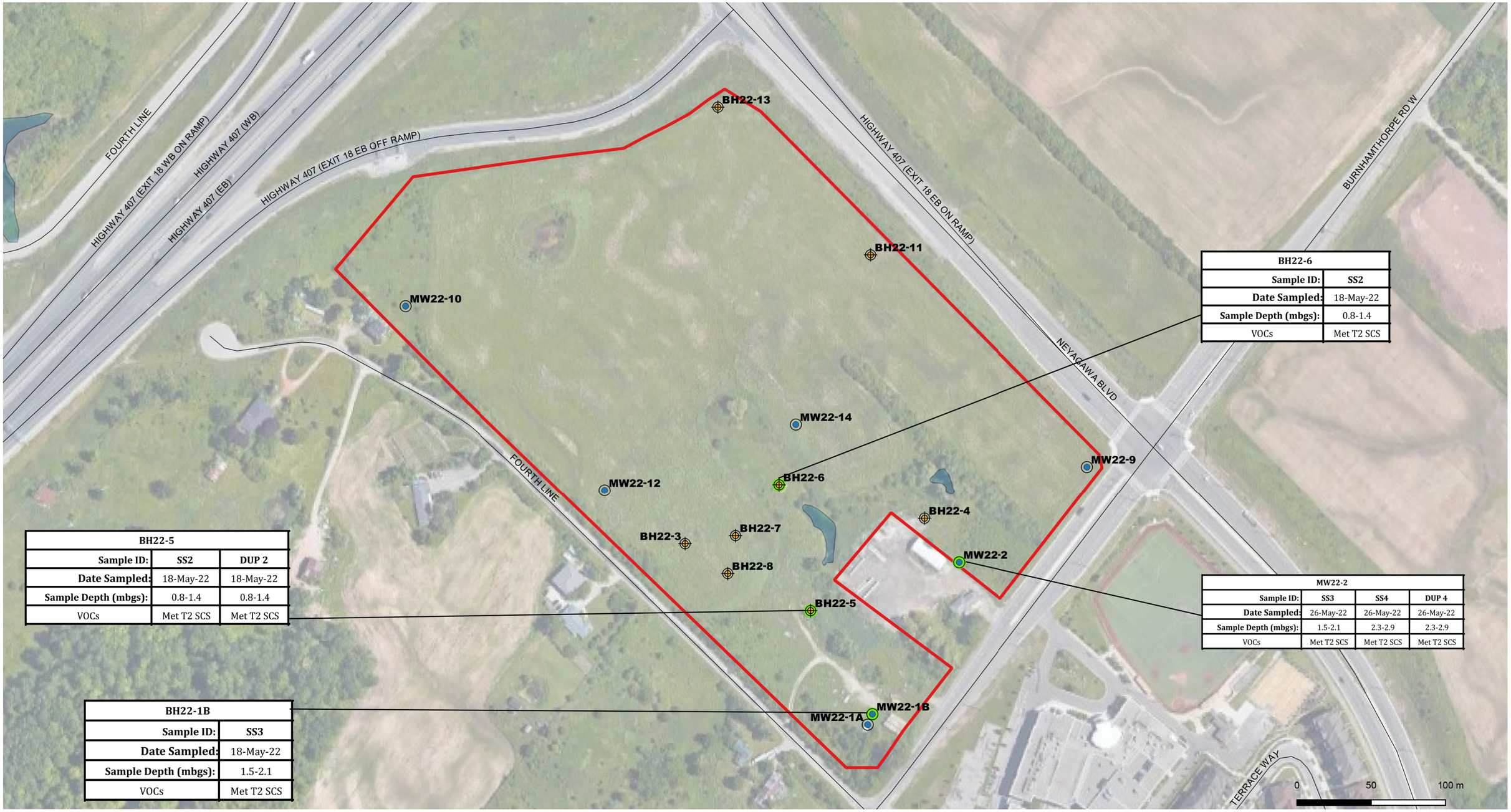
Title: **SOIL CHARACTERIZATION - PHCs and BTEX**

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By: K.O.	Drawn By: P.P	Date: June 2022
11x17	Scale: As Shown	Project No.: 21-455-100	Figure No.: **7C**
Rev. 0	Image/Map Source: *Google Satellite Image*		

N

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 7C - Soil Characterization - PHCs and BTEX.qgs Jun-24 16:30



BH22-6	
Sample ID:	**SS2**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.8-1.4
VOCs	Met T2 SCS

BH22-5		
Sample ID:	**SS2**	**DUP 2**
Date Sampled:	18-May-22	18-May-22
Sample Depth (mbgs):	0.8-1.4	0.8-1.4
VOCs	Met T2 SCS	Met T2 SCS

MW22-2			
Sample ID:	**SS3**	**SS4**	**DUP 4**
Date Sampled:	26-May-22	26-May-22	26-May-22
Sample Depth (mbgs):	1.5-2.1	2.3-2.9	2.3-2.9
VOCs	Met T2 SCS	Met T2 SCS	Met T2 SCS

BH22-1B	
Sample ID:	**SS3**
Date Sampled:	18-May-22
Sample Depth (mbgs):	1.5-2.1
VOCs	Met T2 SCS

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

Title: **SOIL CHARACTERIZATION - VOCs**

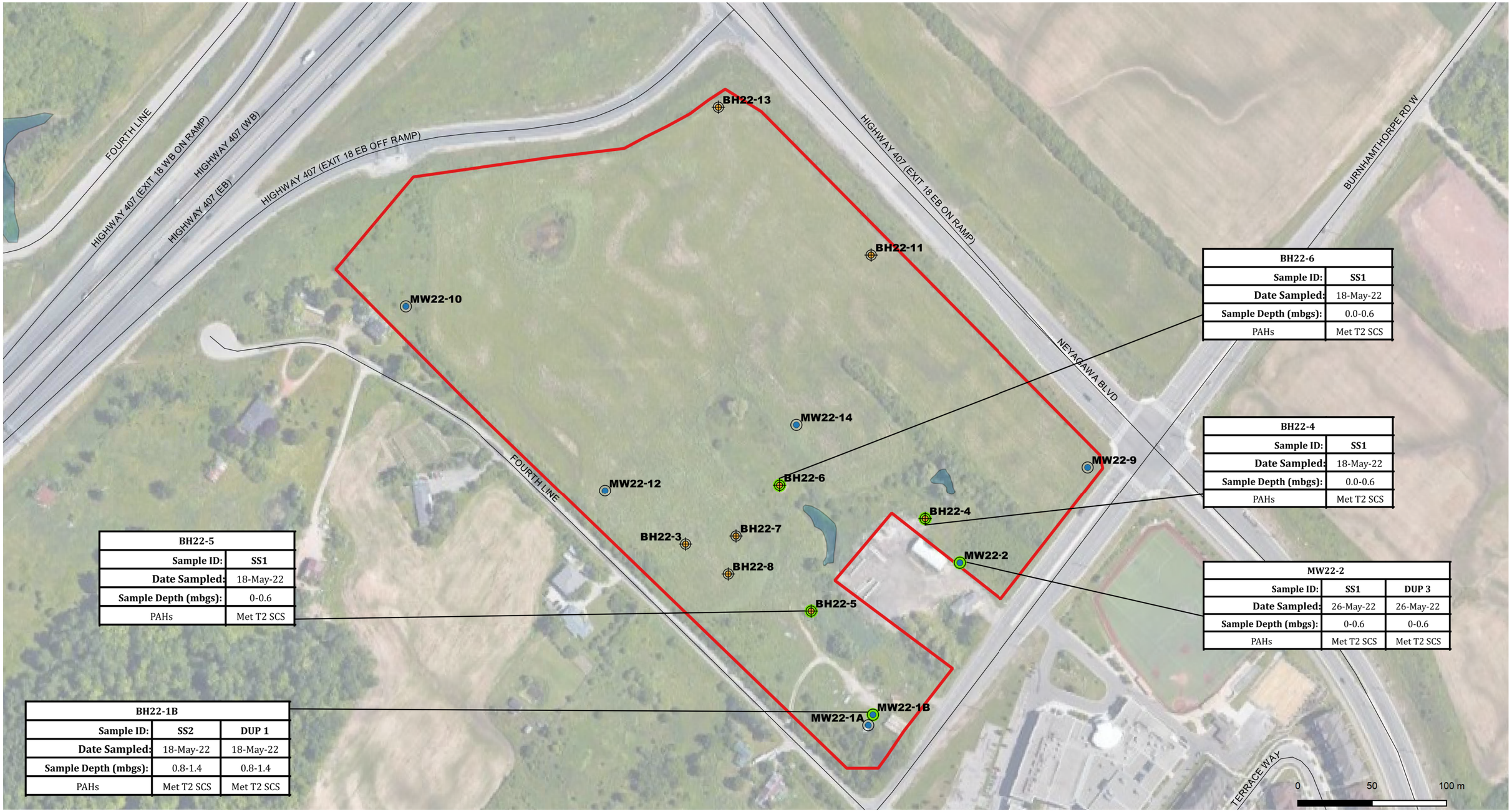
Client: ARGO NEYAGAWA CORPORATION

Size: 11x17 | Rev. 0 | Approved By: K.O. | Drawn By: P.P | Date: June 2022 | Scale: As Shown | Project No.: 21-455-100 | Figure No.: **7D**

Image/Map Source: *Google Satellite Image*

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 7D - Soil Characterization - VOCs.qgs Jun-24 16:38

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 7E - Soil Characterization - PAHs.qgs Jun-24 16:44



BH22-6	
Sample ID:	**SS1**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
PAHs	Met T2 SCS

BH22-4	
Sample ID:	**SS1**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
PAHs	Met T2 SCS

BH22-5	
Sample ID:	**SS1**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0-0.6
PAHs	Met T2 SCS

MW22-2		
Sample ID:	**SS1**	**DUP 3**
Date Sampled:	26-May-22	26-May-22
Sample Depth (mbgs):	0-0.6	0-0.6
PAHs	Met T2 SCS	Met T2 SCS

BH22-1B		
Sample ID:	**SS2**	**DUP 1**
Date Sampled:	18-May-22	18-May-22
Sample Depth (mbgs):	0.8-1.4	0.8-1.4
PAHs	Met T2 SCS	Met T2 SCS

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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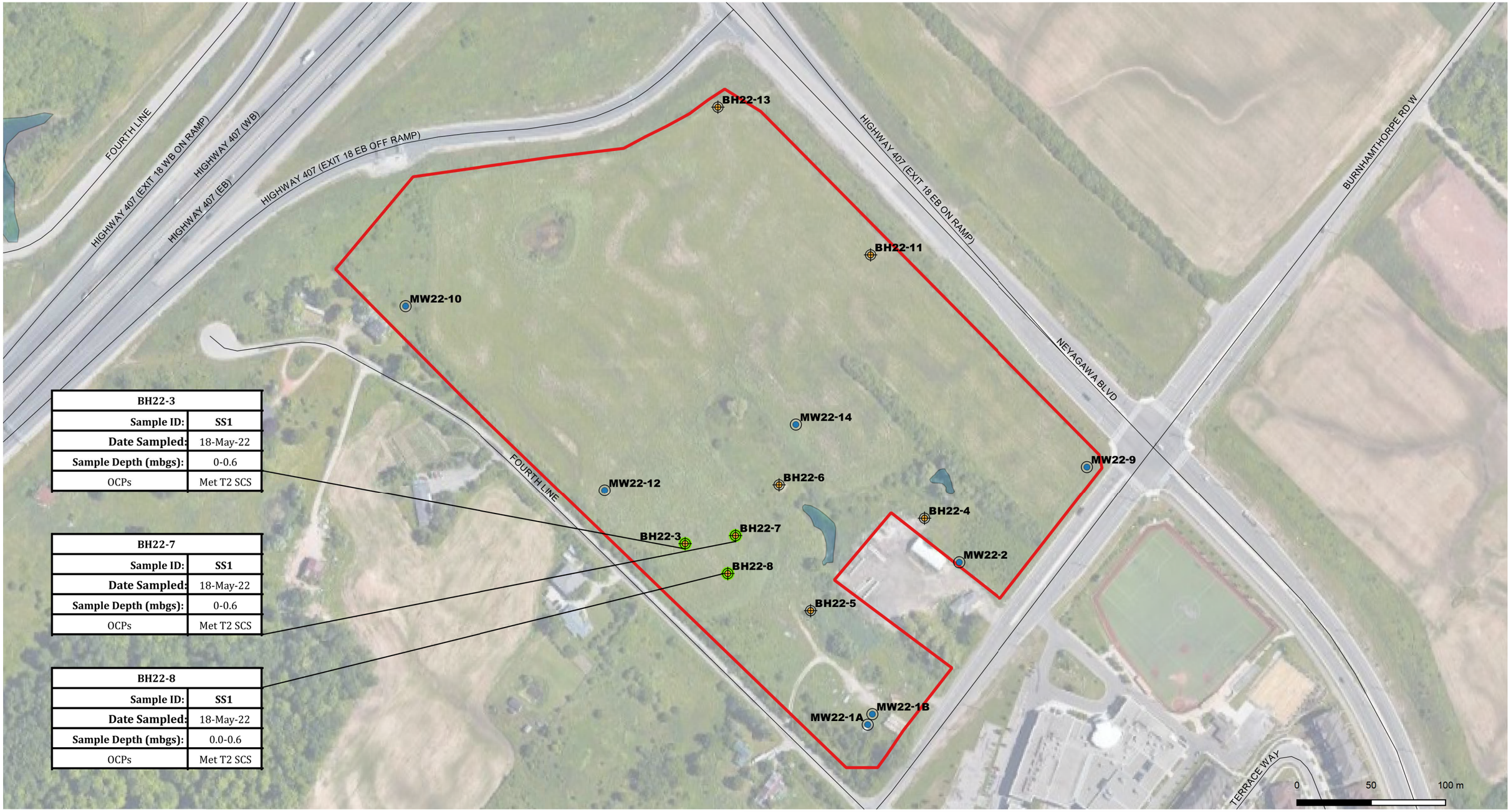
Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

Title: **SOIL CHARACTERIZATION - PAHs**

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By: K.O.	Drawn By: P.P	Date: June 2022
11x17	Scale: As Shown	Project No.: 21-455-100	Figure No.: **7E**
Rev. 0	Image/Map Source: *Google Satellite Image*		



BH22-3	
Sample ID:	**SS1**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0-0.6
OCPs	Met T2 SCS

BH22-7	
Sample ID:	**SS1**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0-0.6
OCPs	Met T2 SCS

BH22-8	
Sample ID:	**SS1**
Date Sampled:	18-May-22
Sample Depth (mbgs):	0.0-0.6
OCPs	Met T2 SCS

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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
Part of Lot 20, Concession 2, Oakville, ON.

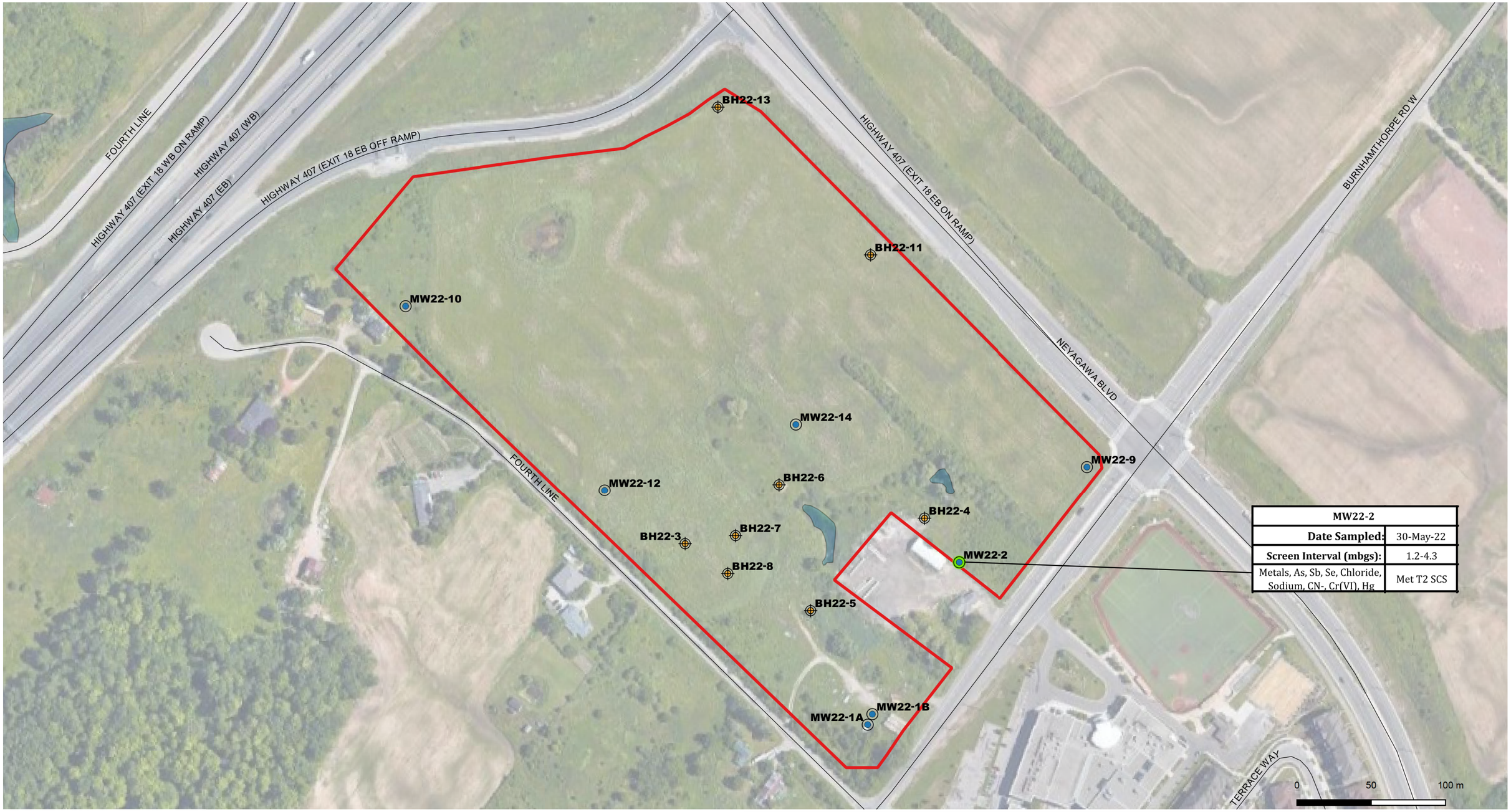
Title: **SOIL CHARACTERIZATION - OCPs**

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By: K.O.	Drawn By: P.P	Date: June 2022
11x17	Scale: As Shown	Project No.: 21-455-100	Figure No.: **7F**
Rev. 0	Image/Map Source: *Google Satellite Image*		

N

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 7F - Soil Characterization - OCPs.qgs Jun-24 16:53



MW22-2	
Date Sampled:	30-May-22
Screen Interval (mbgs):	1.2-4.3
Metals, As, Sb, Se, Chloride, Sodium, CN-, Cr(VI), Hg	Met T2 SCS

Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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

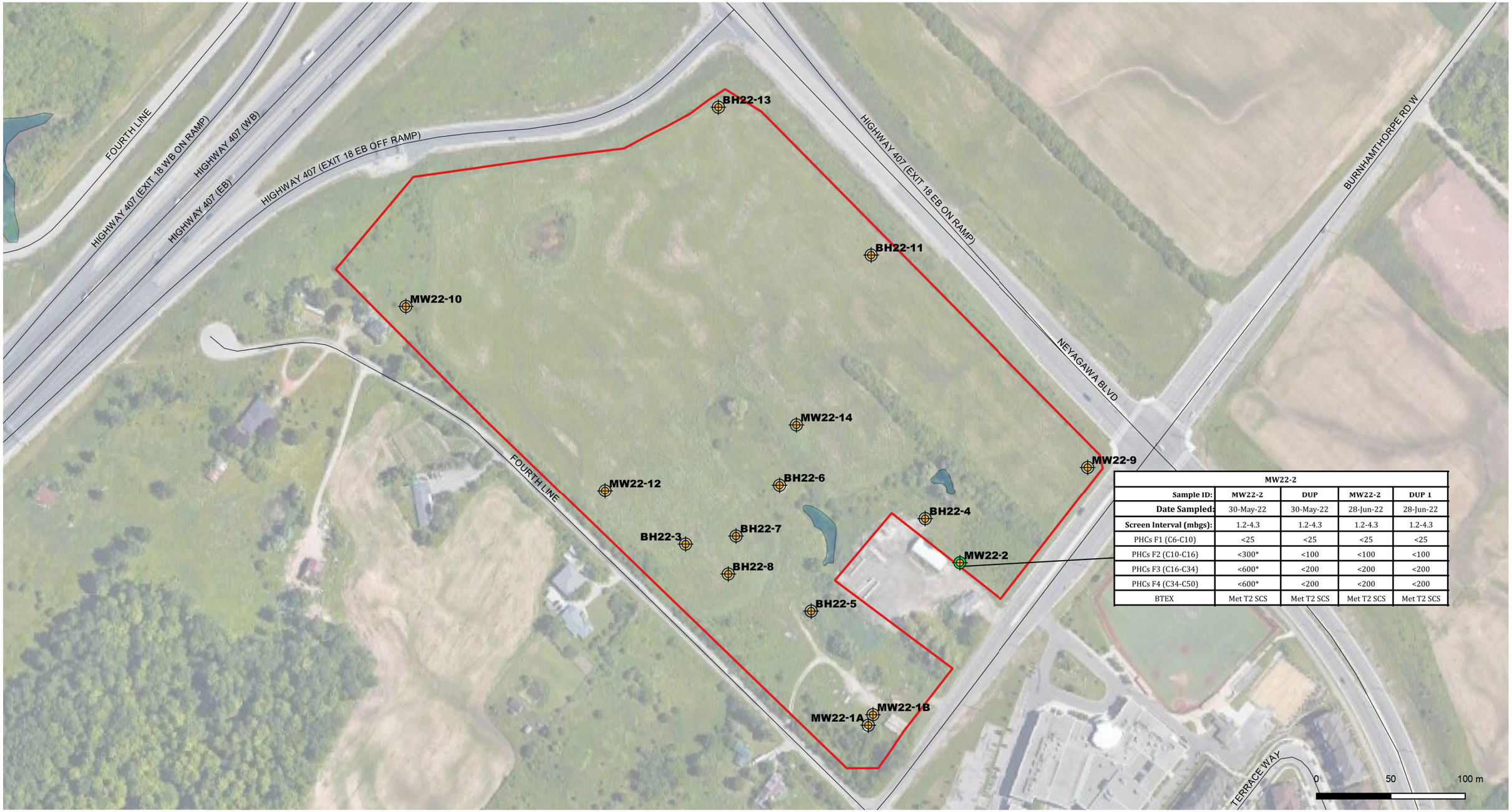
Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

Title: **GROUNDWATER CHARACTERIZATION - METALS & ORPs**

Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By: K.O.	Drawn By: P.P	Date: June 2022
11x17	Scale: As Shown	Project No.: 21-455-100	Figure No.: **8A**
Rev. 0	Image/Map Source: *Google Satellite Image*		

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 8A - Groundwater Characterization - Metals and ORPs.qgs Jun-27 10:53



MW22-2				
Sample ID:	MW22-2	DUP	MW22-2	DUP 1
Date Sampled:	30-May-22	30-May-22	28-Jun-22	28-Jun-22
Screen Interval (mbgs):	1.2-4.3	1.2-4.3	1.2-4.3	1.2-4.3
PHCs F1 (C6-C10)	<25	<25	<25	<25
PHCs F2 (C10-C16)	<300*	<100	<100	<100
PHCs F3 (C16-C34)	<600*	<200	<200	<200
PHCs F4 (C34-C50)	<600*	<200	<200	<200
BTEX	Met T2 SCS	Met T2 SCS	Met T2 SCS	Met T2 SCS

Legend

- Approx Property Boundary
- Borehole
- Sample met applicable standards

*** Laboratory detection limits exceed the applicable standards**

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
Part of Lot 20, Concession 2, Oakville, ON.

