12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

Phase Two Environmental Site Assessment Update

Client:
Argo Summer Valley Limited

Type of Document:
Final

Project Name:
Phase Two Environmental Site Assessment Update, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

Project Number:
GTR-00257876-A0

EXP Services Inc.
220 Commerce Valley Drive West, Suite 110
Markham, ON, L3T 0A8
t: 905.695.3217

Date Submitted:
January 27, 2022

Table of Contents

List of Appendices

1. Executive Summary

The executive summary is a brief synopsis of the report and should not be read in lieu of reading the report in its entirety. EXP Services Inc. (EXP) was retained by Argo Summer Valley Limited to conduct a Phase Two Environmental Site Assessment Update (ESA) for the contiguous property with the municipal addresses 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, located on the east side of Hurontario Street and the north side of Highwood Road, in Brampton and Caledon, Ontario; the "site". The site measures approximately 3.6 hectares (8.9 acres) in area. The site was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the late 1950s. The on-site structures were demolished between 2013 and 2014. At the time of the investigation, the site was vacant.

The objective of the Phase Two ESA Update was to evaluate subsurface conditions at the site in support of a Record of Site Condition (RSC) filing with the Ontario Ministry of the Environment, Conservation and Parks (MECP). The MECP has requested that two RSCs be submitted for the site; one for the portion located within Brampton (municipally addressed as 12197 Hurontario Street, Brampton, Ontario, herein referred to as the Brampton parcel) and one for the portion located within Caledon (municipally addressed as 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario, herein referred to as the Caledon Parcel). This report is written for the site, in its entirety, but conceptual site models for the Brampton and Caledon parcels are provided separately in Appendix H. The Phase Two ESA Update involved the advancement of six boreholes (BH301 to BH306), four of which were completed as groundwater monitors (BH301 to BH304) on December 13 and 14, 2021. A soil and groundwater sampling program was completed. Parameters chosen for analysis were based upon the results of the Phase One ESA (EXP, dated January 20, 2020), Phase Two ESA (EXP, dated May 22, 2020), and the Phase One ESA Update (EXP, dated January 5, 2022). Groundwater sampling was completed on December 20, 2021.

Soil samples were analyzed for EC and SAR. Groundwater samples were analyzed for PHC fractions F1 to F4, volatile organic compounds (VOCs), sodium, and chloride. The Ontario Regulation (O. Reg.) 153/04, Table 2 Standards for a residential/parkland/institutional property use and medium to fine textured soils, "Table 2 Standards; Table 2 SCS", were deemed appropriate for evaluating conditions at the site.

The soil samples collected from boreholes BH304 to BH306 were within the O. Reg. 153/04 Table 2 Standards for all of the parameters analyzed.

The groundwater samples collected from the newly installed monitors BH301 to BH304 were within the O. Reg. 153/04 Table 2 Standards for all the parameters analyzed.

Based on previous investigations, exceedances of the Table 2 Standards were identified for electrical conductivity (EC) and sodium adsorption ratio (SAR) in soil and is sodium and chloride in groundwater at the Caledon parcel. However, these contaminants are being addressed by the Risk Assessment (RA) currently underway.

Soil previously identified as being in exceedance of the Standards for PHC fraction F2 was remediated in 2020 and 2021.

Based on the work completed, to date, an RSC can be filed for the portion of the site located within the City of Brampton. Once the current RA is accepted by the MECP, an RSC can be filed for the portion of the site located within the Town of Caledon.

2 Introduction

EXP was retained by Argo Summer Valley Limited to conduct a Phase Two ESA at 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon. For the purpose of this report, the terms "site" and "Phase Two property" refer to the for the contiguous property with the municipal addresses of 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario.

The objective of the investigation was to support the filing of an RSC with the MECP under Ontario Regulation (O. Reg.) 153/04. The MECP has requested that two RSCs be submitted for the site; one for Brampton parcel and one for the Caledon parcel. This report is written for the site, in its entirety, but conceptual site models for the Brampton and Caledon parcels are provided separately in Appendix H.

The Phase Two ESA was conducted in accordance with O. Reg. 153/04 and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third party beneficiaries are intended. Our limitations and use of report are outlined in Appendix A. Figures referenced throughout the report are provided in Appendix H.

2.1 Site Description

The site is located on the east side of Hurontario Street and the north side of Highwood Road, at 12197 Hurontario Street and 12211, 12213, 12231, and 12233 Hurontario Street, in Caledon and Brampton. Surrounding properties include vacant land to the northwest, mixed commercial and residential use to the southwest and residential use to the northeast and southeast. Site plans for the Brampton and Caledon parcels are provided in Appendix H.

The site has an area of approximately 3.6 hectares (8.9 acres) and was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the late 1950s. The on-site structures were demolished between 2013 and 2014, and the site has remained vacant since that time.

2.2 Legal Description and Property Ownership

At the time of the Phase Two ESA, the site was vacant.

Details of the site are as follows:

Municipal Address	12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
Current Land Use	Industrial/Commercial (presently vacant)
Proposed Land Use	Residential
Legal Description	PART LOT 18 CON 1 EHS (CHING) DESIG. PARTS 1 & 2 43R33945; PART LOT 19 CON 1 EHS (CHING) PARTS 3 & 4 PLAN 43R32579; PART LOT 19 CON 1 EHS (CHING) DESIG. PART 5 PLAN 43R3579; AND, PART LOT 19 CON 1 EHS (CHING) DESIG. PARTS 1 & 2 PLAN 43R32579
Property Identification Number (PIN)	14235-0001 (LT);

	14235-0025 (LT); 14235-1665 (LT); and, 14235-1693 (LT)
Approximate Universal Transverse Mercator (UTM) coordinates	NAD83 17-4857021N 0633808E
Accuracy Estimate of UTM	10-15 m
Measurement Method	Google Earth
Site Area	3.6 hectares (8.9 acres)
Property Owners and Address	Argo Summer Valley Limited, 4900 Palladium Way Unit 105 Burlington, Ontario, L7M 0W7

At the time of the investigation, the site was vacant with no structures. Survey plans of the subject property, Plan 43R-32579 and Plan 43R-33945, were completed by David B. Searles Surveying Ltd., on November 26, 2008, and June 9, 2011, respectively. The survey plans are provided in Appendix B.

2.3 Current and Proposed future Uses

At the time of the Phase Two ESA, the site was vacant. Reportedly, the site is intended to be developed for residential use.

2.4 Applicable Site Condition Standards

This site is not considered to be potentially sensitive for the following reasons: there are no areas of natural or scientific interest on or within 30 metres of the site boundaries, bedrock is present at a depth greater than 2.0 metres below ground surface, and pH for soil samples tested is between 5 and 9 at eight locations obtained from both surficial and subsurface soil during a previous investigation (EXP 2019). The presence of potable water use in the vicinity of the site and current field observations concerning soil texture support the use of Table 2 Generic Site Condition Standards for a residential/parkland/institutional land use with medium to fine textured soil in a potable groundwater condition.

3 Background Information

3.1 Physical Setting

3.2.1 Topography, Geology and Hydrology

The site is located in the physiographic region known as the South Slope, characterized by sandy tills in the east and clayey tills in the west (Physiography of Southern Ontario, Chapman and Putnam, 1984). Overburden at the site is anticipated to consist of clay to silt-textured till (Sharpe, 1980).

According to the Geological Survey of Canada map of the area (Southern Ontario, 1:1,000,000 Scale, Sheet SSS, Map 2544), the underlying geology comprises the Queenston Formation. Bedrock at the site consists of shale, limestone, siltstone, and dolostone (Bedrock Geology of Ontario – Southern Sheet, Map 2544, Ministry of Northern Development and Mines).

The topography in the vicinity of the subject property is relatively flat. Regionally, the land slopes to the southeast, towards the Etobicoke Creek.

Table 1 summarizes the environmental setting and site characteristics; Darcy's Law Calculations are provided in Table 2. Based on the calculated hydraulic gradient of 0.025 m/m, a hydraulic conductivity of 1.0×10^{-6} cm/s and an effective porosity of 20%, Darcy's Law was used to calculate a groundwater flow velocity through the native clayey silt to sandy silt, at a rate of approximately 0.039 metres (39 millimetre) per year.

3.2.1 Water Bodies and Areas of Natural Significance

There are no water bodies on the site. The nearest surface water body to the site is the Etobicoke Creek, located approximately 180 metres to the east of the site.

Based on the Ministry of Natural Resources and Forestry's "Make a Map: Natural Heritage Areas" the site is not located within 30 metres of any of the following:

- An area reserved or set apart as a provincial park or conservation reserve under the Provincial Parks and Conservation Reserves Act, 2006;
- An area of natural and scientific interest (life science or earth science) identified by the Ministry of Natural Resources and Forestry as having provincial significance;
- A wetland identified by the Ministry of Natural Resources and Forestry as having provincial significance;
- An area designated as an escarpment natural area or an escarpment protection area by the Niagara Escarpment Plan under the Niagara Escarpment Planning and Development Act;
- An area identified by the Ministry of Natural Resources and Forestry as significant habitat of a threatened or endangered species;
- An area which is habitat of a species that is classified under section 9 of the Endangered Species Act, 2007 as a threatened or endangered species;
- Property within an area designated as a natural core area or natural linkage area within the area to which the Oak Ridges Moraine Conservation Plan under the Oak Ridges Moraine Conservation Act, 2001 applies; and,
- An area set apart as a wilderness area under the Wilderness Areas Act.