Title: **GROUNDWATER CHARACTERIZATION - PHCs and BTEX**

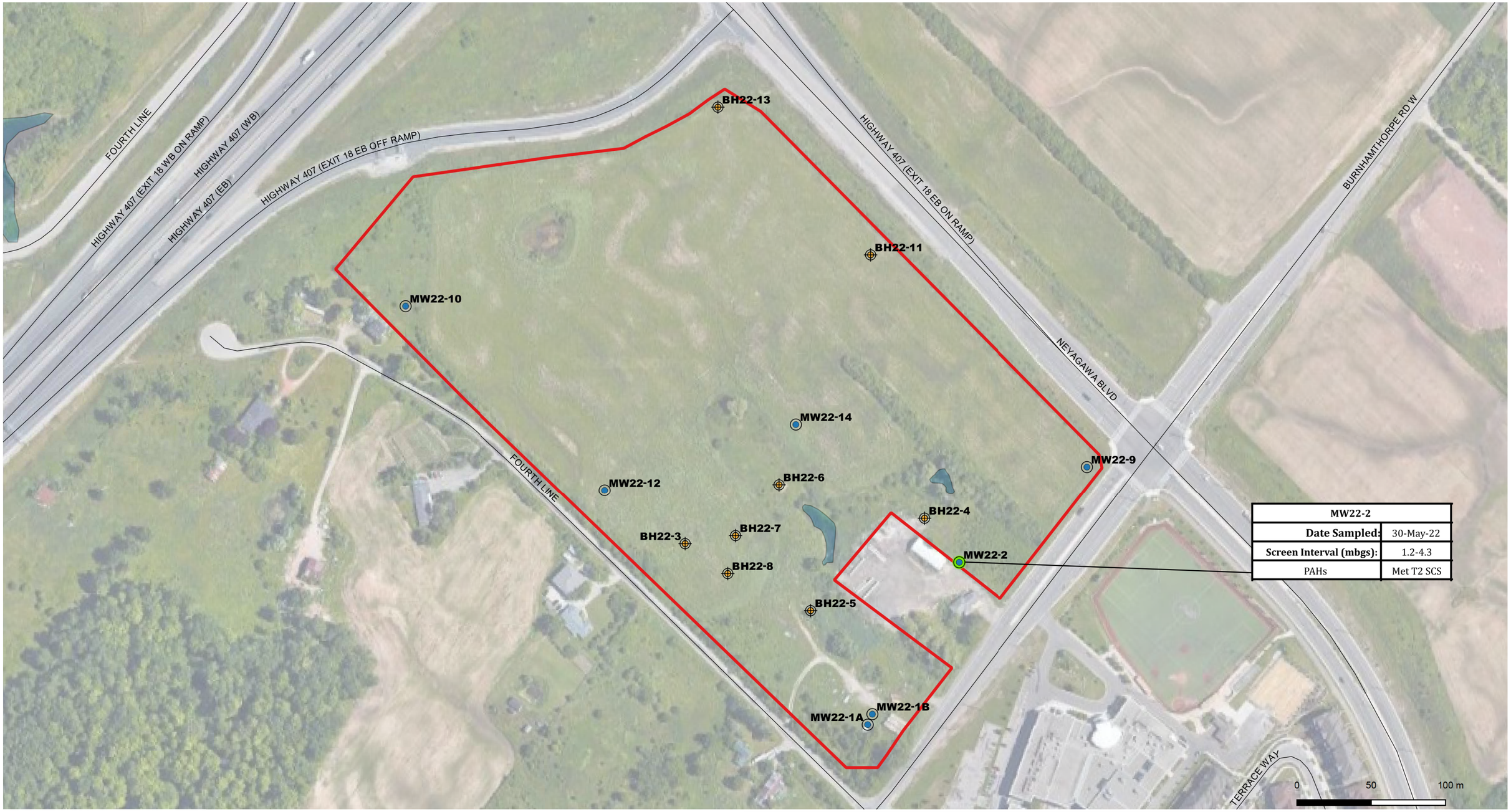
Client: ARGO NEYAGAWA CORPORATION

Size:	Approved By:	Drawn By:	Date:
11x17	K.O.	P.P	July 2022
Rev. 0	Scale: As Shown	Project No.: 21-455-100	Figure No.: **8B**

Image/Map Source: *Google Satellite Image*

J:\-GIS\100-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 8B - Groundwater Characterization - PHCs and BTEX.qgs Jul-11 14:25

J:\-GIS\00-2021 Projects\21-455-100 2142 Dorham, Neyagawa Blvd and Burnhamthorpe Rd\1-QGIS\Phase Two\Figure 8C - Groundwater Characterization - PAHs.qgs Jun-27 10:59



Legend

- Approx Property Boundary
- Borehole Locations
- Monitoring Well Locations
- Sample met applicable standards

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Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client: ARGO NEYAGAWA CORPORATION

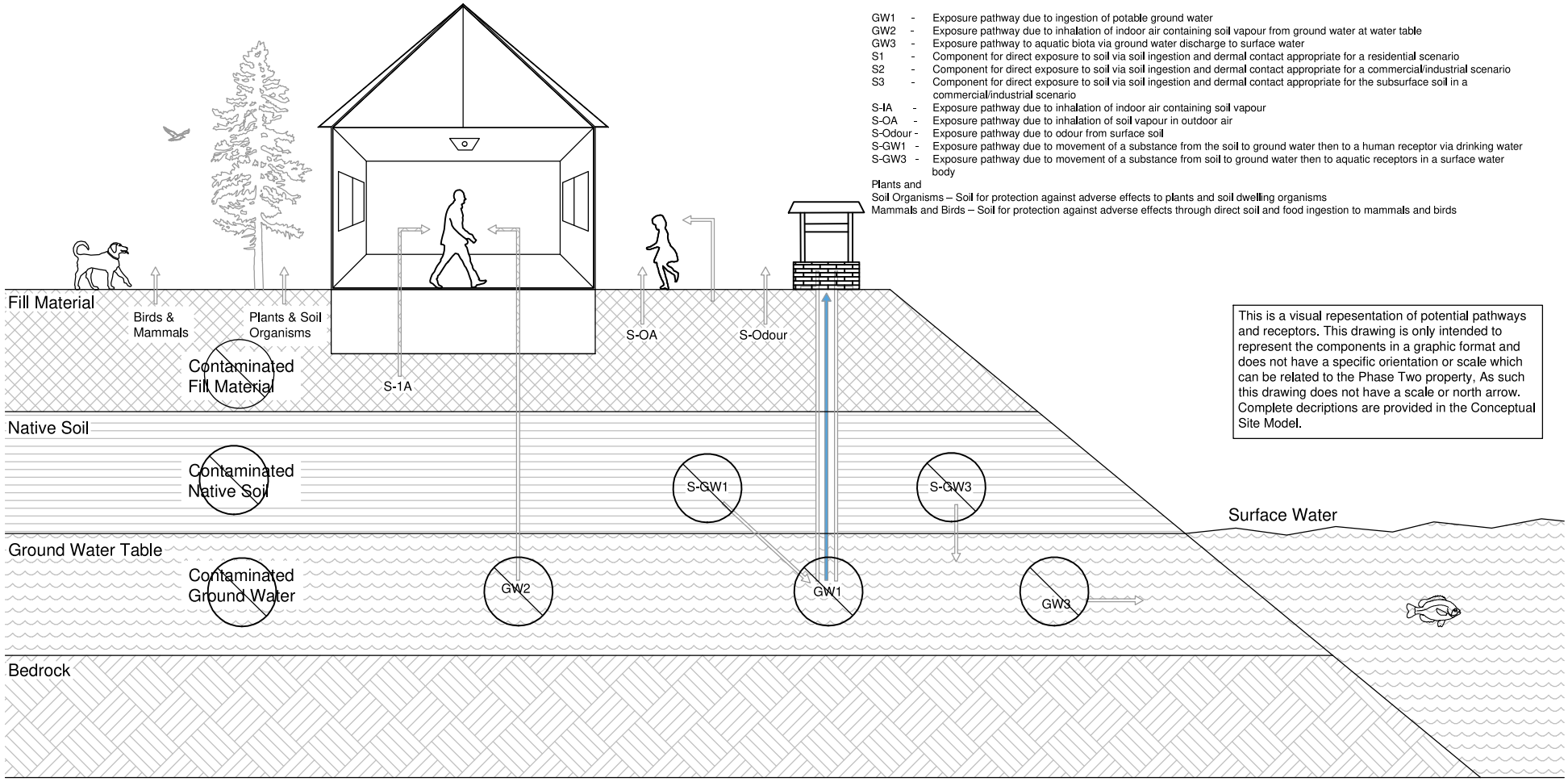
Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Part of Lot 20, Concession 2, Oakville, ON.

Title: **GROUNDWATER CHARACTERIZATION - PAHs**

N

Size:	Approved By: K.O.	Drawn By: P.P	Date: June 2022
11x17	Scale: As Shown	Project No.: 21-455-100	Figure No.: **8C**
Rev. 0	Image/Map Source: *Google Satellite Image*		

Path:c:\0sharon\20-307-100 forestside phase 7\7-misc\cad\figure 11 – contaminant transport diagram.dwg



Not Identified

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

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
PART OF LOT 20, CONCESSION 2, OAKVILLE, ON

Title: **CONTAMINANT TRANSPORT DIAGRAM**

Client:	Size:	Approved By:	Drawn By:	Date:
ARGO NEYAGAWA CORPORATION	8.5 x 11	K.O	S.Y	July 2022
	Rev.	Scale: N.T.S	Project No: 21-455-100	Figure No. 9

Appendix A

21-455-100 June 16, 2022

ARGO Neyagawa Corporation
4900 Palladium Way, Unit 105
Burlington, Ontario
L7M 0M7

Re: Sampling and Analysis Plan – Phase Two Environmental Site Assessment
Part of Lot 20, Concession 2, Oakville, Ontario

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 Part of Lot 20, Concession 2, Oakville, Ontario (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 May 2022, it is DS's understanding that the Site is a 11.29 hectare (27.90 acres) parcel of land which is currently used for agricultural purposes. The first developed use of the Site is interpreted to be Residential based on the findings of the Phase One ESA. A total of ten (10) potentially contaminating activities were identified on the Phase One Property or on neighbouring properties within the Phase One Study Area which are considered to be contributing to Areas of Potential Environmental Concern (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-1A	Southwestern portion of the Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-1	PHCs, BTEX, Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-1B	Southwestern portion of the Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-4	Metals, PAHs	Soil
APEC-1C	Southern portion of the Property	#30- Importation of Fill Material of Unknown Quality	On Site PCA-9	Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-2	Southwestern portion of the Property	N/S – Storage of miscellaneous construction material and debris	On site PCA-2	PHCs, VOCs, BTEX, Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-3	Western portion of the Property	#40 – Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	On site PCA-7	Metals, As, Sb, Se, CN-, OCPs	Soil
APEC-4	Southern Portion of the Property	#28 – Gasoline and Associated Products Storage in Fixed Tanks	Off-Site PCA-10	PHCs, VOCs, BTEX, Metals, As, Sb, Se, BHWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil and Groundwater

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. BTEX = Benzene, Toluene, Ethylbenzene, Xylene
4. VOCs = Volatile Organic Compounds
5. PAHs = Polycyclic Aromatic Hydrocarbons
6. OCPs = Organochlorine Pesticides

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 15 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
MW22-1A	6.1 mbgs	Y	6.1 mbgs	Investigate shallow groundwater quality adjacent to MW22-1B
MW22-1B	15.3 mbgs	Y	12.3 mbgs	Investigate APEC-1A & 2
MW22-2	12.3 mbgs	Y	4.3 mbgs	Investigate APEC-4
BH22-3	0.8 mbgs	N		Investigate APEC-3
BH22-4	1.5 mbgs	N		Investigate APEC-1B
BH22-5	1.3 mbgs	N		Investigate APEC-1A & 2
BH22-6	1.5 mbgs	N		Investigate APEC-1C
BH22-7	0.8 mbgs	N		Investigate APEC-3
BH22-8	0.8 mbgs	N		Investigate APEC-3
MW22-9	12.3 mbgs	Y	6.1 mbgs	For Hydrogeological Investigation
MW22-10	17.0 mbgs	Y	4.57 mbgs	For Hydrogeological Investigation
BH22-11	15.4 mbgs	N		For Geotechnical Investigation
MW22-12	16.9 mbgs	Y	6.1 mbgs	For Hydrogeological Investigation
MW22-13	15.3 mbgs	N		For Geotechnical Investigation
MW22-14	13.8 mbgs	Y	6.1 mbgs	For Hydrogeological Investigation

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 a combination of a track mounted continuous flight auger machine and AMS Hand Auger (for BH22-3, BH22-4, BH22-5, BH22-6, BH22-7 and BH22-8). Samples will be retrieved by means of a 50 mm O.D. split-spoon barrel sampler at 0.75 metre intervals in the upper 3 metres and at 1.5 metres intervals below this level. The monitoring wells will be constructed using 50 mm I.D. PVC pipe, equipped with 3.1 m slotted screens and finished at the ground surface with flush mount well casings. 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 ID	Sample No.	Sample Depth (mbgs)	Parameter Analyzed	Purpose
MW22-1B	SS1	0-0.6	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR	Assess APEC 1A, APEC 2
	SS2	0.8-1.4	PAHs	
	DUP 1		PAHs	
	SS3	1.5-2.1	PHCs & BTEX, VOCs	
BH22-5	SS1	0-0.6	PAHs	Assess APEC 1A, APEC 2
	SS2	0.8-1.4	PHCs & BTEX, VOCs	
BH22-4	SS1	0-0.6	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, PAHs	Assess APEC-1B
BH22-6	SS1	0-0.6	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, PAHs	Assess APEC-1C
	SS2	0.8-1.4	PHCs & BTEX, VOCs	
BH22-3	SS1	0-0.6	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR, OCPs	Assess APEC 3
BH22-7	SS1	0-0.6	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR,	Assess APEC 3

			OCPs	
BH22-8	SS1	0-0.6	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR	Assess APEC 3
MW22-2	SS1	0-0.6	PAHs	Assess APEC 4
	DUP 3		PAHs	
	SS2	0.8-1.4	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC, SAR	
	SS3	1.5-2.1	PHCs & BTEX, VOCs	
	SS4	2.3-2.9	PHCs & BTEX, VOCs	
	DUP 4	2.3-2.9	VOCs	

- Submit groundwater samples from the monitoring wells as follows:

Table 3-3: Summary of proposed groundwater analyses

Well ID	Well Depth	Lab Analysis	Purpose
MW22-2	4.3 mbgs	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, Na, Cl-, PHCs, BTEX, PAHs	Assess shallow groundwater quality with respect to APEC-4

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
• 8 Samples for analysis of metals and ORPs • 4 Samples for analysis of PHCs • 7 Samples for analysis of VOCs • 4 Samples for analysis of PAHs • 3 Samples for analysis of OCPs	• 1 Samples for analysis of metals and ORPs • 1 Samples for analysis of PHCs & BTEX • 1 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.

Alice Gong, B.Sc
Environmental Specialist

Appendix B

LOG OF BOREHOLE MW22-1A

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814748.141 E 599997.075

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/17/2022

REF. NO.: 21-455-100
ENCL NO.: 1

SOIL PROFILE			SAMPLES						Soil Head Space Vapors							
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	PID (ppm) 10 20 30 40	CGD (ppm) 10 20 30 40	PLASTIC LIMIT w_P	NATURAL MOISTURE CONTENT w	LIQUID LIMIT w_L	WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
180.8																
0.0	**Straight Augered to 9.25 mbgs immediately adjacent to MW22-1B**						180									
1							179									
2																
3							Bentonite									
4							177									
5							176									
6							175									
7							174									
8							Filter Pack Slotted Pipe									
9							173									
171.6							172									
9.2																

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE MW22-1B

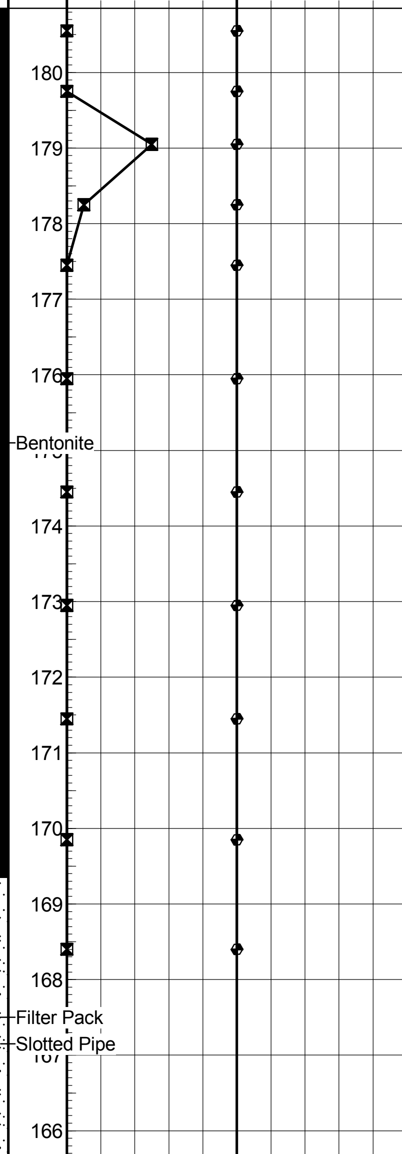
PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814748.99 E 599998.01

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/17/2022

REF. NO.: 21-455-100
ENCL NO.: 1

(m) ELEV / DEPTH	SOIL PROFILE – DESCRIPTION	SAMPLE NUMBER	TYPE	"N" BLOWS / 0.3 m	GROUND WATER CONDITIONS	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
180.9 / 0.0	**FILL:** clayey silt, trace rootlets, brown, moist, firm to very stiff	1	SS	5		Metals & ORPs
179.7 / 1.2	**CLAYEY SILT TILL:** some sand to sandy, trace gravel, occasional cobbles, brown, moist, very stiff	2	SS	23		PAHs
		3	SS	23		PHCs & VOCs
		4	SS	26		
		5	SS	18		
	brown to grey below 4.6m	6	SS	17	Bentonite	
174.8 / 6.1	**SILTY CLAY TILL:** trace sand, trace gravel, occasional cobble, grey, moist, stiff to very stiff	7	SS	12		
		8	SS	11		
		9	SS	13		
		10	SS	20		
168.7 / 12.2	**SANDY SILT TILL:** trace to some clay, trace gravel, reddish brown, moist, very dense	11	SS	50/ 100mm	Filter Pack, Slotted Pipe	
167.2 / 13.7	**CLAYEY SILT TILL/SHALE COMPLEX:** some sand, trace gravel, trace shale, reddish brown, moist, hard	12	SS	50/ 75mm		
165.7 / 15.2	**SHALE BEDROCK:** weathered, reddish brown	13	SS	50/ 75mm		
165.6 / 15.3	**END OF BOREHOLE:**					

Soil Head Space Vapors: PID (ppm), CGD (ppm)



Notes:
1) Two 50mm dia. monitoring wells installed at depths of 6.1mbgl and 12.2mbgl upon completion.
2) Water Level Readings:
Date: Water Level (mbgl)
June 08, 2022 6.73

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3, \times^3$: Numbers refer to Sensitivity ○ ε=3% Strain at Failure

LOG OF BOREHOLE MW22-2

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814853 E 600057.22

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/25/2022

REF. NO.: 21-455-100
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm)	Soil Head Space Vapors CGD (ppm)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
181.7								10 20 30 40	10 20 30 40	10 20 30			
0.0	**FILL:** clayey silt, trace rootlets, reddish brown, moist, firm to stiff		1	SS	7		181						Metals & ORPs, PAHs
180.2			2	SS	11								
1.5	**CLAYEY SILT TILL:** sandy, trace gravel, occasional cobble, reddish brown, moist, very stiff to hard		3	SS	30		180						PHCs & VOCs
			4	SS	19		179						PHCs & VOCs
			5	SS	38		178						
	grey below 4.6m		6	SS	22		177						
175.6							176						
6.1	**SILTY CLAY TILL:** some sand, trace gravel, grey, moist, very stiff		7	SS	18		175						
			8	SS	15		174						
172.6							173						
9.1	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard		9	SS	29		172						
			10	SS	50/ 130mm		171						
169.5							170						
12.3	**SHALE BEDROCK:** weathered, reddish brown		11	SS	50/ 130mm								
	END OF BOREHOLE:												

Notes:
1) 50mm dia. monitoring well upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
June 8, 2022	0.80

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ○ 6 ε=3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

LOG OF BOREHOLE BH22-3

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814865.54 E 599872.81

DRILLING DATA
Method: Hand Auger
Diameter:
Date: May/17/2022

REF. NO.: 21-455-100
ENCL NO.: 3

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 (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"			PID (ppm)	CGD (ppm)	WATER CONTENT (%)			GR SA SI CL
183.4								10 20 30 40	10 20 30 40	10 20 30			
183.0 0.0	**TOPSOIL:** 100mm												
182.6 0.4	**SANDY SILT:** brown, moist		1	AS			183						Metals & ORPs, OCPs
0.8	**END OF BOREHOLE:**												

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH22-4

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814882.64 E 600033.86

DRILLING DATA
Method: Hand Auger
Diameter:
Date: May/19/2022

REF. NO.: 21-455-100
ENCL NO.: 4

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"			PID (ppm)	CGD (ppm)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L				GR SA SI CL
182.5								10 20 30 40	10 20 30 40	WATER CONTENT (%) 10 20 30				
0.0	**SAND:** some silt, trace gravel, brown, moist		1	AS			182							Metals & ORPs, PAHs
1 181.2			2	AS										
1.3	**END OF BOREHOLE:**													

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH22-5

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814820.5 E 599957.22

DRILLING DATA
Method: Hand Auger
Diameter:
Date: May/16/2022

REF. NO.: 21-455-100
ENCL NO.: 5

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 (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"			PID (ppm)	CGD (ppm)	w_P w w_L WATER CONTENT (%)			GR SA SI CL
182.0								10 20 30 40	10 20 30 40	10 20 30			
0.0	**FILL:** sand, some silt, trace gravel, brown, moist		1	AS									Metals & ORPs, PAHs
1			2	AS			181						PHCs & VOCs
180.7 1.3	**END OF BOREHOLE:**												

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH22-6

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814905.51 E 599935.99

DRILLING DATA
Method: Hand Auger
Diameter:
Date: May/18/2022

REF. NO.: 21-455-100
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm) 10 20 30 40	Soil Head Space Vapors CGD (ppm) 10 20 30 40	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT W_P W W_L WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
182.5													
0.0	**SANDY SILT:** trace clay, trace gravel, brown, moist		1	AS			182						Metals & ORPs, PAHs
1			2	AS									PHCs & VOCs
181.0							181						
1.5	**END OF BOREHOLE:**												

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH22-7

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814870.95 E 599906.72

DRILLING DATA
Method: Hand Auger
Diameter:
Date: May/17/2022

REF. NO.: 21-455-100
ENCL NO.: 7

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 (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"			PID (ppm)	CGD (ppm)	w_P w w_L WATER CONTENT (%)			GR SA SI CL
182.9								10 20 30 40	10 20 30 40	10 20 30			
0.0 / 182.1	**SANDY SILT:**trace rootlets, brown, moist		1	AS									Metals & ORPs, OCPs
0.8	**END OF BOREHOLE:**												

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE BH22-8

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814845.44 E 599901.5

DRILLING DATA
Method: Hand Auger
Diameter:
Date: May/17/2022

REF. NO.: 21-455-100
ENCL NO.: 8

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 (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"			PID (ppm)	CGD (ppm)	w_P w w_L WATER CONTENT (%)			GR SA SI CL
183.1								10 20 30 40	10 20 30 40	10 20 30			
183.0 0.0	**TOPSOIL:** 100mm												
182.3 0.8	**SANDY SILT:** brown, moist		1	AS									Metals & ORPs, OCPs
0.8	**END OF BOREHOLE:**												

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

LOG OF BOREHOLE MW22-9

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814917.46 E 600143.52

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/24/2022

REF. NO.: 21-455-100
ENCL NO.: 9

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
181.5							
0.0	**REWORKED NATIVE CLAYEY SILT:**trace organics, brown, moist, stiff to very stiff		1	SS	8		181
180.1			2	SS	15		
1.4	**CLAYEY SILT TILL:** some sand to sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard		3	SS	22		180
			4	SS	30		179
			5	SS	43		178
176.9							
4.6	**SILTY CLAY TILL:** trace sand, trace gravel, grey, moist, very stiff to hard		6	SS	22		177
			7	SS	21		176
			8	SS	20		175
172.4							174
9.1	**SANDY SILT TILL:** some clay, trace gravel, reddish brown, moist, very dense		9	SS	75		173
170.8							172
10.7	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace gravel, reddish brown, moist, hard		10	SS	50/ 100mm		171
169.2							170
12.3	**END OF BOREHOLE:**		11	SS	50/ 50mm		

Notes:
1) Auger refusal at 12.3m due to possible shale bedrock.
2) 50mm dia. monitoring well installed upon completion.
3) Water Level Readings:

Date:	Water Level(mbgl):
June 8, 2022	7.39

Soil Head Space Vapors: PID (ppm) 10 20 30 40; CGD (ppm) 10 20 30 40

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) 10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ 8=3% Strain at Failure

LOG OF BOREHOLE MW22-10

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4815025.74 E 599684.38

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/19/2022

REF. NO.: 21-455-100
ENCL NO.: 10

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION
187.9							
187.6	**TOPSOIL:** 250mm		1	SS	3		
0.3	**REWORKED NATIVE SAND:** trace clay, brown, moist, loose						
187.1							
1 0.8	**REWORKED NATIVE CLAYEY SILT:** some organics, trace rootlets, brown, moist, stiff to very stiff		2	SS	14		187
185.8			3	SS	23		186
2 2.1	**CLAYEY SILT TILL:** some sand to sandy, trace gravel, brown, moist, stiff to hard		4	SS	34		185
3			5	SS	21		184
4							
5			6	SS	12		183
6 181.8							182
6.1	**SILTY CLAY TILL:** trace sand, trace gravel, occasional cobble/boulder, grey, moist, stiff to very stiff		7	SS	11		181
7							
8			8	SS	13		180
9			9	SS	16		179
10							178
11			10	SS	11		177
12			11	SS	16		176
13							175
14			12	SS	13		174
15 172.7							173
15.2	**CLAYEY SILT TILL:** sandy, trace gravel, trace shale pieces, reddish brown, moist, hard		13	SS	62		
16 171.1							172
170.9	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard		14	SS	50/75mm		171
17.0	**END OF BOREHOLE:**						

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
June 08, 2022	7.41

Soil Head Space Vapors: PID (ppm) 10 20 30 40; CGD (ppm) 10 20 30 40

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) 10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; $\circ^{\varepsilon=3\%}$ Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

LOG OF BOREHOLE BH22-11

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4815060.23 E 599997.55

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/20/2022

REF. NO.: 21-455-100
ENCL NO.: 11

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
186.9							
186.7	**TOPSOIL:** 200mm		1	SS	6		
0.2	**REWORKED NATIVE CLAYEY SILT:** trace topsoil, trace rootlets, brown, moist, firm						
186.1							
1 0.8	**CLAYEY SILT TILL:** some sand to sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard		2	SS	21		186
2			3	SS	36		185
3	grey below 3.1m		4	SS	27		184
4			5	SS	19		183
182.3							
4.6 5	**SILTY CLAY TILL:** trace sand, trace gravel, grey, moist, very stiff to hard		6	SS	17		182
6			7	SS	16		181
7							180
8			8	SS	18		179
9 177.8							
9.1 10	**SANDY SILT TILL:** some clay, trace gravel, grey, moist, compact to very dense		9	SS	28		178
176.0							177
10.9 11	**CLAYEY SILT TILL:** some sand, trace gravel, greyish brown, moist, hard		10	SS	86		176
174.7							
12.2 12	**SILT TILL:** some sand, trace clay, trace gravel, grey, wet, very dense		11	SS	50/ 75mm		175
173.2							174
13.7 14	**SANDY SILT TILL:** some clay, trace gravel, grey, wet, very dense		12	SS	50/ 25mm		173
171.7							
175.3 15.3	**CLAYEY SILT TILL/SHALE**		13	SS	50/ 50mm		172
15.4	**COMPLEX:** trace sand, trace gravel, reddish brown, moist, hard shale bedrock starts at 15.3m						
	END OF BOREHOLE:						

Soil Head Space Vapors: PID (ppm) 10 20 30 40; CGD (ppm) 10 20 30 40

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) 10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
$+^3$, $\times^3$: Numbers refer to Sensitivity
$\circ^{\varepsilon_f}$ ε_f=3% Strain at Failure

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

LOG OF BOREHOLE MW22-12

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814901.67 E 599818.65

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/18/2022

REF. NO.: 21-455-100
ENCL NO.: 12

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm)	Soil Head Space Vapors CGD (ppm)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
184.7													
184.5 0.2	**TOPSOIL:** 200mm		1	SS	5		184						
	REWORKED NATIVE CLAYEY SILT: trace topsoil, trace rootlets, trace organics, brown, moist, firm to stiff		2	SS	9								
183.1													
1.6	**CLAYEY SILT TILL:** trace sand, trace gravel, brown, moist, stiff to very stiff		3	SS	25		183						
			4	SS	15		182						
			5	SS	20		181						
180.1													
4.6	**SILTY CLAY TILL:** some sand, trace gravel, grey, moist, stiff to very stiff		6	SS	10		180						
			7	SS	11		179						
			8	SS	16		178						
			9	SS	20		177						
			10	SS	18		176						
			11	SS	13		175						
171.0							174						
13.7	**CLAYEY SILT TILL:** trace sand, trace gravel, grey, moist, hard		12	SS	37		173						
169.4							172						
15.3	**SILTY SAND TILL:** some clay, trace gravel, brown, wet, very dense		13	SS	50/ 130mm		171						
167.9							170						
16.8 16.9	**CLAYEY SILT TILL/SHALE COMPLEX:** sandy, trace gravel, reddish brown, moist, hard		14	SS	50/ 100mm		169						
	END OF BOREHOLE:						168						

Notes:
1) Auger refusal at 16.8m
2) 50mm dia.monitoring well installed upon completion.
3) Water Level Readings:
Date: Water Level(mbgl):
June 8, 2022 8.43

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

LOG OF BOREHOLE BH22-13

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4815159.61 E 599894.85

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/24/2022

REF. NO.: 21-455-100
ENCL NO.: 13

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm)	Soil Head Space Vapors CGD (ppm)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
189.4								10 20 30 40	10 20 30 40	10 20 30			
0.0	**REWORKED NATIVE CLAYEY SILT:** trace organics, brown, moist, firm to stiff		1	SS	5		189						
188.0			2	SS	17		188						
1.4	**CLAYEY SILT TILL:** trace sand, trace gravel, brown, moist, stiff to very stiff		3	SS	23		187						
			4	SS	25		186						
			5	SS	23		185						
184.8													
4.6	**SILTY CLAY TILL:** some sand, trace gravel, grey, moist, stiff to very stiff		6	SS	15		184						
			7	SS	17		183						
			8	SS	8		182						
			9	SS	17		181						
			10	SS	50/ 130mm		180						
177.2							179						
12.2	**SANDY SILT TILL:** some clay, trace gravel, grey, wet, very dense		11	SS	50/ 130mm		178						
175.7							177						
13.7	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace gravel, grey, moist, hard		12	SS	50/ 100mm		176						
174.1							175						
15.3	**END OF BOREHOLE:** Notes: 1) Auger refusal at 15.3m due to possible bedrock.		13	SS	50/ 75mm								

DS ENVIRO 0-50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ○ ^{6}=3% Strain at Failure

LOG OF BOREHOLE MW22-14

PROJECT: Phase Two Environmental Site Assessment
CLIENT: ARGO Neyagawa Corporation
PROJECT LOCATION: Part of Lot 20, Concession 2, Oakville, ON
DATUM: Geodetic
BH LOCATION: See Figure 5 N 4814946.09 E 599947.3

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: May/25/2022

REF. NO.: 21-455-100
ENCL NO.: 14

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION
183.3							
0.0	**REWORKED NATIVE SILTY CLAY:**trace rootlets, trace organics, brown, moist, firm to very stiff		1	SS	4		183
182.3							
1.0	**CLAYEY SILT TILL:** trace sand, trace gravel, brown, moist, stiff to very stiff		2	SS	16		182
			3	SS	20		
			4	SS	35		181
			5	SS	31		180
	grey below 4.6m		6	SS	17		179
177.2							178
6.1	**SILTY CLAY TILL:** trace sand, trace gravel, grey, moist, stiff to very stiff		7	SS	12		177
			8	SS	14		176
			9	SS	10		175
172.6							174
10.7	**SANDY SILT TILL:** some clay, trace gravel, grey, wet, very dense		10	SS	84		173
171.1							172
12.2	**CLAYEY SILT TILL:** trace sand, trace gravel, reddish brown, moist, hard		11	SS	50/ 75mm		171
169.8							170
169.5	**SHALE BEDROCK:** reddish brown,		12	SS	50/ 130mm		
13.8	weathered						
	END OF BOREHOLE:						

Notes:

1) Auger refusal at 13.8m due to possible shale bedrock.
2) 50mm dia. monitoring well installed upon completion.
3) Water Level Readings:

Date:	Water Level(mbgl):
June 8, 2022	6.13

Soil Head Space Vapors: PID (ppm) 10 20 30 40; CGD (ppm) 10 20 30 40

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) 10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

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

DS ENVIRO 0~50 PPM-2021 21-455-100 ENV LOGS.GPJ DS.GDT 8/9/22

Appendix C

Your Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Your C.O.C. #: n/a

Attention: Kirstin Olsen

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

Report Date: 2022/06/03
Report #: R7151257
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2E5133
Received: 2022/05/27, 16:09

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	2	N/A	2022/06/02	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	1	2022/06/01	2022/06/02	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	2	N/A	2022/06/02		EPA 8260C m
Free (WAD) Cyanide	1	2022/06/01	2022/06/02	CAM SOP-00457	OMOE E3015 m
Conductivity	1	2022/06/02	2022/06/02	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	1	2022/06/01	2022/06/02	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (2)	1	N/A	2022/06/02	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (3)	1	2022/06/01	2022/06/02	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	1	2022/06/01	2022/06/03	CAM SOP-00447	EPA 6020B m
Moisture	6	N/A	2022/05/30	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM)	2	2022/06/01	2022/06/02	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	6	2022/06/02	2022/06/02	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	1	N/A	2022/06/03	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds in Soil	2	N/A	2022/06/01	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.

Your Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Your C.O.C. #: n/a

Attention: Kirstin Olsen

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

Report Date: 2022/06/03
Report #: R7151257
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2E5133
Received: 2022/05/27, 16:09

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

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Soils are reported on a dry weight basis unless otherwise specified.
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas 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

Bureau Veritas
03 Jun 2022 19:05:10

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

Bureau Veritas Job #: C2E5133
Report Date: 2022/06/03

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID				SSY450		
Sampling Date				2022/05/26		
COC Number				n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS2	RDL	QC Batch
Calculated Parameters						
Sodium Adsorption Ratio	N/A	5.0	2.4	1.4		8021761
Inorganics						
Conductivity	mS/cm	0.7	0.57	0.17	0.002	8028848
Moisture	%	-	-	12	1.0	8021965
Available (CaCl2) pH	pH	-	-	7.73		8029102
WAD Cyanide (Free)	ug/g	0.051	0.051	<0.01	0.01	8027958
Chromium (VI)	ug/g	8	0.66	<0.18	0.18	8027596
Metals						
Hot Water Ext. Boron (B)	ug/g	1.5	-	0.10	0.050	8026308
Acid Extractable Antimony (Sb)	ug/g	7.5	1.3	<0.20	0.20	8026491
Acid Extractable Arsenic (As)	ug/g	18	18	4.5	1.0	8026491
Acid Extractable Barium (Ba)	ug/g	390	220	82	0.50	8026491
Acid Extractable Beryllium (Be)	ug/g	4	2.5	0.71	0.20	8026491
Acid Extractable Boron (B)	ug/g	120	36	11	5.0	8026491
Acid Extractable Cadmium (Cd)	ug/g	1.2	1.2	<0.10	0.10	8026491
Acid Extractable Chromium (Cr)	ug/g	160	70	20	1.0	8026491
Acid Extractable Cobalt (Co)	ug/g	22	21	14	0.10	8026491
Acid Extractable Copper (Cu)	ug/g	140	92	27	0.50	8026491
Acid Extractable Lead (Pb)	ug/g	120	120	12	1.0	8026491
Acid Extractable Molybdenum (Mo)	ug/g	6.9	2	0.56	0.50	8026491
Acid Extractable Nickel (Ni)	ug/g	100	82	28	0.50	8026491
Acid Extractable Selenium (Se)	ug/g	2.4	1.5	<0.50	0.50	8026491
Acid Extractable Silver (Ag)	ug/g	20	0.5	<0.20	0.20	8026491
Acid Extractable Thallium (Tl)	ug/g	1	1	0.17	0.050	8026491
Acid Extractable Uranium (U)	ug/g	23	2.5	0.55	0.050	8026491

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
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID				SSY450		
Sampling Date				2022/05/26		
COC Number				n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS2	RDL	QC Batch
Acid Extractable Vanadium (V)	ug/g	86	86	28	5.0	8026491
Acid Extractable Zinc (Zn)	ug/g	340	290	65	5.0	8026491
Acid Extractable Mercury (Hg)	ug/g	0.27	0.27	<0.050	0.050	8026491

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
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Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 PAHS (SOIL)

Bureau Veritas ID				SSY449	SSY453		
Sampling Date				2022/05/26	2022/05/26		
COC Number				n/a	n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS1	DUP 3	RDL	QC Batch
Inorganics							
Moisture	%	-	-	15	17	1.0	8021965
Calculated Parameters							
Methylnaphthalene, 2-(1-)	ug/g	-	0.59	<0.0071	<0.0071	0.0071	8021762
Polyaromatic Hydrocarbons							
Acenaphthene	ug/g	7.9	0.072	<0.0050	<0.0050	0.0050	8027489
Acenaphthylene	ug/g	0.15	0.093	<0.0050	<0.0050	0.0050	8027489
Anthracene	ug/g	0.67	0.16	<0.0050	<0.0050	0.0050	8027489
Benzo(a)anthracene	ug/g	0.5	0.36	<0.0050	<0.0050	0.0050	8027489
Benzo(a)pyrene	ug/g	0.3	0.3	<0.0050	<0.0050	0.0050	8027489
Benzo(b/j)fluoranthene	ug/g	0.78	0.47	<0.0050	<0.0050	0.0050	8027489
Benzo(g,h,i)perylene	ug/g	6.6	0.68	<0.0050	<0.0050	0.0050	8027489
Benzo(k)fluoranthene	ug/g	0.78	0.48	<0.0050	<0.0050	0.0050	8027489
Chrysene	ug/g	7	2.8	<0.0050	<0.0050	0.0050	8027489
Dibenzo(a,h)anthracene	ug/g	0.1	0.1	<0.0050	<0.0050	0.0050	8027489
Fluoranthene	ug/g	0.69	0.56	<0.0050	<0.0050	0.0050	8027489
Fluorene	ug/g	62	0.12	<0.0050	<0.0050	0.0050	8027489
Indeno(1,2,3-cd)pyrene	ug/g	0.38	0.23	<0.0050	<0.0050	0.0050	8027489
1-Methylnaphthalene	ug/g	0.99	0.59	<0.0050	<0.0050	0.0050	8027489
2-Methylnaphthalene	ug/g	0.99	0.59	<0.0050	<0.0050	0.0050	8027489
Naphthalene	ug/g	0.6	0.09	<0.0050	<0.0050	0.0050	8027489
Phenanthrene	ug/g	6.2	0.69	<0.0050	<0.0050	0.0050	8027489
Pyrene	ug/g	78	1	<0.0050	<0.0050	0.0050	8027489
Surrogate Recovery (%)							
D10-Anthracene	%	-	-	102	98		8027489
D14-Terphenyl (FS)	%	-	-	97	92		8027489

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
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 PAHS (SOIL)

Bureau Veritas ID				SSY449	SSY453		
Sampling Date				2022/05/26	2022/05/26		
COC Number				n/a	n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS1	DUP 3	RDL	QC Batch
D8-Acenaphthylene	%	-	-	84	79		8027489

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
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID				SSY451			SSY451		
Sampling Date				2022/05/26			2022/05/26		
COC Number				n/a			n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS3	RDL	QC Batch	MW22-2 SS3 Lab-Dup	RDL	QC Batch
Inorganics									
Moisture	%	-	-	12	1.0	8021965			
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.21	0.02	<0.020	0.020	8031177	<0.020	0.020	8031177
Toluene	ug/g	2.3	0.2	<0.020	0.020	8031177	<0.020	0.020	8031177
Ethylbenzene	ug/g	1.1	0.05	<0.020	0.020	8031177	<0.020	0.020	8031177
o-Xylene	ug/g	-	-	<0.020	0.020	8031177	<0.020	0.020	8031177
p+m-Xylene	ug/g	-	-	<0.040	0.040	8031177	<0.040	0.040	8031177
Total Xylenes	ug/g	3.1	0.05	<0.040	0.040	8031177	<0.040	0.040	8031177
F1 (C6-C10)	ug/g	55	25	<10	10	8031177	<10	10	8031177
F1 (C6-C10) - BTEX	ug/g	55	25	<10	10	8031177	<10	10	8031177
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	98	10	<10	10	8028690			
F3 (C16-C34 Hydrocarbons)	ug/g	300	240	<50	50	8028690			
F4 (C34-C50 Hydrocarbons)	ug/g	2800	120	<50	50	8028690			
Reached Baseline at C50	ug/g	-	-	Yes		8028690			
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-	-	101		8031177	103		8031177
4-Bromofluorobenzene	%	-	-	100		8031177	101		8031177
D10-o-Xylene	%	-	-	86		8031177	93		8031177
D4-1,2-Dichloroethane	%	-	-	98		8031177	99		8031177
o-Terphenyl	%	-	-	99		8028690			

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
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 VOCS BY HS (SOIL)

Bureau Veritas ID				SSY452	SSY454		
Sampling Date				2022/05/26	2022/05/26		
COC Number				n/a	n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS4	DUP 4	RDL	QC Batch
Inorganics							
Moisture	%	-	-	10	10	1.0	8021965
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	0.05	0.05	<0.050	<0.050	0.050	8021763
Volatile Organics							
Acetone (2-Propanone)	ug/g	16	0.5	<0.49	<0.49	0.49	8024959
Benzene	ug/g	0.21	0.02	<0.0060	<0.0060	0.0060	8024959
Bromodichloromethane	ug/g	1.5	0.05	<0.040	<0.040	0.040	8024959
Bromoform	ug/g	0.27	0.05	<0.040	<0.040	0.040	8024959
Bromomethane	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Carbon Tetrachloride	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Chlorobenzene	ug/g	2.4	0.05	<0.040	<0.040	0.040	8024959
Chloroform	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Dibromochloromethane	ug/g	2.3	0.05	<0.040	<0.040	0.040	8024959
1,2-Dichlorobenzene	ug/g	1.2	0.05	<0.040	<0.040	0.040	8024959
1,3-Dichlorobenzene	ug/g	4.8	0.05	<0.040	<0.040	0.040	8024959
1,4-Dichlorobenzene	ug/g	0.083	0.05	<0.040	<0.040	0.040	8024959
Dichlorodifluoromethane (FREON 12)	ug/g	16	0.05	<0.040	<0.040	0.040	8024959
1,1-Dichloroethane	ug/g	0.47	0.05	<0.040	<0.040	0.040	8024959
1,2-Dichloroethane	ug/g	0.05	0.05	<0.049	<0.049	0.049	8024959
1,1-Dichloroethylene	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
cis-1,2-Dichloroethylene	ug/g	1.9	0.05	<0.040	<0.040	0.040	8024959
trans-1,2-Dichloroethylene	ug/g	0.084	0.05	<0.040	<0.040	0.040	8024959
1,2-Dichloropropane	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
cis-1,3-Dichloropropene	ug/g	0.05	0.05	<0.030	<0.030	0.030	8024959
trans-1,3-Dichloropropene	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Ethylbenzene	ug/g	1.1	0.05	<0.010	<0.010	0.010	8024959

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
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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Bureau Veritas Job #: C2E5133
Report Date: 2022/06/03

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

O.REG 153 VOCS BY HS (SOIL)

Bureau Veritas ID				SSY452	SSY454		
Sampling Date				2022/05/26	2022/05/26		
COC Number				n/a	n/a		
	UNITS	Criteria	Criteria-2	MW22-2 SS4	DUP 4	RDL	QC Batch
Ethylene Dibromide	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Hexane	ug/g	2.8	0.05	<0.040	<0.040	0.040	8024959
Methylene Chloride(Dichloromethane)	ug/g	0.1	0.05	<0.049	<0.049	0.049	8024959
Methyl Ethyl Ketone (2-Butanone)	ug/g	16	0.5	<0.40	<0.40	0.40	8024959
Methyl Isobutyl Ketone	ug/g	1.7	0.5	<0.40	<0.40	0.40	8024959
Methyl t-butyl ether (MTBE)	ug/g	0.75	0.05	<0.040	<0.040	0.040	8024959
Styrene	ug/g	0.7	0.05	<0.040	<0.040	0.040	8024959
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05	<0.040	<0.040	0.040	8024959
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Tetrachloroethylene	ug/g	0.28	0.05	<0.040	<0.040	0.040	8024959
Toluene	ug/g	2.3	0.2	<0.020	<0.020	0.020	8024959
1,1,1-Trichloroethane	ug/g	0.38	0.05	<0.040	<0.040	0.040	8024959
1,1,2-Trichloroethane	ug/g	0.05	0.05	<0.040	<0.040	0.040	8024959
Trichloroethylene	ug/g	0.061	0.05	<0.010	<0.010	0.010	8024959
Trichlorofluoromethane (FREON 11)	ug/g	4	0.25	<0.040	<0.040	0.040	8024959
Vinyl Chloride	ug/g	0.02	0.02	<0.019	<0.019	0.019	8024959
p+m-Xylene	ug/g	-	-	<0.020	<0.020	0.020	8024959
o-Xylene	ug/g	-	-	<0.020	<0.020	0.020	8024959
Total Xylenes	ug/g	3.1	0.05	<0.020	<0.020	0.020	8024959
Surrogate Recovery (%)							
4-Bromofluorobenzene	%	-	-	100	100		8024959
D10-o-Xylene	%	-	-	109	108		8024959
D4-1,2-Dichloroethane	%	-	-	100	100		8024959
D8-Toluene	%	-	-	99	100		8024959

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
Criteria-2: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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Bureau Veritas Job #: C2E5133
Report Date: 2022/06/03

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		SSY445	SSY446	SSY447	SSY448		SSY451	
Sampling Date		2022/05/25	2022/05/25	2022/05/25	2022/05/25		2022/05/26	
COC Number		n/a	n/a	n/a	n/a		n/a	
	UNITS	BH22-13 SS1	BH22-13 SS3	BH22-11 SS1	BH22-11 SS3	QC Batch	MW22-2 SS3	QC Batch
Inorganics								
Available (CaCl2) pH	pH	7.00	7.83	6.73	7.80	8029112	7.75	8029102
QC Batch = Quality Control Batch								

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TEST SUMMARY

Bureau Veritas ID: SSY445 **Collected:** 2022/05/25
Sample ID: BH22-13 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8029112	2022/06/02	2022/06/02	Taslima Aktar

Bureau Veritas ID: SSY446 **Collected:** 2022/05/25
Sample ID: BH22-13 SS3 **Shipped:**
Matrix: Soil **Received:** 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8029112	2022/06/02	2022/06/02	Taslima Aktar

Bureau Veritas ID: SSY447 **Collected:** 2022/05/25
Sample ID: BH22-11 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8029112	2022/06/02	2022/06/02	Taslima Aktar

Bureau Veritas ID: SSY448 **Collected:** 2022/05/25
Sample ID: BH22-11 SS3 **Shipped:**
Matrix: Soil **Received:** 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8029112	2022/06/02	2022/06/02	Taslima Aktar

Bureau Veritas ID: SSY449 **Collected:** 2022/05/26
Sample ID: MW22-2 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8021762	N/A	2022/06/02	Automated Statchk
Moisture	BAL	8021965	N/A	2022/05/30	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8027489	2022/06/01	2022/06/02	Jonghan Yoon

Bureau Veritas ID: SSY450 **Collected:** 2022/05/26
Sample ID: MW22-2 SS2 **Shipped:**
Matrix: Soil **Received:** 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8026308	2022/06/01	2022/06/02	Jolly John
Free (WAD) Cyanide	TECH	8027958	2022/06/01	2022/06/02	Nimarta Singh
Conductivity	AT	8028848	2022/06/02	2022/06/02	Roya Fathitil
Hexavalent Chromium in Soil by IC	IC/SPEC	8027596	2022/06/01	2022/06/02	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8026491	2022/06/01	2022/06/03	Viviana Canzonieri
Moisture	BAL	8021965	N/A	2022/05/30	Kruti Jitesh Patel
pH CaCl2 EXTRACT	AT	8029102	2022/06/02	2022/06/02	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8021761	N/A	2022/06/03	Automated Statchk

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Bureau Veritas Job #: C2E5133
Report Date: 2022/06/03

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

TEST SUMMARY

Bureau Veritas ID: SSY451
Sample ID: MW22-2 SS3
Matrix: Soil

Collected: 2022/05/26
Shipped:
Received: 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8031177	N/A	2022/06/02	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8028690	2022/06/01	2022/06/02	Austin (Guochen) Zhang
Moisture	BAL	8021965	N/A	2022/05/30	Kruti Jitesh Patel
pH CaCl2 EXTRACT	AT	8029102	2022/06/02	2022/06/02	Taslima Aktar

Bureau Veritas ID: SSY451 Dup
Sample ID: MW22-2 SS3
Matrix: Soil

Collected: 2022/05/26
Shipped:
Received: 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8031177	N/A	2022/06/03	Georgeta Rusu

Bureau Veritas ID: SSY452
Sample ID: MW22-2 SS4
Matrix: Soil

Collected: 2022/05/26
Shipped:
Received: 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8021763	N/A	2022/06/02	Automated Statchk
Moisture	BAL	8021965	N/A	2022/05/30	Kruti Jitesh Patel
Volatile Organic Compounds in Soil	GC/MS	8024959	N/A	2022/06/01	Dina Wang

Bureau Veritas ID: SSY453
Sample ID: DUP 3
Matrix: Soil

Collected: 2022/05/26
Shipped:
Received: 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8021762	N/A	2022/06/02	Automated Statchk
Moisture	BAL	8021965	N/A	2022/05/30	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8027489	2022/06/01	2022/06/02	Jonghan Yoon

Bureau Veritas ID: SSY454
Sample ID: DUP 4
Matrix: Soil

Collected: 2022/05/26
Shipped:
Received: 2022/05/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8021763	N/A	2022/06/02	Automated Statchk
Moisture	BAL	8021965	N/A	2022/05/30	Kruti Jitesh Patel
Volatile Organic Compounds in Soil	GC/MS	8024959	N/A	2022/06/01	Dina Wang

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GENERAL COMMENTS

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

Package 1	4.0°C

Sample SSY451 [MW22-2 SS3] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8024959	4-Bromofluorobenzene	2022/06/01	100	60 - 140	100	60 - 140	101	%		
8024959	D10-o-Xylene	2022/06/01	100	60 - 130	94	60 - 130	99	%		
8024959	D4-1,2-Dichloroethane	2022/06/01	100	60 - 140	101	60 - 140	98	%		
8024959	D8-Toluene	2022/06/01	99	60 - 140	99	60 - 140	98	%		
8027489	D10-Anthracene	2022/06/01	105	50 - 130	97	50 - 130	87	%		
8027489	D14-Terphenyl (FS)	2022/06/01	109	50 - 130	102	50 - 130	94	%		
8027489	D8-Acenaphthylene	2022/06/01	93	50 - 130	97	50 - 130	85	%		
8028690	o-Terphenyl	2022/06/02	103	60 - 130	97	60 - 130	100	%		
8031177	1,4-Difluorobenzene	2022/06/02	101	60 - 140	97	60 - 140	102	%		
8031177	4-Bromofluorobenzene	2022/06/02	101	60 - 140	102	60 - 140	100	%		
8031177	D10-o-Xylene	2022/06/02	88	60 - 140	94	60 - 140	91	%		
8031177	D4-1,2-Dichloroethane	2022/06/02	98	60 - 140	99	60 - 140	101	%		
8024959	1,1,1,2-Tetrachloroethane	2022/06/01	96	60 - 140	97	60 - 130	<0.040	ug/g		
8024959	1,1,1-Trichloroethane	2022/06/01	102	60 - 140	99	60 - 130	<0.040	ug/g		
8024959	1,1,2,2-Tetrachloroethane	2022/06/01	91	60 - 140	97	60 - 130	<0.040	ug/g		
8024959	1,1,2-Trichloroethane	2022/06/01	97	60 - 140	101	60 - 130	<0.040	ug/g		
8024959	1,1-Dichloroethane	2022/06/01	97	60 - 140	94	60 - 130	<0.040	ug/g		
8024959	1,1-Dichloroethylene	2022/06/01	102	60 - 140	98	60 - 130	<0.040	ug/g		
8024959	1,2-Dichlorobenzene	2022/06/01	95	60 - 140	97	60 - 130	<0.040	ug/g		
8024959	1,2-Dichloroethane	2022/06/01	95	60 - 140	95	60 - 130	<0.049	ug/g		
8024959	1,2-Dichloropropane	2022/06/01	97	60 - 140	96	60 - 130	<0.040	ug/g		
8024959	1,3-Dichlorobenzene	2022/06/01	96	60 - 140	96	60 - 130	<0.040	ug/g		
8024959	1,4-Dichlorobenzene	2022/06/01	111	60 - 140	111	60 - 130	<0.040	ug/g		
8024959	Acetone (2-Propanone)	2022/06/01	96	60 - 140	101	60 - 140	<0.49	ug/g		
8024959	Benzene	2022/06/01	95	60 - 140	93	60 - 130	<0.0060	ug/g		
8024959	Bromodichloromethane	2022/06/01	102	60 - 140	101	60 - 130	<0.040	ug/g		
8024959	Bromoform	2022/06/01	92	60 - 140	98	60 - 130	<0.040	ug/g		
8024959	Bromomethane	2022/06/01	98	60 - 140	97	60 - 140	<0.040	ug/g		
8024959	Carbon Tetrachloride	2022/06/01	99	60 - 140	96	60 - 130	<0.040	ug/g		
8024959	Chlorobenzene	2022/06/01	95	60 - 140	96	60 - 130	<0.040	ug/g		
8024959	Chloroform	2022/06/01	98	60 - 140	97	60 - 130	<0.040	ug/g		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8024959	cis-1,2-Dichloroethylene	2022/06/01	99	60 - 140	97	60 - 130	<0.040	ug/g		
8024959	cis-1,3-Dichloropropene	2022/06/01	100	60 - 140	96	60 - 130	<0.030	ug/g		
8024959	Dibromochloromethane	2022/06/01	92	60 - 140	95	60 - 130	<0.040	ug/g		
8024959	Dichlorodifluoromethane (FREON 12)	2022/06/01	90	60 - 140	89	60 - 140	<0.040	ug/g		
8024959	Ethylbenzene	2022/06/01	93	60 - 140	92	60 - 130	<0.010	ug/g		
8024959	Ethylene Dibromide	2022/06/01	91	60 - 140	95	60 - 130	<0.040	ug/g		
8024959	Hexane	2022/06/01	102	60 - 140	97	60 - 130	<0.040	ug/g		
8024959	Methyl Ethyl Ketone (2-Butanone)	2022/06/01	104	60 - 140	111	60 - 140	<0.40	ug/g		
8024959	Methyl Isobutyl Ketone	2022/06/01	102	60 - 140	107	60 - 130	<0.40	ug/g		
8024959	Methyl t-butyl ether (MTBE)	2022/06/01	96	60 - 140	95	60 - 130	<0.040	ug/g		
8024959	Methylene Chloride(Dichloromethane)	2022/06/01	96	60 - 140	95	60 - 130	<0.049	ug/g		
8024959	o-Xylene	2022/06/01	92	60 - 140	91	60 - 130	<0.020	ug/g		
8024959	p+m-Xylene	2022/06/01	97	60 - 140	96	60 - 130	<0.020	ug/g		
8024959	Styrene	2022/06/01	101	60 - 140	102	60 - 130	<0.040	ug/g		
8024959	Tetrachloroethylene	2022/06/01	91	60 - 140	89	60 - 130	<0.040	ug/g		
8024959	Toluene	2022/06/01	91	60 - 140	90	60 - 130	<0.020	ug/g		
8024959	Total Xylenes	2022/06/01					<0.020	ug/g		
8024959	trans-1,2-Dichloroethylene	2022/06/01	102	60 - 140	98	60 - 130	<0.040	ug/g		
8024959	trans-1,3-Dichloropropene	2022/06/01	100	60 - 140	99	60 - 130	<0.040	ug/g		
8024959	Trichloroethylene	2022/06/01	103	60 - 140	99	60 - 130	<0.010	ug/g		
8024959	Trichlorofluoromethane (FREON 11)	2022/06/01	101	60 - 140	97	60 - 130	<0.040	ug/g		
8024959	Vinyl Chloride	2022/06/01	100	60 - 140	96	60 - 130	<0.019	ug/g		
8026308	Hot Water Ext. Boron (B)	2022/06/02	123	75 - 125	96	75 - 125	<0.050	ug/g	6.0	40
8026491	Acid Extractable Antimony (Sb)	2022/06/03	92	75 - 125	101	80 - 120	<0.20	ug/g	23	30
8026491	Acid Extractable Arsenic (As)	2022/06/03	98	75 - 125	100	80 - 120	<1.0	ug/g	1.1	30
8026491	Acid Extractable Barium (Ba)	2022/06/03	NC	75 - 125	97	80 - 120	<0.50	ug/g	0.75	30
8026491	Acid Extractable Beryllium (Be)	2022/06/03	101	75 - 125	98	80 - 120	<0.20	ug/g	0.94	30
8026491	Acid Extractable Boron (B)	2022/06/03	97	75 - 125	95	80 - 120	<5.0	ug/g	2.0	30
8026491	Acid Extractable Cadmium (Cd)	2022/06/03	101	75 - 125	97	80 - 120	<0.10	ug/g	0.30	30
8026491	Acid Extractable Chromium (Cr)	2022/06/03	NC	75 - 125	101	80 - 120	<1.0	ug/g	4.8	30
8026491	Acid Extractable Cobalt (Co)	2022/06/03	98	75 - 125	101	80 - 120	<0.10	ug/g	4.6	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8026491	Acid Extractable Copper (Cu)	2022/06/03	NC	75 - 125	97	80 - 120	<0.50	ug/g	0.056	30
8026491	Acid Extractable Lead (Pb)	2022/06/03	NC	75 - 125	99	80 - 120	<1.0	ug/g	1.9	30
8026491	Acid Extractable Mercury (Hg)	2022/06/03	89	75 - 125	95	80 - 120	<0.050	ug/g	1.7	30
8026491	Acid Extractable Molybdenum (Mo)	2022/06/03	101	75 - 125	98	80 - 120	<0.50	ug/g	7.4	30
8026491	Acid Extractable Nickel (Ni)	2022/06/03	101	75 - 125	101	80 - 120	<0.50	ug/g	1.5	30
8026491	Acid Extractable Selenium (Se)	2022/06/03	98	75 - 125	101	80 - 120	<0.50	ug/g	1.1	30
8026491	Acid Extractable Silver (Ag)	2022/06/03	99	75 - 125	97	80 - 120	<0.20	ug/g	NC	30
8026491	Acid Extractable Thallium (Tl)	2022/06/03	98	75 - 125	99	80 - 120	<0.050	ug/g	8.6	30
8026491	Acid Extractable Uranium (U)	2022/06/03	98	75 - 125	96	80 - 120	<0.050	ug/g	1.1	30
8026491	Acid Extractable Vanadium (V)	2022/06/03	102	75 - 125	98	80 - 120	<5.0	ug/g	0.66	30
8026491	Acid Extractable Zinc (Zn)	2022/06/03	NC	75 - 125	98	80 - 120	<5.0	ug/g	0.52	30
8027489	1-Methylnaphthalene	2022/06/01	103	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8027489	2-Methylnaphthalene	2022/06/01	97	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8027489	Acenaphthene	2022/06/01	104	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8027489	Acenaphthylene	2022/06/01	105	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
8027489	Anthracene	2022/06/01	119	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8027489	Benzo(a)anthracene	2022/06/01	113	50 - 130	110	50 - 130	<0.0050	ug/g	NC	40
8027489	Benzo(a)pyrene	2022/06/01	94	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8027489	Benzo(b/j)fluoranthene	2022/06/01	117	50 - 130	109	50 - 130	<0.0050	ug/g	NC	40
8027489	Benzo(g,h,i)perylene	2022/06/01	97	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8027489	Benzo(k)fluoranthene	2022/06/01	102	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8027489	Chrysene	2022/06/01	113	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8027489	Dibenzo(a,h)anthracene	2022/06/01	102	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
8027489	Fluoranthene	2022/06/01	119	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
8027489	Fluorene	2022/06/01	110	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
8027489	Indeno(1,2,3-cd)pyrene	2022/06/01	99	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
8027489	Naphthalene	2022/06/01	92	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8027489	Phenanthrene	2022/06/01	108	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8027489	Pyrene	2022/06/01	125	50 - 130	114	50 - 130	<0.0050	ug/g	NC	40
8027596	Chromium (VI)	2022/06/02	27 (1)	70 - 130	89	80 - 120	<0.18	ug/g	NC	35
8027958	WAD Cyanide (Free)	2022/06/02	82	75 - 125	94	80 - 120	<0.01	ug/g	NC	35

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8028690	F2 (C10-C16 Hydrocarbons)	2022/06/02	104	60 - 130	98	80 - 120	<10	ug/g	NC	30
8028690	F3 (C16-C34 Hydrocarbons)	2022/06/02	110	60 - 130	102	80 - 120	<50	ug/g	16	30
8028690	F4 (C34-C50 Hydrocarbons)	2022/06/02	111	60 - 130	104	80 - 120	<50	ug/g	NC	30
8028848	Conductivity	2022/06/02			100	90 - 110	<0.002	mS/cm	2.5	10
8029102	Available (CaCl2) pH	2022/06/02			100	97 - 103			0.36	N/A
8029112	Available (CaCl2) pH	2022/06/02			100	97 - 103			0.086	N/A
8031177	Benzene	2022/06/03	89	50 - 140	94	50 - 140	<0.020	ug/g	NC	50
8031177	Ethylbenzene	2022/06/03	99	50 - 140	101	50 - 140	<0.020	ug/g	NC	50
8031177	F1 (C6-C10) - BTEX	2022/06/03					<10	ug/g	NC	30
8031177	F1 (C6-C10)	2022/06/03	76	60 - 140	84	80 - 120	<10	ug/g	NC	30
8031177	o-Xylene	2022/06/03	96	50 - 140	97	50 - 140	<0.020	ug/g	NC	50
8031177	p+m-Xylene	2022/06/03	96	50 - 140	97	50 - 140	<0.040	ug/g	NC	50
8031177	Toluene	2022/06/03	87	50 - 140	89	50 - 140	<0.020	ug/g	NC	50
8031177	Total Xylenes	2022/06/03					<0.040	ug/g	NC	50

N/A = Not Applicable

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

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

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

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

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

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

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

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

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Bureau Veritas Job #: C2E5133
Report Date: 2022/06/03

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

VALIDATION SIGNATURE PAGE

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

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 Signature Page.

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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.

Exceedance Summary Table – Reg153/04 T1-Soil/Res

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.

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CHAIN OF CUSTODY RECORD

ENV COC - 00014v0

27-May-22 16:09
Ashton Gibson
C2E5133
URF ENV-1740

Invoice Information		Report Information (if differs from invoice)		Project Information	
Invoice To Requires Report ☐					
Company:	DS Accounting	Company:		Quotation #:	
Contact Name:		Contact Name:	Kirstin Olsen	P.O. #/ AFE#:	
Street Address:		Street Address:	6221 Highway 7	Project #:	21-455-100
City: / Prov: / Postal Code:		City: / Prov: / Postal Code	Vaughan / ON / L4H0K8	Site #:	Neyagawa & Burnhamthorpe
Phone:		Phone:	905-264-9393	Site Location:	
Email:		Email:	kirstin.olsen@dsconsultants.ca	Site Location Province:	
Copies:		Copies:		Sampled By:	Ryan Zhang

Regulatory Criteria

REG 153: ☑ Table 1 ☑ Res/Park ☐ Med/Fine ☐ Course ☑ For RSC; ☑ Table 2 ☐ Ind/Comm; ☐ Table 3 ☐ Other

OTHER: ☐ CCME ☐ Reg 558* *min 3 day TAT ☐ MISA ☐ SWQD; ☐ Reg 406, Table: ☐ Sanitary Sewer Bylaw ☐ Storm Sewer Bylaw Municipality: ☐ Other:

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

Regular TurnAround Time (TAT): ☑ 5 to 7 days ☐ 10 days

Rush TurnAround Time (TAT) - Surcharges apply: ☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 DAY

Date Required: YY / MM / DD

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	FIELD FILTERED	FIELD PRESERVED	LAB FILTRATION REQUIRED	BTEX/ PHC F1	PHCs F2 - F5	VOCs	REG 153 METALS & INORGANICS	REG 153 ICPMS METALS	REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	pH	PAHs	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE	COMMENTS
1	BH22-13 SS1	22	5	25			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	1	☐	
2	BH22-13 SS3	22	5	25			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	1	☐	
3	BH22-11 SS1	22	5	25			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	1	☐	
4	BH22-11 SS3	22	5	25			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	1	☐	
5	MW22-2 SS1	22	5	26			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	2	☐	
6	MW22-2 SS2	22	5	26			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	1	☐	
7	MW22-2 SS3	22	5	26			Soil	☐	☐	☐	☑	☑	☐	☐	☐	☐	☑	☐	4	☐	
8	MW22-2 SS4	22	5	26			Soil	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	3	☐	
9	DUP 3	22	5	26			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	2	☐	
10	DUP 4	22	5	26			Soil	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	3	☐	
11								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
12								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
13								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
14								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	
15								☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	

*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 VIEWIN AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COP

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	☑					
Seal intact	☑					
Cooling medal present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal Present						
Seal Intact						
Cooling Media Present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling Media Present						

TEMPS BY:

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
Ryan Zhang	2022	05	26		
	2022	05	26		

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
	2022	05	27	16	09

SPECIAL INSTRUCTIONS

Your Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Your C.O.C. #: na

Attention: Kirstin Olsen

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

Report Date: 2022/06/02
Report #: R7148816
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2D7426
Received: 2022/05/20, 08:02

Sample Matrix: Soil
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	5	N/A	2022/05/31	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron	7	2022/05/28	2022/05/30	CAM SOP-00408	R153 Ana. Prot. 2011
1,3-Dichloropropene Sum	3	N/A	2022/05/25		EPA 8260C m
1,3-Dichloropropene Sum	1	N/A	2022/05/27		EPA 8260C m
Free (WAD) Cyanide	7	2022/05/30	2022/05/31	CAM SOP-00457	OMOE E3015 m
Conductivity	7	2022/05/30	2022/05/30	CAM SOP-00414	OMOE E3530 v1 m
Hexavalent Chromium in Soil by IC (1)	3	2022/05/28	2022/05/30	CAM SOP-00436	EPA 3060/7199 m
Hexavalent Chromium in Soil by IC (1)	1	2022/05/28	2022/05/31	CAM SOP-00436	EPA 3060/7199 m
Hexavalent Chromium in Soil by IC (1)	3	2022/05/30	2022/05/31	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydrocarbons F2-F4 in Soil (2)	3	2022/05/27	2022/05/30	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS	7	2022/05/28	2022/05/31	CAM SOP-00447	EPA 6020B m
Moisture	13	N/A	2022/05/21	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (3)	3	2022/05/31	2022/06/01	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters	3	N/A	2022/05/24	CAM SOP-00307	EPA 8081/8082 m
PAH Compounds in Soil by GC/MS (SIM)	5	2022/05/28	2022/05/29	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT	7	2022/05/30	2022/05/30	CAM SOP-00413	EPA 9045 D m
pH CaCl2 EXTRACT	3	2022/05/31	2022/05/31	CAM SOP-00413	EPA 9045 D m
Sodium Adsorption Ratio (SAR)	7	N/A	2022/05/31	CAM SOP-00102	EPA 6010C
Volatile Organic Compounds and F1 PHCs	3	N/A	2022/05/24	CAM SOP-00230	EPA 8260C m
Volatile Organic Compounds in Soil	1	N/A	2022/05/26	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

Your Project #: 21-455-100
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Received: 2022/05/20, 08:02

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.
(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.
(3) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
02 Jun 2022 12:25:52

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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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.

Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SRH396			SRH400		SRH401		
Sampling Date			2022/05/18			2022/05/18		2022/05/18		
COC Number			na			na		na		
	UNITS	Criteria	BH22-1B SS1	RDL	QC Batch	BH22-3 SS1	QC Batch	BH22-7 SS1	RDL	QC Batch
Calculated Parameters										
Sodium Adsorption Ratio	N/A	2.4	1.1		8007683	0.63	8007683	0.45		8007683
Inorganics										
Conductivity	mS/cm	0.57	0.32	0.002	8022135	0.20	8022135	0.34	0.002	8022135
Moisture	%	-	18	1.0	8009494					
Available (CaCl2) pH	pH	-	7.46		8022159	7.67	8022159	6.85		8022060
WAD Cyanide (Free)	ug/g	0.051	<0.01	0.01	8021529	<0.01	8021529	<0.01	0.01	8021529
Chromium (VI)	ug/g	0.66	<0.18	0.18	8020836	<0.18	8021993	<0.18	0.18	8021993
Metals										
Hot Water Ext. Boron (B)	ug/g	-	0.10	0.050	8020761	0.065	8020761	0.062	0.050	8020761
Acid Extractable Antimony (Sb)	ug/g	1.3	0.23	0.20	8020614	<0.20	8020614	0.26	0.20	8020614
Acid Extractable Arsenic (As)	ug/g	18	5.6	1.0	8020614	4.8	8020614	6.5	1.0	8020614
Acid Extractable Barium (Ba)	ug/g	220	83	0.50	8020614	71	8020614	210	0.50	8020614
Acid Extractable Beryllium (Be)	ug/g	2.5	1.1	0.20	8020614	0.79	8020614	1.3	0.20	8020614
Acid Extractable Boron (B)	ug/g	36	6.6	5.0	8020614	8.7	8020614	5.1	5.0	8020614
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.17	0.10	8020614	0.13	8020614	0.21	0.10	8020614
Acid Extractable Chromium (Cr)	ug/g	70	24	1.0	8020614	22	8020614	30	1.0	8020614
Acid Extractable Cobalt (Co)	ug/g	21	15	0.10	8020614	12	8020614	20	0.10	8020614
Acid Extractable Copper (Cu)	ug/g	92	30	0.50	8020614	29	8020614	43	0.50	8020614
Acid Extractable Lead (Pb)	ug/g	120	18	1.0	8020614	12	8020614	18	1.0	8020614
Acid Extractable Molybdenum (Mo)	ug/g	2	0.59	0.50	8020614	<0.50	8020614	0.89	0.50	8020614
Acid Extractable Nickel (Ni)	ug/g	82	30	0.50	8020614	29	8020614	47	0.50	8020614
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	0.50	8020614	<0.50	8020614	<0.50	0.50	8020614
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	0.20	8020614	<0.20	8020614	<0.20	0.20	8020614
Acid Extractable Thallium (Tl)	ug/g	1	0.16	0.050	8020614	0.13	8020614	0.17	0.050	8020614
Acid Extractable Uranium (U)	ug/g	2.5	0.56	0.050	8020614	0.53	8020614	0.61	0.050	8020614
Acid Extractable Vanadium (V)	ug/g	86	33	5.0	8020614	31	8020614	45	5.0	8020614
Acid Extractable Zinc (Zn)	ug/g	290	73	5.0	8020614	65	8020614	75	5.0	8020614

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SRH396			SRH400		SRH401		
Sampling Date			2022/05/18			2022/05/18		2022/05/18		
COC Number			na			na		na		
	UNITS	Criteria	BH22-1B SS1	RDL	QC Batch	BH22-3 SS1	QC Batch	BH22-7 SS1	RDL	QC Batch
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	0.050	8020614	<0.050	8020614	<0.050	0.050	8020614

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)
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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SRH402		SRH404		SRH406		
Sampling Date			2022/05/18		2022/05/18		2022/05/18		
COC Number			na		na		na		
	UNITS	Criteria	BH22-8 SS1	QC Batch	BH22-5 SS1	QC Batch	BH22-6 SS1	RDL	QC Batch
Calculated Parameters									
Sodium Adsorption Ratio	N/A	2.4	0.26 (1)	8007683	0.25	8007683	0.25 (1)		8007683
Inorganics									
Conductivity	mS/cm	0.57	0.14	8022135	0.18	8022135	0.15	0.002	8022135
Available (CaCl2) pH	pH	-	7.74	8022159	7.64	8022159	7.69		8022159
WAD Cyanide (Free)	ug/g	0.051	<0.01	8021529	<0.01	8021529	<0.01	0.01	8021529
Chromium (VI)	ug/g	0.66	<0.18	8020836	<0.18	8021993	<0.18	0.18	8020836
Metals									
Hot Water Ext. Boron (B)	ug/g	-	<0.050	8020761	0.073	8020761	0.088	0.050	8020761
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	8020614	<0.20	8020614	<0.20	0.20	8020614
Acid Extractable Arsenic (As)	ug/g	18	4.1	8020614	4.9	8020614	4.2	1.0	8020614
Acid Extractable Barium (Ba)	ug/g	220	56	8020614	69	8020614	80	0.50	8020614
Acid Extractable Beryllium (Be)	ug/g	2.5	0.66	8020614	0.65	8020614	0.66	0.20	8020614
Acid Extractable Boron (B)	ug/g	36	6.8	8020614	8.9	8020614	9.3	5.0	8020614
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.15	8020614	0.11	8020614	0.11	0.10	8020614
Acid Extractable Chromium (Cr)	ug/g	70	19	8020614	20	8020614	18	1.0	8020614
Acid Extractable Cobalt (Co)	ug/g	21	12	8020614	12	8020614	12	0.10	8020614
Acid Extractable Copper (Cu)	ug/g	92	26	8020614	27	8020614	29	0.50	8020614
Acid Extractable Lead (Pb)	ug/g	120	12	8020614	12	8020614	12	1.0	8020614
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	8020614	0.55	8020614	0.53	0.50	8020614
Acid Extractable Nickel (Ni)	ug/g	82	28	8020614	27	8020614	26	0.50	8020614
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	8020614	<0.50	8020614	<0.50	0.50	8020614
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	8020614	<0.20	8020614	<0.20	0.20	8020614
Acid Extractable Thallium (Tl)	ug/g	1	0.15	8020614	0.16	8020614	0.14	0.050	8020614
Acid Extractable Uranium (U)	ug/g	2.5	0.55	8020614	0.61	8020614	0.71	0.050	8020614
Acid Extractable Vanadium (V)	ug/g	86	26	8020614	27	8020614	25	5.0	8020614

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
(1) Sodium was not detected. To report SAR the sodium detection limit was used in the calculation. This value represents a maximum ratio.

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Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SRH402		SRH404		SRH406		
Sampling Date			2022/05/18		2022/05/18		2022/05/18		
COC Number			na		na		na		
	UNITS	Criteria	BH22-8 SS1	QC Batch	BH22-5 SS1	QC Batch	BH22-6 SS1	RDL	QC Batch
Acid Extractable Zinc (Zn)	ug/g	290	66	8020614	64	8020614	64	5.0	8020614
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	8020614	<0.050	8020614	<0.050	0.050	8020614

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SRH410			SRH410		
Sampling Date			2022/05/19			2022/05/19		
COC Number			na			na		
	UNITS	Criteria	BH22-4 SS1	RDL	QC Batch	BH22-4 SS1 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Sodium Adsorption Ratio	N/A	2.4	1.2		8007683			
Inorganics								
Conductivity	mS/cm	0.57	0.17	0.002	8022135			
Available (CaCl2) pH	pH	-	7.77		8022060			
WAD Cyanide (Free)	ug/g	0.051	<0.01	0.01	8021529			
Chromium (VI)	ug/g	0.66	<0.18	0.18	8020836			
Metals								
Hot Water Ext. Boron (B)	ug/g	-	0.058	0.050	8020761	0.053	0.050	8020761
Acid Extractable Antimony (Sb)	ug/g	1.3	0.24	0.20	8020614			
Acid Extractable Arsenic (As)	ug/g	18	4.7	1.0	8020614			
Acid Extractable Barium (Ba)	ug/g	220	54	0.50	8020614			
Acid Extractable Beryllium (Be)	ug/g	2.5	0.64	0.20	8020614			
Acid Extractable Boron (B)	ug/g	36	7.6	5.0	8020614			
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.12	0.10	8020614			
Acid Extractable Chromium (Cr)	ug/g	70	18	1.0	8020614			
Acid Extractable Cobalt (Co)	ug/g	21	13	0.10	8020614			
Acid Extractable Copper (Cu)	ug/g	92	29	0.50	8020614			
Acid Extractable Lead (Pb)	ug/g	120	13	1.0	8020614			
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	0.50	8020614			
Acid Extractable Nickel (Ni)	ug/g	82	28	0.50	8020614			
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	0.50	8020614			
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	0.20	8020614			
Acid Extractable Thallium (Tl)	ug/g	1	0.14	0.050	8020614			
Acid Extractable Uranium (U)	ug/g	2.5	0.56	0.050	8020614			
Acid Extractable Vanadium (V)	ug/g	86	25	5.0	8020614			
Acid Extractable Zinc (Zn)	ug/g	290	63	5.0	8020614			

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

O.REG 153 METALS & INORGANICS PKG (SOIL)

Bureau Veritas ID			SRH410			SRH410		
Sampling Date			2022/05/19			2022/05/19		
COC Number			na			na		
	UNITS	Criteria	BH22-4 SS1	RDL	QC Batch	BH22-4 SS1 Lab-Dup	RDL	QC Batch
Acid Extractable Mercury (Hg)	ug/g	0.27	<0.050	0.050	8020614			

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID			SRH400	SRH401	SRH402		
Sampling Date			2022/05/18	2022/05/18	2022/05/18		
COC Number			na	na	na		
	UNITS	Criteria	BH22-3 SS1	BH22-7 SS1	BH22-8 SS1	RDL	QC Batch
Inorganics							
Moisture	%	-	18	20	17	1.0	8009494
Calculated Parameters							
Chlordane (Total)	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8008291
o,p-DDD + p,p-DDD	ug/g	-	<0.0020	<0.0020	<0.0020	0.0020	8008291
o,p-DDE + p,p-DDE	ug/g	-	<0.0020	<0.0020	<0.0020	0.0020	8008291
o,p-DDT + p,p-DDT	ug/g	-	<0.0020	<0.0020	<0.0020	0.0020	8008291
Total Endosulfan	ug/g	-	<0.0020	<0.0020	<0.0020	0.0020	8008291
Total PCB	ug/g	0.3	<0.015	<0.015	<0.015	0.015	8008291
Pesticides & Herbicides							
Aldrin	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
a-Chlordane	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
g-Chlordane	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
o,p-DDD	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
p,p-DDD	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
o,p-DDE	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
p,p-DDE	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
o,p-DDT	ug/g	1.4	<0.0020	<0.0020	<0.0020	0.0020	8025555
p,p-DDT	ug/g	1.4	<0.0020	<0.0020	<0.0020	0.0020	8025555
Dieldrin	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
Lindane	ug/g	0.01	<0.0020	<0.0020	<0.0020	0.0020	8025555
Endosulfan I (alpha)	ug/g	0.04	<0.0020	<0.0020	<0.0020	0.0020	8025555
Endosulfan II (beta)	ug/g	0.04	<0.0020	<0.0020	<0.0020	0.0020	8025555
Endrin	ug/g	0.04	<0.0020	<0.0020	<0.0020	0.0020	8025555
Heptachlor	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
Heptachlor epoxide	ug/g	0.05	<0.0020	<0.0020	<0.0020	0.0020	8025555
Hexachlorobenzene	ug/g	0.01	<0.0020	<0.0020	<0.0020	0.0020	8025555
Hexachlorobutadiene	ug/g	0.01	<0.0020	<0.0020	<0.0020	0.0020	8025555
Hexachloroethane	ug/g	0.01	<0.0020	<0.0020	<0.0020	0.0020	8025555
Methoxychlor	ug/g	0.05	<0.0050	<0.0050	<0.0050	0.0050	8025555

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 OC PESTICIDES (SOIL)

Bureau Veritas ID			SRH400	SRH401	SRH402		
Sampling Date			2022/05/18	2022/05/18	2022/05/18		
COC Number			na	na	na		
	UNITS	Criteria	BH22-3 SS1	BH22-7 SS1	BH22-8 SS1	RDL	QC Batch
Aroclor 1242	ug/g	-	<0.015	<0.015	<0.015	0.015	8025555
Aroclor 1248	ug/g	-	<0.015	<0.015	<0.015	0.015	8025555
Aroclor 1254	ug/g	-	<0.015	<0.015	<0.015	0.015	8025555
Aroclor 1260	ug/g	-	<0.015	<0.015	<0.015	0.015	8025555
Surrogate Recovery (%)							
2,4,5,6-Tetrachloro-m-xylene	%	-	73	79	68		8025555
Decachlorobiphenyl	%	-	88	91	88		8025555

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			SRH397	SRH404	SRH406	SRH408	SRH410		
Sampling Date			2022/05/18	2022/05/18	2022/05/18	2022/05/18	2022/05/19		
COC Number			na	na	na	na	na		
	UNITS	Criteria	BH22-1B SS2	BH22-5 SS1	BH22-6 SS1	DUP 1	BH22-4 SS1	RDL	QC Batch
Inorganics									
Moisture	%	-	12	14	15	12	13	1.0	8009494
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	8007675
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Acenaphthylene	ug/g	0.093	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Anthracene	ug/g	0.16	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Benzo(a)anthracene	ug/g	0.36	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Benzo(a)pyrene	ug/g	0.3	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Chrysene	ug/g	2.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Fluoranthene	ug/g	0.56	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Phenanthrene	ug/g	0.69	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Pyrene	ug/g	1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8020489
Surrogate Recovery (%)									
D10-Anthracene	%	-	110	109	109	111	110		8020489
D14-Terphenyl (FS)	%	-	95	93	94	99	97		8020489
D8-Acenaphthylene	%	-	64	63	67	72	70		8020489

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			SRH398	SRH405	SRH407		
Sampling Date			2022/05/18	2022/05/18	2022/05/18		
COC Number			na	na	na		
	UNITS	Criteria	BH22-1B SS3	BH22-5 SS2	BH22-6 SS2	RDL	QC Batch
Inorganics							
Moisture	%	-	10	14	14	1.0	8009494
Calculated Parameters							
1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	<0.050	<0.050	0.050	8008334
Volatile Organics							
Acetone (2-Propanone)	ug/g	0.5	<0.49	<0.49	<0.49	0.49	8009871
Benzene	ug/g	0.02	<0.0060	<0.0060	<0.0060	0.0060	8009871
Bromodichloromethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Bromoform	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Bromomethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Carbon Tetrachloride	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Chlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Chloroform	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Dibromochloromethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,2-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,3-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,4-Dichlorobenzene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,1-Dichloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,2-Dichloroethane	ug/g	0.05	<0.049	<0.049	<0.049	0.049	8009871
1,1-Dichloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
cis-1,2-Dichloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
trans-1,2-Dichloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,2-Dichloropropane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	<0.030	<0.030	0.030	8009871
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Ethylbenzene	ug/g	0.05	<0.010	<0.010	<0.010	0.010	8009871
Ethylene Dibromide	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Hexane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.049	<0.049	<0.049	0.049	8009871

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			SRH398	SRH405	SRH407		
Sampling Date			2022/05/18	2022/05/18	2022/05/18		
COC Number			na	na	na		
	UNITS	Criteria	BH22-1B SS3	BH22-5 SS2	BH22-6 SS2	RDL	QC Batch
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.40	<0.40	<0.40	0.40	8009871
Methyl Isobutyl Ketone	ug/g	0.5	<0.40	<0.40	<0.40	0.40	8009871
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Styrene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Tetrachloroethylene	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	0.020	8009871
1,1,1-Trichloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
1,1,2-Trichloroethane	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8009871
Trichloroethylene	ug/g	0.05	<0.010	<0.010	<0.010	0.010	8009871
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.040	<0.040	<0.040	0.040	8009871
Vinyl Chloride	ug/g	0.02	<0.019	<0.019	<0.019	0.019	8009871
p+m-Xylene	ug/g	-	<0.020	<0.020	<0.020	0.020	8009871
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	0.020	8009871
Total Xylenes	ug/g	0.05	<0.020	<0.020	<0.020	0.020	8009871
F1 (C6-C10)	ug/g	25	<10	<10	<10	10	8009871
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	10	8009871
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	10	8021954
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	<50	50	8021954
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	<50	50	8021954
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes		8021954
Surrogate Recovery (%)							
o-Terphenyl	%	-	93	90	93		8021954
4-Bromofluorobenzene	%	-	97	95	97		8009871
D10-o-Xylene	%	-	88	90	90		8009871
D4-1,2-Dichloroethane	%	-	109	107	108		8009871
D8-Toluene	%	-	93	93	92		8009871

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 VOCS BY HS (SOIL)

Bureau Veritas ID			SRH409		
Sampling Date			2022/05/18		
COC Number			na		
	UNITS	Criteria	DUP 2	RDL	QC Batch
Inorganics					
Moisture	%	-	15	1.0	8009266
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/g	0.05	<0.050	0.050	8008334
Volatile Organics					
Acetone (2-Propanone)	ug/g	0.5	<0.49	0.49	8013893
Benzene	ug/g	0.02	<0.0060	0.0060	8013893
Bromodichloromethane	ug/g	0.05	<0.040	0.040	8013893
Bromoform	ug/g	0.05	<0.040	0.040	8013893
Bromomethane	ug/g	0.05	<0.040	0.040	8013893
Carbon Tetrachloride	ug/g	0.05	<0.040	0.040	8013893
Chlorobenzene	ug/g	0.05	<0.040	0.040	8013893
Chloroform	ug/g	0.05	<0.040	0.040	8013893
Dibromochloromethane	ug/g	0.05	<0.040	0.040	8013893
1,2-Dichlorobenzene	ug/g	0.05	<0.040	0.040	8013893
1,3-Dichlorobenzene	ug/g	0.05	<0.040	0.040	8013893
1,4-Dichlorobenzene	ug/g	0.05	<0.040	0.040	8013893
Dichlorodifluoromethane (FREON 12)	ug/g	0.05	<0.040	0.040	8013893
1,1-Dichloroethane	ug/g	0.05	<0.040	0.040	8013893
1,2-Dichloroethane	ug/g	0.05	<0.049	0.049	8013893
1,1-Dichloroethylene	ug/g	0.05	<0.040	0.040	8013893
cis-1,2-Dichloroethylene	ug/g	0.05	<0.040	0.040	8013893
trans-1,2-Dichloroethylene	ug/g	0.05	<0.040	0.040	8013893
1,2-Dichloropropane	ug/g	0.05	<0.040	0.040	8013893
cis-1,3-Dichloropropene	ug/g	0.05	<0.030	0.030	8013893
trans-1,3-Dichloropropene	ug/g	0.05	<0.040	0.040	8013893
Ethylbenzene	ug/g	0.05	<0.010	0.010	8013893
Ethylene Dibromide	ug/g	0.05	<0.040	0.040	8013893
Hexane	ug/g	0.05	<0.040	0.040	8013893

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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O.REG 153 VOCS BY HS (SOIL)

Bureau Veritas ID			SRH409		
Sampling Date			2022/05/18		
COC Number			na		
	UNITS	Criteria	DUP 2	RDL	QC Batch
Methylene Chloride(Dichloromethane)	ug/g	0.05	<0.049	0.049	8013893
Methyl Ethyl Ketone (2-Butanone)	ug/g	0.5	<0.40	0.40	8013893
Methyl Isobutyl Ketone	ug/g	0.5	<0.40	0.40	8013893
Methyl t-butyl ether (MTBE)	ug/g	0.05	<0.040	0.040	8013893
Styrene	ug/g	0.05	<0.040	0.040	8013893
1,1,1,2-Tetrachloroethane	ug/g	0.05	<0.040	0.040	8013893
1,1,2,2-Tetrachloroethane	ug/g	0.05	<0.040	0.040	8013893
Tetrachloroethylene	ug/g	0.05	<0.040	0.040	8013893
Toluene	ug/g	0.2	<0.020	0.020	8013893
1,1,1-Trichloroethane	ug/g	0.05	<0.040	0.040	8013893
1,1,2-Trichloroethane	ug/g	0.05	<0.040	0.040	8013893
Trichloroethylene	ug/g	0.05	<0.010	0.010	8013893
Trichlorofluoromethane (FREON 11)	ug/g	0.25	<0.040	0.040	8013893
Vinyl Chloride	ug/g	0.02	<0.019	0.019	8013893
p+m-Xylene	ug/g	-	<0.020	0.020	8013893
o-Xylene	ug/g	-	<0.020	0.020	8013893
Total Xylenes	ug/g	0.05	<0.020	0.020	8013893
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	95		8013893
D10-o-Xylene	%	-	112		8013893
D4-1,2-Dichloroethane	%	-	100		8013893
D8-Toluene	%	-	94		8013893

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 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		SRH403	SRH412	SRH412	SRH413	
Sampling Date		2022/05/18	2022/05/19	2022/05/19	2022/05/19	
COC Number		na	na	na	na	
	UNITS	BH22-12 SS4	BH22-10 SS2	BH22-10 SS2 Lab-Dup	BH22-10 SS4	QC Batch
Inorganics						
Available (CaCl2) pH	pH	7.87	7.88	7.87	7.83	8023757

QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

TEST SUMMARY

Bureau Veritas ID: SRH396
Sample ID: BH22-1B SS1
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8020836	2022/05/28	2022/05/30	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
pH CaCl2 EXTRACT	AT	8022159	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

Bureau Veritas ID: SRH397
Sample ID: BH22-1B SS2
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8007675	N/A	2022/05/31	Automated Statchk
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8020489	2022/05/28	2022/05/29	Jonghan Yoon

Bureau Veritas ID: SRH398
Sample ID: BH22-1B SS3
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8008334	N/A	2022/05/25	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8021954	2022/05/27	2022/05/30	Ksenia Trofimova
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8009871	N/A	2022/05/24	Denis Reid

Bureau Veritas ID: SRH400
Sample ID: BH22-3 SS1
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8021993	2022/05/30	2022/05/31	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
OC Pesticides (Selected) & PCB	GC/ECD	8025555	2022/05/31	2022/06/01	Li Peng
OC Pesticides Summed Parameters	CALC	8008291	N/A	2022/05/24	Automated Statchk
pH CaCl2 EXTRACT	AT	8022159	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

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Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

TEST SUMMARY

Bureau Veritas ID: SRH401
Sample ID: BH22-7 SS1
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8021993	2022/05/30	2022/05/31	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
OC Pesticides (Selected) & PCB	GC/ECD	8025555	2022/05/31	2022/06/01	Li Peng
OC Pesticides Summed Parameters	CALC	8008291	N/A	2022/05/24	Automated Statchk
pH CaCl2 EXTRACT	AT	8022060	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

Bureau Veritas ID: SRH402
Sample ID: BH22-8 SS1
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8020836	2022/05/28	2022/05/30	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
OC Pesticides (Selected) & PCB	GC/ECD	8025555	2022/05/31	2022/06/01	Li Peng
OC Pesticides Summed Parameters	CALC	8008291	N/A	2022/05/24	Automated Statchk
pH CaCl2 EXTRACT	AT	8022159	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

Bureau Veritas ID: SRH403
Sample ID: BH22-12 SS4
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8023757	2022/05/31	2022/05/31	Taslima Aktar

Bureau Veritas ID: SRH404
Sample ID: BH22-5 SS1
Matrix: Soil

Collected: 2022/05/18
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8007675	N/A	2022/05/31	Automated Statchk
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8021993	2022/05/30	2022/05/31	Violeta Porcila

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TEST SUMMARY

Bureau Veritas ID: SRH404 **Collected:** 2022/05/18
Sample ID: BH22-5 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8020489	2022/05/28	2022/05/29	Jonghan Yoon
pH CaCl2 EXTRACT	AT	8022159	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

Bureau Veritas ID: SRH405 **Collected:** 2022/05/18
Sample ID: BH22-5 SS2 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8008334	N/A	2022/05/25	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8021954	2022/05/27	2022/05/30	Ksenia Trofimova
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8009871	N/A	2022/05/24	Denis Reid

Bureau Veritas ID: SRH406 **Collected:** 2022/05/18
Sample ID: BH22-6 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8007675	N/A	2022/05/31	Automated Statchk
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8020836	2022/05/28	2022/05/30	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8020489	2022/05/28	2022/05/29	Jonghan Yoon
pH CaCl2 EXTRACT	AT	8022159	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

Bureau Veritas ID: SRH407 **Collected:** 2022/05/18
Sample ID: BH22-6 SS2 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8008334	N/A	2022/05/25	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8021954	2022/05/27	2022/05/30	Ksenia Trofimova
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
Volatile Organic Compounds and F1 PHCs	GC/MSFD	8009871	N/A	2022/05/24	Denis Reid

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TEST SUMMARY

Bureau Veritas ID: SRH408 **Collected:** 2022/05/18
Sample ID: DUP 1 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8007675	N/A	2022/05/31	Automated Statchk
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8020489	2022/05/28	2022/05/29	Jonghan Yoon

Bureau Veritas ID: SRH409 **Collected:** 2022/05/18
Sample ID: DUP 2 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8008334	N/A	2022/05/27	Automated Statchk
Moisture	BAL	8009266	N/A	2022/05/21	Kruti Jitesh Patel
Volatile Organic Compounds in Soil	GC/MS	8013893	N/A	2022/05/26	Juan Pangilinan

Bureau Veritas ID: SRH410 **Collected:** 2022/05/19
Sample ID: BH22-4 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8007675	N/A	2022/05/31	Automated Statchk
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John
Free (WAD) Cyanide	TECH	8021529	2022/05/30	2022/05/31	Nimarta Singh
Conductivity	AT	8022135	2022/05/30	2022/05/30	Kien Tran
Hexavalent Chromium in Soil by IC	IC/SPEC	8020836	2022/05/28	2022/05/31	Violeta Porcila
Acid Extractable Metals by ICPMS	ICP/MS	8020614	2022/05/28	2022/05/31	Daniel Teclu
Moisture	BAL	8009494	N/A	2022/05/21	Kruti Jitesh Patel
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8020489	2022/05/28	2022/05/29	Jonghan Yoon
pH CaCl2 EXTRACT	AT	8022060	2022/05/30	2022/05/30	Taslima Aktar
Sodium Adsorption Ratio (SAR)	CALC/MET	8007683	N/A	2022/05/31	Automated Statchk

Bureau Veritas ID: SRH410 Dup **Collected:** 2022/05/19
Sample ID: BH22-4 SS1 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hot Water Extractable Boron	ICP	8020761	2022/05/28	2022/05/30	Jolly John

Bureau Veritas ID: SRH412 **Collected:** 2022/05/19
Sample ID: BH22-10 SS2 **Shipped:**
Matrix: Soil **Received:** 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8023757	2022/05/31	2022/05/31	Taslima Aktar

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TEST SUMMARY

Bureau Veritas ID: SRH412 Dup
Sample ID: BH22-10 SS2
Matrix: Soil

Collected: 2022/05/19
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8023757	2022/05/31	2022/05/31	Taslima Aktar

Bureau Veritas ID: SRH413
Sample ID: BH22-10 SS4
Matrix: Soil

Collected: 2022/05/19
Shipped:
Received: 2022/05/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	8023757	2022/05/31	2022/05/31	Taslima Aktar

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GENERAL COMMENTS

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

Package 1	1.3°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8009871	4-Bromofluorobenzene	2022/05/24	103	60 - 140	102	60 - 140	100	%		
8009871	D10-o-Xylene	2022/05/24	94	60 - 130	93	60 - 130	90	%		
8009871	D4-1,2-Dichloroethane	2022/05/24	107	60 - 140	104	60 - 140	105	%		
8009871	D8-Toluene	2022/05/24	100	60 - 140	102	60 - 140	94	%		
8013893	4-Bromofluorobenzene	2022/05/26	102	60 - 140	105	60 - 140	97	%		
8013893	D10-o-Xylene	2022/05/26	103	60 - 130	105	60 - 130	96	%		
8013893	D4-1,2-Dichloroethane	2022/05/26	93	60 - 140	99	60 - 140	100	%		
8013893	D8-Toluene	2022/05/26	105	60 - 140	103	60 - 140	93	%		
8020489	D10-Anthracene	2022/05/29	101	50 - 130	110	50 - 130	113	%		
8020489	D14-Terphenyl (FS)	2022/05/29	93	50 - 130	100	50 - 130	93	%		
8020489	D8-Acenaphthylene	2022/05/29	86	50 - 130	92	50 - 130	72	%		
8021954	o-Terphenyl	2022/05/30	99	60 - 130	90	60 - 130	95	%		
8025555	2,4,5,6-Tetrachloro-m-xylene	2022/06/01	83	50 - 130	74	50 - 130	78	%		
8025555	Decachlorobiphenyl	2022/06/01	82	50 - 130	98	50 - 130	89	%		
8009266	Moisture	2022/05/21							7.3	20
8009494	Moisture	2022/05/21							0.81	20
8009871	1,1,1,2-Tetrachloroethane	2022/05/24	104	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8009871	1,1,1-Trichloroethane	2022/05/24	109	60 - 140	106	60 - 130	<0.040	ug/g	NC	50
8009871	1,1,2,2-Tetrachloroethane	2022/05/24	97	60 - 140	95	60 - 130	<0.040	ug/g	NC	50
8009871	1,1,2-Trichloroethane	2022/05/24	105	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8009871	1,1-Dichloroethane	2022/05/24	100	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8009871	1,1-Dichloroethylene	2022/05/24	104	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8009871	1,2-Dichlorobenzene	2022/05/24	97	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8009871	1,2-Dichloroethane	2022/05/24	103	60 - 140	99	60 - 130	<0.049	ug/g	NC	50
8009871	1,2-Dichloropropane	2022/05/24	101	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8009871	1,3-Dichlorobenzene	2022/05/24	99	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8009871	1,4-Dichlorobenzene	2022/05/24	116	60 - 140	116	60 - 130	<0.040	ug/g	NC	50
8009871	Acetone (2-Propanone)	2022/05/24	98	60 - 140	90	60 - 140	<0.49	ug/g	NC	50
8009871	Benzene	2022/05/24	98	60 - 140	96	60 - 130	<0.0060	ug/g	NC	50
8009871	Bromodichloromethane	2022/05/24	108	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8009871	Bromoform	2022/05/24	105	60 - 140	101	60 - 130	<0.040	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8009871	Bromomethane	2022/05/24	113	60 - 140	106	60 - 140	<0.040	ug/g	NC	50
8009871	Carbon Tetrachloride	2022/05/24	108	60 - 140	106	60 - 130	<0.040	ug/g	NC	50
8009871	Chlorobenzene	2022/05/24	101	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8009871	Chloroform	2022/05/24	106	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8009871	cis-1,2-Dichloroethylene	2022/05/24	107	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8009871	cis-1,3-Dichloropropene	2022/05/24	100	60 - 140	95	60 - 130	<0.030	ug/g	NC	50
8009871	Dibromochloromethane	2022/05/24	103	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8009871	Dichlorodifluoromethane (FREON 12)	2022/05/24	91	60 - 140	91	60 - 140	<0.040	ug/g	NC	50
8009871	Ethylbenzene	2022/05/24	91	60 - 140	90	60 - 130	<0.010	ug/g	NC	50
8009871	Ethylene Dibromide	2022/05/24	101	60 - 140	97	60 - 130	<0.040	ug/g	NC	50
8009871	F1 (C6-C10) - BTEX	2022/05/24					<10	ug/g	NC	30
8009871	F1 (C6-C10)	2022/05/24	88	60 - 140	89	80 - 120	<10	ug/g	NC	30
8009871	Hexane	2022/05/24	101	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8009871	Methyl Ethyl Ketone (2-Butanone)	2022/05/24	106	60 - 140	98	60 - 140	<0.40	ug/g	NC	50
8009871	Methyl Isobutyl Ketone	2022/05/24	98	60 - 140	92	60 - 130	<0.40	ug/g	NC	50
8009871	Methyl t-butyl ether (MTBE)	2022/05/24	95	60 - 140	92	60 - 130	<0.040	ug/g	NC	50
8009871	Methylene Chloride(Dichloromethane)	2022/05/24	109	60 - 140	105	60 - 130	<0.049	ug/g	NC	50
8009871	o-Xylene	2022/05/24	92	60 - 140	91	60 - 130	<0.020	ug/g	NC	50
8009871	p+m-Xylene	2022/05/24	95	60 - 140	95	60 - 130	<0.020	ug/g	NC	50
8009871	Styrene	2022/05/24	104	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8009871	Tetrachloroethylene	2022/05/24	96	60 - 140	96	60 - 130	<0.040	ug/g	NC	50
8009871	Toluene	2022/05/24	97	60 - 140	96	60 - 130	<0.020	ug/g	NC	50
8009871	Total Xylenes	2022/05/24					<0.020	ug/g	NC	50
8009871	trans-1,2-Dichloroethylene	2022/05/24	108	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8009871	trans-1,3-Dichloropropene	2022/05/24	107	60 - 140	100	60 - 130	<0.040	ug/g	NC	50
8009871	Trichloroethylene	2022/05/24	109	60 - 140	106	60 - 130	<0.010	ug/g	NC	50
8009871	Trichlorofluoromethane (FREON 11)	2022/05/24	108	60 - 140	106	60 - 130	<0.040	ug/g	NC	50
8009871	Vinyl Chloride	2022/05/24	101	60 - 140	100	60 - 130	<0.019	ug/g	NC	50
8013893	1,1,1,2-Tetrachloroethane	2022/05/26	96	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8013893	1,1,1-Trichloroethane	2022/05/26	100	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8013893	1,1,2,2-Tetrachloroethane	2022/05/26	88	60 - 140	101	60 - 130	<0.040	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8013893	1,1,2-Trichloroethane	2022/05/26	96	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8013893	1,1-Dichloroethane	2022/05/26	93	60 - 140	98	60 - 130	<0.040	ug/g	NC	50
8013893	1,1-Dichloroethylene	2022/05/26	104	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8013893	1,2-Dichlorobenzene	2022/05/26	98	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8013893	1,2-Dichloroethane	2022/05/26	90	60 - 140	100	60 - 130	<0.049	ug/g	NC	50
8013893	1,2-Dichloropropane	2022/05/26	94	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8013893	1,3-Dichlorobenzene	2022/05/26	103	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8013893	1,4-Dichlorobenzene	2022/05/26	121	60 - 140	122	60 - 130	<0.040	ug/g	NC	50
8013893	Acetone (2-Propanone)	2022/05/26	91	60 - 140	107	60 - 140	<0.49	ug/g	NC	50
8013893	Benzene	2022/05/26	92	60 - 140	97	60 - 130	<0.0060	ug/g	NC	50
8013893	Bromodichloromethane	2022/05/26	97	60 - 140	105	60 - 130	<0.040	ug/g	NC	50
8013893	Bromoform	2022/05/26	91	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8013893	Bromomethane	2022/05/26	100	60 - 140	110	60 - 140	<0.040	ug/g	NC	50
8013893	Carbon Tetrachloride	2022/05/26	99	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8013893	Chlorobenzene	2022/05/26	99	60 - 140	104	60 - 130	<0.040	ug/g	NC	50
8013893	Chloroform	2022/05/26	96	60 - 140	102	60 - 130	<0.040	ug/g	NC	50
8013893	cis-1,2-Dichloroethylene	2022/05/26	99	60 - 140	106	60 - 130	<0.040	ug/g	NC	50
8013893	cis-1,3-Dichloropropene	2022/05/26	96	60 - 140	112	60 - 130	<0.030	ug/g	NC	50
8013893	Dibromochloromethane	2022/05/26	92	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8013893	Dichlorodifluoromethane (FREON 12)	2022/05/26	103	60 - 140	108	60 - 140	<0.040	ug/g	NC	50
8013893	Ethylbenzene	2022/05/26	97	60 - 140	98	60 - 130	<0.010	ug/g	NC	50
8013893	Ethylene Dibromide	2022/05/26	90	60 - 140	101	60 - 130	<0.040	ug/g	NC	50
8013893	Hexane	2022/05/26	112	60 - 140	112	60 - 130	<0.040	ug/g	NC	50
8013893	Methyl Ethyl Ketone (2-Butanone)	2022/05/26	100	60 - 140	120	60 - 140	<0.40	ug/g	NC	50
8013893	Methyl Isobutyl Ketone	2022/05/26	97	60 - 140	117	60 - 130	<0.40	ug/g	NC	50
8013893	Methyl t-butyl ether (MTBE)	2022/05/26	93	60 - 140	99	60 - 130	<0.040	ug/g	NC	50
8013893	Methylene Chloride(Dichloromethane)	2022/05/26	97	60 - 140	105	60 - 130	<0.049	ug/g	NC	50
8013893	o-Xylene	2022/05/26	96	60 - 140	100	60 - 130	<0.020	ug/g	NC	50
8013893	p+m-Xylene	2022/05/26	81	60 - 140	83	60 - 130	<0.020	ug/g	NC	50
8013893	Styrene	2022/05/26	86	60 - 140	91	60 - 130	<0.040	ug/g	NC	50
8013893	Tetrachloroethylene	2022/05/26	96	60 - 140	97	60 - 130	<0.040	ug/g	NC	50

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8013893	Toluene	2022/05/26	99	60 - 140	102	60 - 130	<0.020	ug/g	NC	50
8013893	Total Xylenes	2022/05/26					<0.020	ug/g	NC	50
8013893	trans-1,2-Dichloroethylene	2022/05/26	99	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8013893	trans-1,3-Dichloropropene	2022/05/26	102	60 - 140	121	60 - 130	<0.040	ug/g	NC	50
8013893	Trichloroethylene	2022/05/26	105	60 - 140	108	60 - 130	<0.010	ug/g	NC	50
8013893	Trichlorofluoromethane (FREON 11)	2022/05/26	101	60 - 140	103	60 - 130	<0.040	ug/g	NC	50
8013893	Vinyl Chloride	2022/05/26	102	60 - 140	107	60 - 130	<0.019	ug/g	NC	50
8020489	1-Methylnaphthalene	2022/05/29	104	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
8020489	2-Methylnaphthalene	2022/05/29	96	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8020489	Acenaphthene	2022/05/29	103	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8020489	Acenaphthylene	2022/05/29	100	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8020489	Anthracene	2022/05/29	110	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
8020489	Benzo(a)anthracene	2022/05/29	115	50 - 130	115	50 - 130	<0.0050	ug/g	NC	40
8020489	Benzo(a)pyrene	2022/05/29	95	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8020489	Benzo(b/j)fluoranthene	2022/05/29	108	50 - 130	108	50 - 130	<0.0050	ug/g	NC	40
8020489	Benzo(g,h,i)perylene	2022/05/29	101	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8020489	Benzo(k)fluoranthene	2022/05/29	100	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8020489	Chrysene	2022/05/29	112	50 - 130	110	50 - 130	<0.0050	ug/g	NC	40
8020489	Dibenzo(a,h)anthracene	2022/05/29	96	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8020489	Fluoranthene	2022/05/29	111	50 - 130	113	50 - 130	<0.0050	ug/g	NC	40
8020489	Fluorene	2022/05/29	104	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
8020489	Indeno(1,2,3-cd)pyrene	2022/05/29	100	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
8020489	Naphthalene	2022/05/29	91	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8020489	Phenanthrene	2022/05/29	104	50 - 130	105	50 - 130	<0.0050	ug/g	NC	40
8020489	Pyrene	2022/05/29	115	50 - 130	119	50 - 130	<0.0050	ug/g	NC	40
8020614	Acid Extractable Antimony (Sb)	2022/05/31	102	75 - 125	103	80 - 120	<0.20	ug/g	NC	30
8020614	Acid Extractable Arsenic (As)	2022/05/31	109	75 - 125	99	80 - 120	<1.0	ug/g	2.1	30
8020614	Acid Extractable Barium (Ba)	2022/05/31	NC	75 - 125	103	80 - 120	<0.50	ug/g	0.87	30
8020614	Acid Extractable Beryllium (Be)	2022/05/31	109	75 - 125	104	80 - 120	<0.20	ug/g	4.1	30
8020614	Acid Extractable Boron (B)	2022/05/31	103	75 - 125	102	80 - 120	<5.0	ug/g	3.9	30
8020614	Acid Extractable Cadmium (Cd)	2022/05/31	109	75 - 125	104	80 - 120	<0.10	ug/g	19	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8020614	Acid Extractable Chromium (Cr)	2022/05/31	114	75 - 125	104	80 - 120	<1.0	ug/g	0.39	30
8020614	Acid Extractable Cobalt (Co)	2022/05/31	108	75 - 125	104	80 - 120	<0.10	ug/g	1.2	30
8020614	Acid Extractable Copper (Cu)	2022/05/31	102	75 - 125	103	80 - 120	<0.50	ug/g	1.9	30
8020614	Acid Extractable Lead (Pb)	2022/05/31	103	75 - 125	104	80 - 120	<1.0	ug/g	0.72	30
8020614	Acid Extractable Mercury (Hg)	2022/05/31	98	75 - 125	98	80 - 120	<0.050	ug/g	NC	30
8020614	Acid Extractable Molybdenum (Mo)	2022/05/31	108	75 - 125	103	80 - 120	<0.50	ug/g	6.0	30
8020614	Acid Extractable Nickel (Ni)	2022/05/31	NC	75 - 125	105	80 - 120	<0.50	ug/g	3.4	30
8020614	Acid Extractable Selenium (Se)	2022/05/31	104	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8020614	Acid Extractable Silver (Ag)	2022/05/31	102	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8020614	Acid Extractable Thallium (Tl)	2022/05/31	106	75 - 125	105	80 - 120	<0.050	ug/g	6.1	30
8020614	Acid Extractable Uranium (U)	2022/05/31	106	75 - 125	102	80 - 120	<0.050	ug/g	2.3	30
8020614	Acid Extractable Vanadium (V)	2022/05/31	NC	75 - 125	101	80 - 120	<5.0	ug/g	3.7	30
8020614	Acid Extractable Zinc (Zn)	2022/05/31	NC	75 - 125	101	80 - 120	<5.0	ug/g	0.090	30
8020761	Hot Water Ext. Boron (B)	2022/05/30	95	75 - 125	105	75 - 125	<0.050	ug/g	9.6	40
8020836	Chromium (VI)	2022/05/30	89	70 - 130	91	80 - 120	<0.18	ug/g	NC	35
8021529	WAD Cyanide (Free)	2022/05/31	90	75 - 125	90	80 - 120	<0.01	ug/g	NC	35
8021954	F2 (C10-C16 Hydrocarbons)	2022/05/30	107	60 - 130	100	80 - 120	<10	ug/g	NC	30
8021954	F3 (C16-C34 Hydrocarbons)	2022/05/30	106	60 - 130	99	80 - 120	<50	ug/g	NC	30
8021954	F4 (C34-C50 Hydrocarbons)	2022/05/30	102	60 - 130	96	80 - 120	<50	ug/g	NC	30
8021993	Chromium (VI)	2022/05/31	91	70 - 130	93	80 - 120	<0.18	ug/g	NC	35
8022060	Available (CaCl2) pH	2022/05/30			100	97 - 103			0.57	N/A
8022135	Conductivity	2022/05/30			100	90 - 110	<0.002	mS/cm	7.4	10
8022159	Available (CaCl2) pH	2022/05/30			100	97 - 103			0.18	N/A
8023757	Available (CaCl2) pH	2022/05/31			100	97 - 103			0.16	N/A
8025555	a-Chlordane	2022/06/01	101	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8025555	Aldrin	2022/06/01	94	50 - 130	85	50 - 130	<0.0020	ug/g	NC	40
8025555	Aroclor 1242	2022/06/01					<0.015	ug/g	NC	40
8025555	Aroclor 1248	2022/06/01					<0.015	ug/g	NC	40
8025555	Aroclor 1254	2022/06/01					<0.015	ug/g	NC	40
8025555	Aroclor 1260	2022/06/01					<0.015	ug/g	NC	40
8025555	Dieldrin	2022/06/01	119	50 - 130	103	50 - 130	<0.0020	ug/g	NC	40

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8025555	Endosulfan I (alpha)	2022/06/01	99	50 - 130	84	50 - 130	<0.0020	ug/g	NC	40
8025555	Endosulfan II (beta)	2022/06/01	86	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8025555	Endrin	2022/06/01	102	50 - 130	97	50 - 130	<0.0020	ug/g	NC	40
8025555	g-Chlordane	2022/06/01	99	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8025555	Heptachlor epoxide	2022/06/01	102	50 - 130	90	50 - 130	<0.0020	ug/g	NC	40
8025555	Heptachlor	2022/06/01	96	50 - 130	89	50 - 130	<0.0020	ug/g	NC	40
8025555	Hexachlorobenzene	2022/06/01	102	50 - 130	87	50 - 130	<0.0020	ug/g	NC	40
8025555	Hexachlorobutadiene	2022/06/01	81	50 - 130	102	50 - 130	<0.0020	ug/g	NC	40
8025555	Hexachloroethane	2022/06/01	70	50 - 130	82	50 - 130	<0.0020	ug/g	NC	40
8025555	Lindane	2022/06/01	86	50 - 130	81	50 - 130	<0.0020	ug/g	NC	40
8025555	Methoxychlor	2022/06/01	117	50 - 130	124	50 - 130	<0.0050	ug/g	NC	40
8025555	o,p-DDD	2022/06/01	116	50 - 130	110	50 - 130	<0.0020	ug/g	NC	40
8025555	o,p-DDE	2022/06/01	96	50 - 130	85	50 - 130	<0.0020	ug/g	NC	40
8025555	o,p-DDT	2022/06/01	96	50 - 130	101	50 - 130	<0.0020	ug/g	NC	40
8025555	p,p-DDD	2022/06/01	113	50 - 130	106	50 - 130	<0.0020	ug/g	NC	40
8025555	p,p-DDE	2022/06/01	121	50 - 130	94	50 - 130	<0.0020	ug/g	NC	40
8025555	p,p-DDT	2022/06/01	111	50 - 130	104	50 - 130	<0.0020	ug/g	NC	40

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).

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VALIDATION SIGNATURE PAGE

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

Anastassia Hamanov, Scientific Specialist

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.

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Bureau Veritas Job #: C2D7426
Report Date: 2022/06/02

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAR & BURNHAMTHORPE
Sampler Initials: RZ

Exceedance Summary Table – Reg153/04 T1-Soil/Res

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.

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Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: 800-563-6266

CHAIN OF CUSTODY RECORD

ENV COC - 00014v0

Invoice Information		Report Information (if differs from invoice)		Project Information	
Invoice To Requires Report ☐					
Company:	DS Accounting	Company:		Quotation #:	
Contact Name:		Contact Name:	Kirstin Olsen	P.O. #/ AFE#:	
Street Address:		Street Address:	6221 Highway 7 Unit 16	Project #:	21-455-100
City: / Prov: / Postal Code:		City: / Prov: / Postal Code:	Vaughan / ON / L4H0K8	Site #:	Neyagawa & Burnhamthorpe
Phone:		Phone:	905-264-9393	Site Location:	
Email:		Email:	Kirstin.Olsen@dsconsultants.ca	Site Location Province:	
Copies:		Copies:		Sampled By:	Ryan Zhang

20-May-22 08:02
Ashton Gibson
C2D7426
J_L ENV-2022

Regulatory Criteria

REG 153: ☑ Table 1 ☑ Res/Park ☐ Med/Fine ☑ Course ☑ For RSC; ☑ Table 2 ☐ Ind/Comm; ☐ Table 3 ☐ Other

OTHER: ☐ CME ☐ reg 558* ☐ *min 3 day TAT ☐ MISA ☐ WQO ☐ Reg 406, Table: ☐ Sanitary Sewer Bylaw ☐ Storm Sewer Bylaw Municipality: ☐ Other:

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 YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX/ PHC F1	5 PHCs F2 - F5	6 VOCs	7 REG 153 METALS & INORGANICS	8 REG 153 ICPMS METALS	9 REG 153 METALS (Hg, Cr VI, ICPMS Metals, HWS - B)	10 PAHs	11 pH	12 OCPs	13	14	15	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	COMMENTS
1	BH22-1B SS1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	
2	BH22-1B SS2	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	
3	BH22-1B SS3	22	5	18			Soil	☐	☐	☐	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	3	☐	
4	BH22-1B SS5	22	5	18			Soil	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	3	☐	on hold
5	BH22-3 SS1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	2	☐	
6	BH22-7 SS1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	2	☐	
7	BH22-8 SS1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	2	☐	
8	BH22-12 SS4	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	
9	BH22-5 SS1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2	☐	limited sample
10	BH22-5 SS2	22	5	18			Soil	☐	☐	☐	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	3	☐	limited sample
11	BH22-6 SS1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2	☐	limited sample
12	BH22-6 SS2	22	5	18			Soil	☐	☐	☐	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	3	☐	limited sample
13	DUP 1	22	5	18			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	
14	DUP 2	22	5	18			Soil	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	3	☐	limited sample
15	BH22-4 SS1	22	5	19			Soil	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	2	☐	

Regular TurnAround Time (TAT)
☑ 5 to 7 days ☐ 10 days

Rush TurnAround Time (TAT) - Surcharges apply
☐ Same Day ☐ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 DAY

Date Required: YY / MM / DD

*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	Yes	No	°C	1	2	3
Seal present	✓		0	1	3	
Seal Intact	✓					
Cooling medal present	✓					

LAB USE ONLY	Yes	No	°C	1	2	3
Seal Present						
Seal Intact						
Cooling Media Present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal Intact						
Cooling Media Present						

TEMPS BY:

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
Ryan Zhang	2022	05	20		
	2022	05	20		

Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
	2022	05	20	08	02

SPECIAL INSTRUCTIONS

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 - 00014v0

CONTINUED

[PAGE 1 REFERENCE]

Company:	0
Contact Name:	Kirstin Olsen
Project #:	21-455-100

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

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX/ PHC F1	5 PHCs F2 - F4	6 VOCs	7 REG 153 METALS & INORGANIC	8 REG 153 ICPMS METALS	9 REG 153 METALS (Hg, Cr VI, ICPMS Metals)	10 PAHs	11 pH	12	13	14	15	16	17	18	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Same as Above COMMENTS
16	BH22-4 SS2	22	5	19			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	on hold
17	MW22-10 SS2	22	5	19			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	
18	MW22-10 SS4	22	5	19			Soil	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	1	☐	
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Your Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Your C.O.C. #: 885839-01-01

Attention: Kirstin Olsen

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

Report Date: 2022/07/06
Report #: R7198954
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2H9417
Received: 2022/06/28, 11:30

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2022/07/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2022/07/04	2022/07/05	CAM SOP-00316	CCME PHC-CWS m

Remarks:

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

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

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

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

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) 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.

Your Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Your C.O.C. #: 885839-01-01

Attention: Kirstin Olsen

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

Report Date: 2022/07/06
Report #: R7198954
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2H9417
Received: 2022/06/28, 11:30

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
06 Jul 2022 15:59:26

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 #: C2H9417
Report Date: 2022/07/06

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

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

Bureau Veritas ID			TAK065	TAK066		
Sampling Date			2022/06/28	2022/06/28		
COC Number			885839-01-01	885839-01-01		
	UNITS	Criteria	MW22-2	DUP 1	RDL	QC Batch
BTEX & F1 Hydrocarbons						
Benzene	ug/L	5.0	<0.20	<0.20	0.20	8090878
Toluene	ug/L	24	<0.20	<0.20	0.20	8090878
Ethylbenzene	ug/L	2.4	<0.20	<0.20	0.20	8090878
o-Xylene	ug/L	-	<0.20	<0.20	0.20	8090878
p+m-Xylene	ug/L	-	<0.40	<0.40	0.40	8090878
Total Xylenes	ug/L	300	<0.40	<0.40	0.40	8090878
F1 (C6-C10)	ug/L	750	<25	<25	25	8090878
F1 (C6-C10) - BTEX	ug/L	750	<25	<25	25	8090878
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/L	150	<100	<100	100	8088468
F3 (C16-C34 Hydrocarbons)	ug/L	500	<200	<200	200	8088468
F4 (C34-C50 Hydrocarbons)	ug/L	500	<200	<200	200	8088468
Reached Baseline at C50	ug/L	-	Yes	Yes		8088468
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	-	100	102		8090878
4-Bromofluorobenzene	%	-	94	93		8090878
D10-o-Xylene	%	-	90	88		8090878
D4-1,2-Dichloroethane	%	-	87	88		8090878
o-Terphenyl	%	-	98	91		8088468

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
Potable Ground Water- All Types of Property Uses - Coarse Textured Soil

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

Bureau Veritas Job #: C2H9417
Report Date: 2022/07/06

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

TEST SUMMARY

Bureau Veritas ID: TAK065
Sample ID: MW22-2
Matrix: Water

Collected: 2022/06/28
Shipped:
Received: 2022/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8090878	N/A	2022/07/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8088468	2022/07/04	2022/07/05	(Kent) Maolin Li

Bureau Veritas ID: TAK066
Sample ID: DUP 1
Matrix: Water

Collected: 2022/06/28
Shipped:
Received: 2022/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8090878	N/A	2022/07/06	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8088468	2022/07/04	2022/07/05	(Kent) Maolin Li

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Bureau Veritas Job #: C2H9417
Report Date: 2022/07/06

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

GENERAL COMMENTS

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

Package 1	14.3°C

Results relate only to the items tested.

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Bureau Veritas Job #: C2H9417
Report Date: 2022/07/06

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8088468	o-Terphenyl	2022/07/05	97	60 - 130	100	60 - 130	104	%		
8090878	1,4-Difluorobenzene	2022/07/06	100	70 - 130	103	70 - 130	104	%		
8090878	4-Bromofluorobenzene	2022/07/06	94	70 - 130	93	70 - 130	92	%		
8090878	D10-o-Xylene	2022/07/06	104	70 - 130	108	70 - 130	91	%		
8090878	D4-1,2-Dichloroethane	2022/07/06	85	70 - 130	82	70 - 130	86	%		
8088468	F2 (C10-C16 Hydrocarbons)	2022/07/05	NC	60 - 130	98	60 - 130	<100	ug/L	9.4	30
8088468	F3 (C16-C34 Hydrocarbons)	2022/07/05	104	60 - 130	107	60 - 130	<200	ug/L	NC	30
8088468	F4 (C34-C50 Hydrocarbons)	2022/07/05	100	60 - 130	102	60 - 130	<200	ug/L	NC	30
8090878	Benzene	2022/07/06	87	50 - 140	90	50 - 140	<0.20	ug/L	1.4	30
8090878	Ethylbenzene	2022/07/06	95	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
8090878	F1 (C6-C10) - BTEX	2022/07/06					<25	ug/L	NC	30
8090878	F1 (C6-C10)	2022/07/06	103	60 - 140	107	60 - 140	<25	ug/L	NC	30
8090878	o-Xylene	2022/07/06	90	50 - 140	92	50 - 140	<0.20	ug/L	8.6	30
8090878	p+m-Xylene	2022/07/06	95	50 - 140	99	50 - 140	<0.40	ug/L	4.8	30
8090878	Toluene	2022/07/06	90	50 - 140	93	50 - 140	<0.20	ug/L	4.8	30
8090878	Total Xylenes	2022/07/06					<0.40	ug/L	NC	30

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

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

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

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

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

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

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

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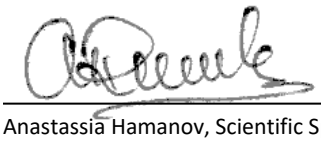
Bureau Veritas Job #: C2H9417
Report Date: 2022/07/06

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

VALIDATION SIGNATURE PAGE

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



Anastassia Hamanov, Scientific Specialist

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Bureau Veritas Job #: C2H9417
Report Date: 2022/07/06

DS Consultants Limited
Client Project #: 21-455-100
Site Location: NEYAGAWA & BURNHAMTHORPE
Sampler Initials: RZ

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.

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

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvna.com

CHAIN

28-Jun-22 11:30

Ashton Gibson

C2H9417

TPS ENV-667

C#885839-01-01

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#32616 DS Consultants Limited	Company Name:	DS Consultants	Quotation #:	C20545
Attention:	Accounts Payable	Attention:	Kirstin Olsen	P.O. #:	
Address:	6221 Highway 7, Unit 16	Address:	6221 Hwy 7 Unit 16	Project:	21-455-100
	Vaughan ON L4H 0K8		Van. L4H 0K8	Project Name:	Heyagaca @ Burnham Thorpe
Tel:	(905) 264-9393 Fax:	Tel:	905-264-9393 Fax:	Site #:	
Email:	accounting@dsconsultants.ca;bindu.goel@dsconsultant	Email:	kirstin.olsen@dsconsultants.ca	Sampled By:	Ryan Zhang

Order #:

Project Manager: Ashton Gibson

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 [x] Res/Park [ ] Medium/Fine
- [x] Table 2 [ ] Ind/Comm [x] Coarse
- [ ] Table 3 [ ] Agri/Other [x] For RSC
- [ ] Table ___

Other Regulations
- [ ] CCME [ ] Sanitary Sewer Bylaw
- [ ] Reg 558 [ ] Storm Sewer Bylaw
- [ ] MISA Municipality ___
- [ ] PWQO [ ] Reg 406 Table ___
- [ ] Other ___

Special Instructions

NO FILTER

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ [ ]
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs (F1-F4)									# of Bottles	Comments
1		MW22-2	Jun 28 2022	Am	GW	X	✓									3	
2		DUP 1	Jun 28 2022	Am	GW	X	✓									3	
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
Ryan Zhang	220628					
Ryan Zhang	220628			22/06/28	1130	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	19/19/15	Present		
		Intact	✓	

* 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.

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

White: Bureau Veritas Yellow: Client

Ovie

Bureau Veritas Canada (2019) Inc.

Your Project #: 21-455-100
Your C.O.C. #: 881142-01-01

Attention: Kirstin Olsen

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

Report Date: 2022/06/13
Report #: R7165658
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2E5909
Received: 2022/05/30, 13:13

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum	1	N/A	2022/06/03	CAM SOP-00301	EPA 8270D m
1,3-Dichloropropene Sum	1	N/A	2022/06/02		EPA 8260C m
Chloride by Automated Colourimetry	1	N/A	2022/06/02	CAM SOP-00463	SM 23 4500-Cl E m
Chromium (VI) in Water	1	N/A	2022/06/01	CAM SOP-00436	EPA 7199 m
Free (WAD) Cyanide	1	N/A	2022/06/01	CAM SOP-00457	OMOE E3015 m
Petroleum Hydro. CCME F1 & BTEX in Water	1	N/A	2022/06/10	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Water	1	N/A	2022/06/02	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	1	2022/06/01	2022/06/02	CAM SOP-00316	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	1	2022/06/08	2022/06/08	CAM SOP-00316	CCME PHC-CWS m
Mercury	1	2022/06/02	2022/06/02	CAM SOP-00453	EPA 7470A m
Lab Filtered Metals by ICPMS	1	2022/06/01	2022/06/02	CAM SOP-00447	EPA 6020B m
PAH Compounds in Water by GC/MS (SIM)	1	2022/06/01	2022/06/02	CAM SOP-00318	EPA 8270D m
Volatile Organic Compounds in Water	1	N/A	2022/06/01	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.

Your Project #: 21-455-100
Your C.O.C. #: 881142-01-01

Attention: Kirstin Olsen

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

Report Date: 2022/06/13
Report #: R7165658
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2E5909
Received: 2022/05/30, 13:13

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

Ashton Gibson
Project Manager
13 Jun 2022 17:05:53

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.

O.REG 153 INORGANICS PKG (LAB FILTERED)

Bureau Veritas ID			STE131		
Sampling Date			2022/05/30		
COC Number			881142-01-01		
	UNITS	Criteria	MW22-2	RDL	QC Batch
Inorganics					
WAD Cyanide (Free)	ug/L	5	<1	1	8027442
Dissolved Chloride (Cl-)	mg/L	790	95	1.0	8028012
Metals					
Chromium (VI)	ug/L	25	<0.50	0.50	8024952
Mercury (Hg)	ug/L	0.1	<0.10	0.10	8028969
Dissolved Antimony (Sb)	ug/L	1.5	<0.50	0.50	8027861
Dissolved Arsenic (As)	ug/L	13	<1.0	1.0	8027861
Dissolved Barium (Ba)	ug/L	610	120	2.0	8027861
Dissolved Beryllium (Be)	ug/L	0.5	<0.40	0.40	8027861
Dissolved Boron (B)	ug/L	1700	50	10	8027861
Dissolved Cadmium (Cd)	ug/L	0.5	<0.090	0.090	8027861
Dissolved Chromium (Cr)	ug/L	11	<5.0	5.0	8027861
Dissolved Cobalt (Co)	ug/L	3.8	0.55	0.50	8027861
Dissolved Copper (Cu)	ug/L	5	<0.90	0.90	8027861
Dissolved Lead (Pb)	ug/L	1.9	<0.50	0.50	8027861
Dissolved Molybdenum (Mo)	ug/L	23	9.5	0.50	8027861
Dissolved Nickel (Ni)	ug/L	14	1.1	1.0	8027861
Dissolved Selenium (Se)	ug/L	5	<2.0	2.0	8027861
Dissolved Silver (Ag)	ug/L	0.3	<0.090	0.090	8027861
Dissolved Sodium (Na)	ug/L	490000	140000	100	8027861
Dissolved Thallium (Tl)	ug/L	0.5	<0.050	0.050	8027861
Dissolved Uranium (U)	ug/L	8.9	7.7	0.10	8027861
Dissolved Vanadium (V)	ug/L	3.9	<0.50	0.50	8027861
Dissolved Zinc (Zn)	ug/L	160	<5.0	5.0	8027861

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 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses

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

O.REG 153 PAHS (WATER)

Bureau Veritas ID			STE131		
Sampling Date			2022/05/30		
COC Number			881142-01-01		
	UNITS	Criteria	MW22-2	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	2	<0.071	0.071	8021671
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	4.1	<0.050	0.050	8027493
Acenaphthylene	ug/L	1	<0.050	0.050	8027493
Anthracene	ug/L	0.1	<0.050	0.050	8027493
Benzo(a)anthracene	ug/L	0.2	<0.050	0.050	8027493
Benzo(a)pyrene	ug/L	0.01	<0.0090	0.0090	8027493
Benzo(b/j)fluoranthene	ug/L	0.1	<0.050	0.050	8027493
Benzo(g,h,i)perylene	ug/L	0.2	<0.050	0.050	8027493
Benzo(k)fluoranthene	ug/L	0.1	<0.050	0.050	8027493
Chrysene	ug/L	0.1	<0.050	0.050	8027493
Dibenzo(a,h)anthracene	ug/L	0.2	<0.050	0.050	8027493
Fluoranthene	ug/L	0.4	<0.050	0.050	8027493
Fluorene	ug/L	120	<0.050	0.050	8027493
Indeno(1,2,3-cd)pyrene	ug/L	0.2	<0.050	0.050	8027493
1-Methylnaphthalene	ug/L	2	<0.050	0.050	8027493
2-Methylnaphthalene	ug/L	2	<0.050	0.050	8027493
Naphthalene	ug/L	7	0.053	0.050	8027493
Phenanthrene	ug/L	0.1	0.042	0.030	8027493
Pyrene	ug/L	0.2	<0.050	0.050	8027493
Surrogate Recovery (%)					
D10-Anthracene	%	-	101		8027493
D14-Terphenyl (FS)	%	-	88		8027493
D8-Acenaphthylene	%	-	95		8027493

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 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses

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

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

Bureau Veritas ID			STE131			STE132		
Sampling Date			2022/05/30			2022/05/30		
COC Number			881142-01-01			881142-01-01		
	UNITS	Criteria	MW22-2	RDL	QC Batch	DUP	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	0.5	<0.20	0.20	8045521	<0.20	0.20	8030191
Toluene	ug/L	0.8	<0.20	0.20	8045521	<0.20	0.20	8030191
Ethylbenzene	ug/L	0.5	<0.20	0.20	8045521	<0.20	0.20	8030191
o-Xylene	ug/L	-	<0.20	0.20	8045521	<0.20	0.20	8030191
p+m-Xylene	ug/L	-	<0.40	0.40	8045521	<0.40	0.40	8030191
Total Xylenes	ug/L	72	<0.40	0.40	8045521	<0.40	0.40	8030191
F1 (C6-C10)	ug/L	420	<25	25	8045521	<25	25	8030191
F1 (C6-C10) - BTEX	ug/L	420	<25	25	8045521	<25	25	8030191
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	150	**<300 (1)**	300	8040113	<100	100	8027486
F3 (C16-C34 Hydrocarbons)	ug/L	500	**<600 (1)**	600	8040113	<200	200	8027486
F4 (C34-C50 Hydrocarbons)	ug/L	500	**<600 (1)**	600	8040113	<200	200	8027486
Reached Baseline at C50	ug/L	-	Yes		8040113	Yes		8027486
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	99		8045521	99		8030191
4-Bromofluorobenzene	%	-	96		8045521	101		8030191
D10-o-Xylene	%	-	90		8045521	97		8030191
D4-1,2-Dichloroethane	%	-	88		8045521	93		8030191
o-Terphenyl	%	-	92		8040113	99		8027486

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 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses
(1) RDL exceeds criteria

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

O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID			STE133		
Sampling Date			2022/05/30		
COC Number			881142-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Calculated Parameters					
1,3-Dichloropropene (cis+trans)	ug/L	0.5	<0.50	0.50	8022559
Volatile Organics					
Acetone (2-Propanone)	ug/L	2700	<10	10	8024629
Benzene	ug/L	0.5	<0.20	0.20	8024629
Bromodichloromethane	ug/L	2	<0.50	0.50	8024629
Bromoform	ug/L	5.0	<1.0	1.0	8024629
Bromomethane	ug/L	0.89	<0.50	0.50	8024629
Carbon Tetrachloride	ug/L	0.2	<0.19	0.19	8024629
Chlorobenzene	ug/L	0.5	<0.20	0.20	8024629
Chloroform	ug/L	2	<0.20	0.20	8024629
Dibromochloromethane	ug/L	2	<0.50	0.50	8024629
1,2-Dichlorobenzene	ug/L	0.5	<0.40	0.40	8024629
1,3-Dichlorobenzene	ug/L	0.5	<0.40	0.40	8024629
1,4-Dichlorobenzene	ug/L	0.5	<0.40	0.40	8024629
Dichlorodifluoromethane (FREON 12)	ug/L	590	<1.0	1.0	8024629
1,1-Dichloroethane	ug/L	0.5	<0.20	0.20	8024629
1,2-Dichloroethane	ug/L	0.5	<0.49	0.49	8024629
1,1-Dichloroethylene	ug/L	0.5	<0.20	0.20	8024629
cis-1,2-Dichloroethylene	ug/L	1.6	<0.50	0.50	8024629
trans-1,2-Dichloroethylene	ug/L	1.6	<0.50	0.50	8024629
1,2-Dichloropropane	ug/L	0.5	<0.20	0.20	8024629
cis-1,3-Dichloropropene	ug/L	0.5	<0.30	0.30	8024629
trans-1,3-Dichloropropene	ug/L	0.5	<0.40	0.40	8024629
Ethylbenzene	ug/L	0.5	<0.20	0.20	8024629
Ethylene Dibromide	ug/L	0.2	<0.19	0.19	8024629
Hexane	ug/L	5	<1.0	1.0	8024629
Methylene Chloride(Dichloromethane)	ug/L	5	<2.0	2.0	8024629
Methyl Ethyl Ketone (2-Butanone)	ug/L	400	<10	10	8024629
Methyl Isobutyl Ketone	ug/L	640	<5.0	5.0	8024629
Methyl t-butyl ether (MTBE)	ug/L	15	<0.50	0.50	8024629

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 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses

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

O.REG 153 VOCS BY HS (WATER)

Bureau Veritas ID			STE133		
Sampling Date			2022/05/30		
COC Number			881142-01-01		
	UNITS	Criteria	TRIP BLANK	RDL	QC Batch
Styrene	ug/L	0.5	<0.40	0.40	8024629
1,1,1,2-Tetrachloroethane	ug/L	1.1	<0.50	0.50	8024629
1,1,2,2-Tetrachloroethane	ug/L	0.5	<0.40	0.40	8024629
Tetrachloroethylene	ug/L	0.5	<0.20	0.20	8024629
Toluene	ug/L	0.8	<0.20	0.20	8024629
1,1,1-Trichloroethane	ug/L	0.5	<0.20	0.20	8024629
1,1,2-Trichloroethane	ug/L	0.5	<0.40	0.40	8024629
Trichloroethylene	ug/L	0.5	<0.20	0.20	8024629
Trichlorofluoromethane (FREON 11)	ug/L	150	<0.50	0.50	8024629
Vinyl Chloride	ug/L	0.5	<0.20	0.20	8024629
p+m-Xylene	ug/L	-	<0.20	0.20	8024629
o-Xylene	ug/L	-	<0.20	0.20	8024629
Total Xylenes	ug/L	72	<0.20	0.20	8024629
Surrogate Recovery (%)					
4-Bromofluorobenzene	%	-	99		8024629
D4-1,2-Dichloroethane	%	-	107		8024629
D8-Toluene	%	-	95		8024629

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 1: Full Depth Background Site Condition Standards
Ground Water - All Types of Property Uses

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

Bureau Veritas Job #: C2E5909
Report Date: 2022/06/13

DS Consultants Limited
Client Project #: 21-455-100
Sampler Initials: NP

TEST SUMMARY

Bureau Veritas ID: STE131
Sample ID: MW22-2
Matrix: Water

Collected: 2022/05/30
Shipped:
Received: 2022/05/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8021671	N/A	2022/06/03	Automated Statchk
Chloride by Automated Colourimetry	KONE	8028012	N/A	2022/06/02	Alina Dobreanu
Chromium (VI) in Water	IC	8024952	N/A	2022/06/01	Theodora Luck
Free (WAD) Cyanide	SKAL/CN	8027442	N/A	2022/06/01	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8045521	N/A	2022/06/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8040113	2022/06/08	2022/06/08	Suleeqa Nurr
Mercury	CV/AA	8028969	2022/06/02	2022/06/02	Gagandeep Rai
Lab Filtered Metals by ICPMS	ICP/MS	8027861	2022/06/01	2022/06/02	Nan Raykha
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8027493	2022/06/01	2022/06/02	Jonghan Yoon

Bureau Veritas ID: STE132
Sample ID: DUP
Matrix: Water

Collected: 2022/05/30
Shipped:
Received: 2022/05/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	8030191	N/A	2022/06/02	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	8027486	2022/06/01	2022/06/02	Suleeqa Nurr

Bureau Veritas ID: STE133
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2022/05/30
Shipped:
Received: 2022/05/30

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	8022559	N/A	2022/06/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	8024629	N/A	2022/06/01	Narayan Ghimire

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

GENERAL COMMENTS

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

Package 1	14.0°C

Sample STE131 [MW22-2] : F24 Analysis: Due to limited amount of sample available for analyses, a smaller than usual portion of the sample was used. Reporting limits were adjusted accordingly.

Results relate only to the items tested.

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

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8024629	4-Bromofluorobenzene	2022/06/01	102	70 - 130	100	70 - 130	99	%		
8024629	D4-1,2-Dichloroethane	2022/06/01	103	70 - 130	102	70 - 130	101	%		
8024629	D8-Toluene	2022/06/01	97	70 - 130	97	70 - 130	96	%		
8027486	o-Terphenyl	2022/06/02	99	60 - 130	99	60 - 130	102	%		
8027493	D10-Anthracene	2022/06/01	97	50 - 130	92	50 - 130	98	%		
8027493	D14-Terphenyl (FS)	2022/06/01	84	50 - 130	84	50 - 130	89	%		
8027493	D8-Acenaphthylene	2022/06/01	90	50 - 130	85	50 - 130	88	%		
8030191	1,4-Difluorobenzene	2022/06/02	95	70 - 130	96	70 - 130	100	%		
8030191	4-Bromofluorobenzene	2022/06/02	102	70 - 130	102	70 - 130	100	%		
8030191	D10-o-Xylene	2022/06/02	105	70 - 130	110	70 - 130	97	%		
8030191	D4-1,2-Dichloroethane	2022/06/02	93	70 - 130	92	70 - 130	92	%		
8040113	o-Terphenyl	2022/06/08	93	60 - 130	93	60 - 130	92	%		
8045521	1,4-Difluorobenzene	2022/06/10	98	70 - 130	101	70 - 130	98	%		
8045521	4-Bromofluorobenzene	2022/06/10	96	70 - 130	94	70 - 130	97	%		
8045521	D10-o-Xylene	2022/06/10	98	70 - 130	97	70 - 130	92	%		
8045521	D4-1,2-Dichloroethane	2022/06/10	89	70 - 130	84	70 - 130	88	%		
8024629	1,1,1,2-Tetrachloroethane	2022/06/01	99	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
8024629	1,1,1-Trichloroethane	2022/06/01	97	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
8024629	1,1,2,2-Tetrachloroethane	2022/06/01	98	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
8024629	1,1,2-Trichloroethane	2022/06/01	99	70 - 130	99	70 - 130	<0.40	ug/L	NC	30
8024629	1,1-Dichloroethane	2022/06/01	92	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8024629	1,1-Dichloroethylene	2022/06/01	95	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8024629	1,2-Dichlorobenzene	2022/06/01	91	70 - 130	91	70 - 130	<0.40	ug/L	NC	30
8024629	1,2-Dichloroethane	2022/06/01	98	70 - 130	98	70 - 130	<0.49	ug/L	NC	30
8024629	1,2-Dichloropropane	2022/06/01	95	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8024629	1,3-Dichlorobenzene	2022/06/01	89	70 - 130	90	70 - 130	<0.40	ug/L	NC	30
8024629	1,4-Dichlorobenzene	2022/06/01	102	70 - 130	105	70 - 130	<0.40	ug/L	NC	30
8024629	Acetone (2-Propanone)	2022/06/01	107	60 - 140	106	60 - 140	<10	ug/L	NC	30
8024629	Benzene	2022/06/01	91	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
8024629	Bromodichloromethane	2022/06/01	104	70 - 130	103	70 - 130	<0.50	ug/L	NC	30
8024629	Bromoform	2022/06/01	121	70 - 130	119	70 - 130	<1.0	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8024629	Bromomethane	2022/06/01	97	60 - 140	97	60 - 140	<0.50	ug/L	NC	30
8024629	Carbon Tetrachloride	2022/06/01	99	70 - 130	101	70 - 130	<0.19	ug/L	NC	30
8024629	Chlorobenzene	2022/06/01	93	70 - 130	94	70 - 130	<0.20	ug/L	NC	30
8024629	Chloroform	2022/06/01	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
8024629	cis-1,2-Dichloroethylene	2022/06/01	98	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8024629	cis-1,3-Dichloropropene	2022/06/01	97	70 - 130	95	70 - 130	<0.30	ug/L	NC	30
8024629	Dibromochloromethane	2022/06/01	107	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
8024629	Dichlorodifluoromethane (FREON 12)	2022/06/01	84	60 - 140	88	60 - 140	<1.0	ug/L	NC	30
8024629	Ethylbenzene	2022/06/01	87	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8024629	Ethylene Dibromide	2022/06/01	93	70 - 130	92	70 - 130	<0.19	ug/L	NC	30
8024629	Hexane	2022/06/01	95	70 - 130	96	70 - 130	<1.0	ug/L	NC	30
8024629	Methyl Ethyl Ketone (2-Butanone)	2022/06/01	112	60 - 140	111	60 - 140	<10	ug/L	NC	30
8024629	Methyl Isobutyl Ketone	2022/06/01	105	70 - 130	103	70 - 130	<5.0	ug/L	NC	30
8024629	Methyl t-butyl ether (MTBE)	2022/06/01	92	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
8024629	Methylene Chloride(Dichloromethane)	2022/06/01	110	70 - 130	111	70 - 130	<2.0	ug/L	NC	30
8024629	o-Xylene	2022/06/01	88	70 - 130	88	70 - 130	<0.20	ug/L	NC	30
8024629	p+m-Xylene	2022/06/01	90	70 - 130	91	70 - 130	<0.20	ug/L	NC	30
8024629	Styrene	2022/06/01	97	70 - 130	97	70 - 130	<0.40	ug/L	NC	30
8024629	Tetrachloroethylene	2022/06/01	84	70 - 130	86	70 - 130	<0.20	ug/L	NC	30
8024629	Toluene	2022/06/01	88	70 - 130	90	70 - 130	<0.20	ug/L	NC	30
8024629	Total Xylenes	2022/06/01					<0.20	ug/L	NC	30
8024629	trans-1,2-Dichloroethylene	2022/06/01	96	70 - 130	98	70 - 130	<0.50	ug/L	NC	30
8024629	trans-1,3-Dichloropropene	2022/06/01	93	70 - 130	91	70 - 130	<0.40	ug/L	NC	30
8024629	Trichloroethylene	2022/06/01	101	70 - 130	103	70 - 130	<0.20	ug/L	NC	30
8024629	Trichlorofluoromethane (FREON 11)	2022/06/01	93	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
8024629	Vinyl Chloride	2022/06/01	94	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
8024952	Chromium (VI)	2022/06/01	101	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
8027442	WAD Cyanide (Free)	2022/06/01	90	80 - 120	92	80 - 120	<1	ug/L	NC	20
8027486	F2 (C10-C16 Hydrocarbons)	2022/06/02	102	60 - 130	102	60 - 130	<100	ug/L	NC	30
8027486	F3 (C16-C34 Hydrocarbons)	2022/06/02	107	60 - 130	109	60 - 130	<200	ug/L	NC	30
8027486	F4 (C34-C50 Hydrocarbons)	2022/06/02	104	60 - 130	104	60 - 130	<200	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8027493	1-Methylnaphthalene	2022/06/01	89	50 - 130	86	50 - 130	<0.050	ug/L	NC	30
8027493	2-Methylnaphthalene	2022/06/01	86	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
8027493	Acenaphthene	2022/06/01	84	50 - 130	83	50 - 130	<0.050	ug/L	3.1	30
8027493	Acenaphthylene	2022/06/01	82	50 - 130	81	50 - 130	<0.050	ug/L	NC	30
8027493	Anthracene	2022/06/01	85	50 - 130	84	50 - 130	<0.050	ug/L	NC	30
8027493	Benzo(a)anthracene	2022/06/01	93	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8027493	Benzo(a)pyrene	2022/06/01	79	50 - 130	77	50 - 130	<0.0090	ug/L	NC	30
8027493	Benzo(b/j)fluoranthene	2022/06/01	86	50 - 130	86	50 - 130	<0.050	ug/L	NC	30
8027493	Benzo(g,h,i)perylene	2022/06/01	92	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
8027493	Benzo(k)fluoranthene	2022/06/01	83	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
8027493	Chrysene	2022/06/01	89	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8027493	Dibenzo(a,h)anthracene	2022/06/01	86	50 - 130	83	50 - 130	<0.050	ug/L	NC	30
8027493	Fluoranthene	2022/06/01	92	50 - 130	91	50 - 130	<0.050	ug/L	NC	30
8027493	Fluorene	2022/06/01	87	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8027493	Indeno(1,2,3-cd)pyrene	2022/06/01	93	50 - 130	92	50 - 130	<0.050	ug/L	NC	30
8027493	Naphthalene	2022/06/01	80	50 - 130	78	50 - 130	<0.050	ug/L	NC	30
8027493	Phenanthrene	2022/06/01	89	50 - 130	87	50 - 130	<0.030	ug/L	NC	30
8027493	Pyrene	2022/06/01	92	50 - 130	90	50 - 130	<0.050	ug/L	NC	30
8027861	Dissolved Antimony (Sb)	2022/06/02	105	80 - 120	102	80 - 120	<0.50	ug/L		
8027861	Dissolved Arsenic (As)	2022/06/02	100	80 - 120	97	80 - 120	<1.0	ug/L		
8027861	Dissolved Barium (Ba)	2022/06/02	102	80 - 120	99	80 - 120	<2.0	ug/L		
8027861	Dissolved Beryllium (Be)	2022/06/02	107	80 - 120	104	80 - 120	<0.40	ug/L		
8027861	Dissolved Boron (B)	2022/06/02	105	80 - 120	99	80 - 120	<10	ug/L		
8027861	Dissolved Cadmium (Cd)	2022/06/02	102	80 - 120	99	80 - 120	<0.090	ug/L		
8027861	Dissolved Chromium (Cr)	2022/06/02	97	80 - 120	96	80 - 120	<5.0	ug/L		
8027861	Dissolved Cobalt (Co)	2022/06/02	99	80 - 120	97	80 - 120	<0.50	ug/L		
8027861	Dissolved Copper (Cu)	2022/06/02	99	80 - 120	95	80 - 120	<0.90	ug/L		
8027861	Dissolved Lead (Pb)	2022/06/02	100	80 - 120	97	80 - 120	<0.50	ug/L		
8027861	Dissolved Molybdenum (Mo)	2022/06/02	107	80 - 120	103	80 - 120	<0.50	ug/L		
8027861	Dissolved Nickel (Ni)	2022/06/02	94	80 - 120	93	80 - 120	<1.0	ug/L		
8027861	Dissolved Selenium (Se)	2022/06/02	99	80 - 120	95	80 - 120	<2.0	ug/L		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8027861	Dissolved Silver (Ag)	2022/06/02	103	80 - 120	99	80 - 120	<0.090	ug/L		
8027861	Dissolved Sodium (Na)	2022/06/02	98	80 - 120	91	80 - 120	<100	ug/L		
8027861	Dissolved Thallium (Tl)	2022/06/02	102	80 - 120	96	80 - 120	<0.050	ug/L		
8027861	Dissolved Uranium (U)	2022/06/02	100	80 - 120	95	80 - 120	<0.10	ug/L		
8027861	Dissolved Vanadium (V)	2022/06/02	96	80 - 120	93	80 - 120	<0.50	ug/L		
8027861	Dissolved Zinc (Zn)	2022/06/02	96	80 - 120	94	80 - 120	<5.0	ug/L		
8028012	Dissolved Chloride (Cl-)	2022/06/02	NC	80 - 120	104	80 - 120	<1.0	mg/L	2.4	20
8028969	Mercury (Hg)	2022/06/02	89	75 - 125	97	80 - 120	<0.10	ug/L	NC	20
8030191	Benzene	2022/06/02	91	50 - 140	93	50 - 140	<0.20	ug/L	NC	30
8030191	Ethylbenzene	2022/06/02	101	50 - 140	105	50 - 140	<0.20	ug/L	NC	30
8030191	F1 (C6-C10) - BTEX	2022/06/02					<25	ug/L	11	30
8030191	F1 (C6-C10)	2022/06/02	85	60 - 140	90	60 - 140	<25	ug/L	11	30
8030191	o-Xylene	2022/06/02	96	50 - 140	102	50 - 140	<0.20	ug/L	1.9	30
8030191	p+m-Xylene	2022/06/02	97	50 - 140	102	50 - 140	<0.40	ug/L	0.14	30
8030191	Toluene	2022/06/02	93	50 - 140	96	50 - 140	<0.20	ug/L	NC	30
8030191	Total Xylenes	2022/06/02					<0.40	ug/L	0.71	30
8040113	F2 (C10-C16 Hydrocarbons)	2022/06/08	NC	60 - 130	106	60 - 130	<100	ug/L		
8040113	F3 (C16-C34 Hydrocarbons)	2022/06/08	NC	60 - 130	108	60 - 130	<200	ug/L		
8040113	F4 (C34-C50 Hydrocarbons)	2022/06/08	106	60 - 130	106	60 - 130	<200	ug/L		
8045521	Benzene	2022/06/10	98	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
8045521	Ethylbenzene	2022/06/10	106	50 - 140	111	50 - 140	<0.20	ug/L	NC	30
8045521	F1 (C6-C10) - BTEX	2022/06/10					<25	ug/L	NC	30
8045521	F1 (C6-C10)	2022/06/10	98	60 - 140	95	60 - 140	<25	ug/L	NC	30
8045521	o-Xylene	2022/06/10	103	50 - 140	105	50 - 140	<0.20	ug/L	NC	30
8045521	p+m-Xylene	2022/06/10	105	50 - 140	109	50 - 140	<0.40	ug/L	NC	30
8045521	Toluene	2022/06/10	96	50 - 140	99	50 - 140	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8045521	Total Xylenes	2022/06/10					<0.40	ug/L	NC	30

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

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

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

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

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

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

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

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VALIDATION SIGNATURE PAGE

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

Cristina Carriere, Senior Scientific Specialist

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.

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Exceedance Summary Table – Reg153/04 T1-GW

Detection Limit Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
MW22-2	STE131-07	F2 (C10-C16 Hydrocarbons)	150	<300	300	ug/L
MW22-2	STE131-07	F3 (C16-C34 Hydrocarbons)	500	<600	600	ug/L
MW22-2	STE131-07	F4 (C34-C50 Hydrocarbons)	500	<600	600	ug/L

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.

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CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#32616 DS Consultants Limited	Company Name:	DS Consultants	Quotation #:	C20545
Attention:	Accounts Payable	Attention:	Kirstin Olsen	P.O. #:	
Address:	6221 Highway 7, Unit 16	Address:		Project:	21-455-100
	Vaughan ON L4H 0K8			Project Name:	
Tel:	(905) 264-9393 Fax:	Tel:	Fax:	Site #:	
Email:	accounting@dsconsultants.ca;bindu.goel@dsconsultant	Email:	Kirstin.olsen@dsconsultants.ca	Sampled By:	Norina P.

Laboratory Use Only:

Bureau Veritas Job #:	Bottle Order #:
	881142
COC #:	Project Manager:
C#881142-01-01	Ashton Gibson

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)
- [x] Table 1 [x] Res/Park [ ] Medium/Fine
- [ ] Table 2 [ ] Ind/Comm [x] Coarse
- [ ] Table 3 [ ] Agri/Other [x] For RSC
- [ ] Table ___

Other Regulations
- [ ] CCME [ ] Sanitary Sewer Bylaw
- [ ] Reg 558. [ ] Storm Sewer Bylaw
- [ ] MISA Municipality ___
- [ ] PWQO [ ] Reg 406 Table ___
- [ ] Other ___

Special Instructions

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

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ [ ]
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 Metals & Inorganics Pkg (Wtr)	O.Reg 153 VOCs by HS & F1-F4	O.Reg 153 PAHs	O.Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1		MW22-2	May 30/22	PM	GW		*		*		3	
2		DUP	↓	↓	↓					*	2	
3		Trip Blank	↓	↓	↓			*			2	
4												
5												
6												
7												
8												
9												
10												

30-May-22 13:13
Ashton Gibson
C2E5909
RJM ENV-1602

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
[signature]	22/5/30	PM	[signature] RAY MANSUNI	2022/05/30	1313	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei: 13 | 14 | 15
Custody Seal Present: Yes [—] No
Custody Seal 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.

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

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

ONLE

Appendix D

Phase Two Conceptual Site Model

Introduction

The Phase Two Conceptual Site Model (CSM) has been prepared for the Site described as Part of Lot 20, Concession 2, Oakville, Ontario. This Phase Two CSM has been prepared based on the following environmental site assessment reports:

- *"Phase One Environmental Site Assessment, "Part of Lot 20, Concession 2, Oakville, Ontario"* dated February 22, 2022, prepared for ARGO Neyagawa Corporation, prepared by DS Consultants Ltd. (DS).
- *"Phase Two Environmental Site Assessment, "Part of Lot 20, Concession 2, Oakville, Ontario"* dated July 15, 2022, prepared for ARGO Neyagawa Corporation, prepared by DS Consultants Ltd.

The Phase Two CSM is comprised of the following figures and text:

Figure 1 – Site Location Plan
Figure 2 – Phase Two Property Site Plan
Figure 3 – Phase Two Study Area
Figure 4 – PCA within Phase Two Study Area
Figure 5 – Borehole Location Plan with APECs
Figure 6A – Groundwater Elevations Contours and Flow Direction
Figure 6B – Geological Cross Section
Figure 7A – Summary of Metals and ORPs in Soil
Figure 7B – Summary of PHCs + BTEX in Soil
Figure 7C – Summary of VOCs in Soil
Figure 7D – Summary of PAHs in Soil
Figure 7E– Summary of OCPs in Soil
Figure 8A – Summary of Metals and ORPs in Groundwater
Figure 8B – Summary of PHCs in Groundwater
Figure 8C – Summary of VOCs in Groundwater
Figure 8D – Summary of PAHs in Groundwater
Figure 9 – Pathways and Receptors

The RSC Property is an irregularly shaped 11.29-hectare (27.90 acre) parcel of land situated within a mixed agricultural, commercial and residential neighbourhood in the Town of Oakville, Ontario. The RSC Property is located on the northwest corner of the intersection of Neyagawa Boulevard and Burnhamthorpe Road West.

The Phase One ESA indicated that the Phase One Property appears to have been part of an agricultural and residential homestead prior to 1880. A small orchard was observed in the County Atlas adjacent to the historical homestead. It is possible that environmentally persistent pesticides/herbicides were applied to the orchard. By 1934 the residential dwelling and orchard were no longer visible and the property was utilized as an active agricultural field. By 2013 the southwestern portion of the Site was leased as a storage area to a landscaping contractor. The potentially contaminating activities associated with the historical land use included the presence of fill material of unknown quality and the application of pesticides.

The neighboring properties adjacent to the RSC Property appear to have been used for residential and agricultural purposes since the prior to the 1880s and for residential and agricultural purposes from the early 2000s.

The Phase Two ESA was completed in conjunction with the geotechnical and hydrogeological investigations and involved the advancement of nine (9) boreholes (MW22-1A, MW22-1B, MW22-2, MW22-9, MW22-10, BH22-11, MW22-12, BH22-13 and MW22-14), which were completed between May 18 to May 25, 2022 and an additional six (6) boreholes (BH22-3 to BH22-8) between May 17 to May 19, 2022. The boreholes were advanced to a maximum depth of 17.0 metres below ground surface (mbgs) under the supervision of DS personnel. Groundwater monitoring wells were installed in seven (7) of the boreholes.

The soil and groundwater analytical results were compared to the “Table 2: 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.

It is noted that a total of nineteen (19) grain size analyses were conducted as a part of this investigation. The results of the grain size analyses indicated that more than two-thirds of the soils encountered were medium to fine textured. However, for the purpose of determining the Site Condition Standards the more conservative coarse grain standards are applied.

I. Description and Assessment of:
    A. <u>Areas where potentially contaminating activity has occurred</u>

A summary of the PCAs considered to be contributing to APECs on the RSC Property is provided in the table below.

Table 1-1: Summary of PCAs Contributing to APECs

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
1	PCA-30: Importation of Fill Material of Unknown Quality	Historic aerial imagery and CVD's (2016) report indicates that the southwestern portion of the Site – which was reportedly leased to a landscaping company – was occupied by more than ten soil stockpiles of varying sizes over time. CVD (2016) describes the material as imported concrete, asphalt debris and miscellaneous granular material. The landscaping company was not available to identify the source of the soil.	PCA is on-Site
2	N/S - Storage of miscellaneous construction material and debris	Historic aerial imagery indicates that the southwestern portion of the Site – which was reportedly leased to a landscaping company – was occupied by various vehicles as well as miscellaneous materials and refuse.	PCA is on-Site
4	PCA-30: Importation of Fill Material of Unknown Quality	During the site reconnaissance CVD (2016) observed black granular material stored on the south adjacent property to be encroaching onto the Phase One Property.	PCA is on the south adjacent property.
7	PCA-40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	According to the Halton County Atlas from 1880, the Phase One Property appears to have a residential dwelling with an orchard located along the western boundary of the Site.	PCA is on-Site
9	PCA-30: Importation of Fill Material of Unknown Quality	In the 1934 aerial imagery, the residential dwelling and orchard are no longer visible on the Phase One Property. However, the area where the historic residential dwelling and orchard were appears to be graded.	PCA is on the south adjacent property.
10	PCA-28: Gasoline and Associated Products Storage in Fixed Tanks	The south adjacent Property was occupied by a residential dwelling and a Quonset Hut at the time of the site	PCA is on the south adjacent property.

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
		reconnaissance, and was used for residential and commercial purposes. There were two (2) ASTs on the property.	

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

B. Areas of potential environmental concern

Six (6) APECs were identified to be present on the RSC Property through the completion of the Phase One ESA. A summary of the APECs identified, and the associated COPCs is provided in the table below.

Table 1-2: Summary of APECs identified on the RSC Property

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-1A	Southwestern portion of the Property	#30: Importation of Fill Material of Unknown Quality	On Site PCA-1	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-1B	Southwestern portion of the Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-4	Metals, PAHs	Soil
APEC-1C	Southern portion of the Property	#30 – Importation of Fill Material of Unknown Quality	On Site PCA-9	Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil
APEC-2	Southwestern portion of the Property	PCA N/S - Storage of miscellaneous construction material and debris	On Site PCA-2	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR	Soil and groundwater
APEC-3	Western portion of the Property	#40: Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents)	On Site PCA-7	Metals, As, Sb, Se, CN-, OCPs	Soil

		Manufacturing, Processing, Bulk Storage and Large-Scale Applications			
APEC-4	Southern Portion of the Property	#28 - Gasoline and Associated Products Storage in Fixed Tanks	Off Site PCA-10	PHCs, VOCs, PAHs	Groundwater

Notes:

BTEX – Benzene, Toluene, Ethylbenzene and Xylene.

PAHs – Polycyclic Aromatic Hydrocarbons

PHCs – Petroleum Hydrocarbon

OCPs – Organochloride Pesticides

In order to investigate the APECs identified on the RSC Property, the following soil samples were submitted for chemical analysis.

Table 1-3: Summary of Soil Samples Submitted from the RSC Property

APEC	Description	COPCs	Media	Boreholes Within APEC	Samples Analysed	Parameter Analyzed
APEC-1A	Historic aerial imagery and CVD's (2016) report indicates that the southwestern portion of the Site - which was reportedly leased to a landscaping company - was occupied by more than ten soil stockpiles of varying sizes over time. CVD (2016) describes the material as imported concrete, asphalt debris and miscellaneous granular material. The landscaping company was not available to identify the source of the soil.	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-, HWS, CN-, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW22-1B	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, EC,SAR
					SS2	PAHs
					DUP 1	PAHs
					SS3	PHCs & BTEX, VOCs
				BH22-5	SS1	PAHs
					SS2	PHCs & BTEX, VOCs
APEC-1B	During the site reconnaissance CVD (2016) observed black granular material stored on the south adjacent property to be encroaching onto the southeastern portion of the Phase One Property.	Metals, PAHs	Soil	BH22-4	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, PAHs
APEC-1C	In the 1934 aerial imagery, the residential dwelling and orchard are no longer visible on the Phase One Property. However, the area where the historic residential dwelling and orchard were appeared to be graded.	Metals, As, Sb, Se, B-HWS, CN-,electrical conductivity, Cr(VI), Hg, low or high pH, SAR, PAHs	Soil	BH22-6	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, PAHs
					SS2	PHCs & BTEX, VOCs
APEC 2	Historic aerial imagery indicates that the southwestern portion of the Site - which was reportedly leased to a landscaping company - was occupied by various vehicles as well as miscellaneous materials and refuse.	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-, HWS, CN-, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW22-1B	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR
					SS2	PAHs
					DUP 1	PAHs
					SS3	PHCs & BTEX, VOCs
				BH22-5	SS1	PAHs

					SS2	PHCs & BTEX, VOCs
APEC 3	According to the Halton Country Atlas from 1880, the Phase One Property appears to have a residential dwelling with an orchard located along the western boundary of the Site.	Metals, As, Sb, Se, CN-, OCPs	Soil	BH22-3	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, OCPs
				BH22-7	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, OCPs
				BH22-8	SS1	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR
APEC 4	The south adjacent property was occupied by a residential dwelling and a Quonset Hut at the time of the site reconnaissance, and was used for residential and commercial purposes. There were two (2) ASTs on the property.	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-, HWS, CN-, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	MW22-2	SS1	PAHs
					DUP 3	PAHs
					SS2	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR
					SS3	PHCs & BTEX, VOCs
					SS4	PHCs & BTEX, VOCs
					DUP 4	VOCs
			Groundwater	MW22-2	MW22-2	Metals, As, Sb, Se, CN-, Hg, Cr(VI), B-HWS, EC, SAR, PHCs, BTEX, PAHs

Groundwater samples were collected from monitoring wells MW22-2 to assess the groundwater quality with respect to APEC-4 as follows:

Table 1-4: Summary of groundwater samples submitted on the RSC Property

Well ID	Well Screen Interval (masl)			Sample Date	Parameter Analyzed	APEC Investigated
MW22-2	177.39	-	180.44	30-May-22	Metals, As, Sb, Se, CN-, Hg, Cr(VI),B-HWS, Na, Cl-, PHCs, BTEX, PAHs	APEC 4
MW22-2	177.39	-	180.44	28-Jun-22	PHCs	APEC 4

C. Any subsurface structures and utilities on, in or under the Phase Two Property that may affect 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.

Underground utilities were not identified at the Phase One Property. Plans were not available to confirm the depths of these utilities, however if present they are estimated to be installed at depths ranging from less than 3 metres below ground surface.

The depth to groundwater at the Phase One Property has been calculated at depths of between 0.80 to 8.43 mbgs; therefore, the utility corridors (if present) are may intersect the water table and act as preferential pathways for contaminant distribution and transport in the event that shallow subsurface contaminants exist at the Phase One Property.

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

A surficial topsoil layer approximately 100 to 250 mm thick was encountered BH22-3, BH22-8, MW22-10 and BH22-11. Fill material was encountered in boreholes MW22-1A, MW22-1B, MW22-2 and BH22-5 and it consisted of clayey silt, sandy silt and sand without any indication of deleterious materials. The fill material was generally heterogeneous and ranged in thickness from 1.0 to 1.5 mbgs. Re-worked native soils were encountered in boreholes MW22-9, MW22-10, BH22-11, MW22-12, BH22-13, MW22-14. The reworked native soils and native overburden material encountered below the fill material generally consisted of clayey silt till/sandy silt till/ silty clay till and extended to depths ranging from 4.6 to 13.7 mbgs. Shale Bedrock was encountered in MW22-1B, MW22-2 and MW22-14 at a depth of between 12.2 to 15.2 mbgs.

The borehole locations are depicted on Figure 5. A visual representation of the stratigraphy investigated is presented on the cross-sections provided in Figure 6B.

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

A total of seven (7) monitoring wells (MW22-1A, MW22-1B, MW22-2, MW22-9, MW22-10, MW22-12 and MW22-14) were installed on the RSC property.

MW22-1A, MW22-9, MW22-12, MW22-14 were screened at depth ranging from 6.1 – 9.1 mbgs within silty clay till unit encountered. MW22-1B was screened at depth ranging from 12.2-15.2 mbgs within the sandy silt till/clayey silt till unit encountered on the lower water bearing zone. The depth to groundwater was found to range between 0.80 and 8.43 mbgs on June 8, 2022. Generally, the groundwater elevation was found to range from 174.12 to 180.86 masl in aquifer investigated.

Based on the groundwater elevations calculated, the flow direction on the upper groundwater unit is interpreted to be south to southeast, towards the Osenego Creek. The groundwater elevation contours, and flow direction are presented on Figure 5.

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded on June 08, 2022.

Summary of Horizontal Hydraulic Gradient Calculations

Hydrogeological Unit	Calculated Horizontal Hydraulic Gradient
Clayey Silt/Silty Clay Till	Minimum: 0.0001347 Average: 0.01607 Maximum: 0.05631

The vertical hydraulic gradient was calculated based on the groundwater levels recorded on June 08, 2022.

Summary of Vertical Hydraulic Gradient Calculations

Monitoring Well Nest	Calculated Vertical Hydraulic Gradient
MW22-1A MW22-1B	0.9472 (downward)

C. Depth to bedrock

Shale bedrock was encountered at borehole termination depth in three (3) of the advanced boreholes, MW22-1B, MW22-2 and MW22-14, at depths ranging between 12.2 and 15.2 mbgs.

D. Approximate depth to water table

The depth to groundwater in the shallow monitoring wells (MW22-1A, MW22-2, MW22-8, MW22-10, MW22-12 and MW22-14) was found to range between 0.80 to 8.43 on June 08, 2022.

E. Any respect in which section 41 or 43.1 of the regulation applies to the property

Section 35

Section 35 is not applicable to the Phase Two Property, permission to use the non-potable groundwater standards was not obtained from Halton Country.

Section 41

A total of eleven (11) pH samples were collected and submitted for analysis on the RSC Property.

Nine (9) pH samples were collected from depths of between 0 to 1.5m representing surficial soils. The pH values of surficial soils measured between 6.85 and 7.88, which are within the acceptable limits for non-sensitive sites.

Two (2) pH samples were collected from depths of between 2.3 to 2.9 m, representing subsurface soils. The pH values of the subsurface soils measured between 7.83 and 7.87 units, which is within the acceptable limits for non-sensitive sites.

There are no areas of natural significance on the Site, or within 30 m of the Site. As such the Site is not considered to be environmentally sensitive as defined by Section 41.

Section 43.1

Not applicable – the Site is not a shallow soil property, nor does it include a water body, nor is it within 30 metres of a water body.

F. Areas where soil has been brought from another property and placed on, in or under the Phase Two Property

No excess soil was placed on the Site.

G. 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 feature a residential sub-division.

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

The results of the chemical analyses conducted on soil and groundwater samples indicate that the applicable Site Condition Standards have been met.

B. The contaminants associated with each of the areas

The results of the chemical analyses conducted on soil and groundwater samples indicate that the applicable Site Condition Standards have been met.

C. Medium that contaminants were identified in

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

D. Description and assessment of what is known about each of the areas

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

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

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

F. Anything known about the reason for the discharge of the contaminants present on, in or under the Phase Two Property at a concentration greater than the applicable SCS

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

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

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

H. Climatic or meteorological conditions that may have influenced distribution and migration of the contaminants, such as temporal fluctuations in groundwater levels

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater. Therefore the potential effect of meteorological and climatic conditions on the migration of contaminants on the Phase Two Property is considered to be minimal.

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.

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

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.

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

No contaminants were identified at concentrations greater than the applicable SCS in soil or groundwater.