The site is not located within a "natural heritage system", the "Greenbelt Plan Area", "Niagara Escarpment Plan Area", or "Oak Ridges Moraine Conservation Plan Area" according to Schedules A1 and S, of the *Town of Caledon Official Plan (2018).*

The site is not located within 30 metres of an "environmentally sensitive/significant area", "provincially significant wetland", "special policy area", "provincial greenbelt/protected countryside", "areas of natural and scientific interest – life science and earth science" according to "Schedule D" of the *City of Brampton Official Plan* (2015).

3.2 Previous Environmental Investigations

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

Table 2.2: Previous Reports Summary

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
June 11, 2019	Subsurface Environmental Investigation, 12197 Hurontario Street, City of Brampton, 12211, 12213, 12231, 12233 Hurontario Street, Town of Caledon	Vistaview Management Inc.	Simon Lan, P.Eng., EXP Services Inc.	Based on a review of the report, the site was previously used for a combination of residential and commercial use including offices, truck/trailer parking, and repair and servicing of vehicles and/or trailers. EXP completed a subsurface environmental investigation in accordance with Canadian Standards Association (CSA) Standard Z769-00 to assess the subsurface environmental conditions related to the areas of potential environmental concern (APECs) at the site. The on-site potentially contaminating activities (PCAs) identified include: • Five former on-site aboveground storage tanks (ASTs); • Repair and servicing of trailers within former buildings; • Dedicated salt storage area; • Garage operations; • Backfilled basements of two former residential dwellings with fill of unknown quality • A remediated area associated with a former UST and garage operations at the southeastern portion of the site; and, • A backfilled basement of former residential dwellings. The off-site PCA identified includes: • Former underground storage tanks (USTs) on the north adjacent property. The work was conducted as follows:

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
				• A total of twenty-eight boreholes and four hand dug test pits were advanced for soil and/or groundwater sample collection to depths ranging from 0.6 to 8.2 metres below ground surface (mbgs); • Additional boreholes and test pits were advanced in the vicinity of borehole N7 for delineation of petroleum hydrocarbon (PHC) impacts identified in soil, and N3 for delineation of EC and SAR impacts identified in soil; • Monitoring wells were installed in Boreholes S3 (nested well cluster), N2, N3, N6, N7 and N11 for groundwater sample collection; • The stratigraphy of the site is generally comprised of surficial granular material underlain by fill (generally reworked material with the exception of imported fill within the northeast portion of the southern parcel) followed by native deposits of clayey silt till and sandy silt till; • Potable water supply wells formerly servicing the on-site building were present at the time of the investigation, and therefore MECP Table 2 Standards for residential/parkland/institutional property use were applied; • Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), benzene, toluene, ethylbenzene, xylene (BTEX), PHC fractions F1 to F4, metals and inorganic parameters; • All concentrations of VOCs, BTEX and PHC parameters in the analyzed soil samples were below the Table 2 Standards with the exception of PHC fraction F2 in borehole N7, at a depth of 1.5 to 2.1 mbgs. Lateral and vertical delineation was achieved for the PHC impacted soil at borehole N7. The depth of the PHC impact at this borehole was found to have extended to a depth of 2.3 mbgs; • All concentrations of metals and general inorganic parameters in the analyzed soil samples were below the applicable Table 2 Standards, with the exception of EC and SAR in borehole N3, at a depth of 0.3 to 0.6 mbgs. Additional testing for EC and

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
				SAR delineation was undertaken, however the lateral and vertical extents of EC and SAR were not fully delineated; • Groundwater samples retrieved from the monitoring wells were analyzed for VOCs, BTEX and PHCs. The reported concentrations of all VOCs, BTEX and PHC parameters were below the Table 2 Standards; • Groundwater samples retrieved from the monitoring wells were analyzed for metals and inorganics. With the exception of elevated chloride levels in the groundwater samples from monitoring wells N2 and N3, the remaining reported concentrations of all metals and general inorganic parameters in the tested groundwater samples were within the Table 2 Standards; and, • To confirm the concentrations of chloride in groundwater from monitoring wells N2 and N3, two additional rounds of sampling and testing were completed at these locations. The sodium and chloride concentrations in all subsequent rounds of testing at monitoring well N2 and chloride concentrations in all subsequent rounds of testing at N3 were reported to be above the Table 2 Standards. Based on the findings of the subsurface environmental investigation, EXP made the following recommendations: • Decommissioning of the existing not-in-use water supply wells on-site, as the proposed residential development will be serviced by municipal water systems; • The soil and groundwater impacts must be remediated or addressed by a risk assessment (RA) in order to file an RSC.
January 20, 2020a	Phase One Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 1233	Sobeys Capital Incorporated	Amanda Catenaro, P.Geo., QP_{ESA} with EXP	The objective of the investigation was to support the filing of a RSC. The site was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the 1950s. The on-site structures were demolished between 2013 and 2014. At the time of the Phase One investigation, the site was vacant.

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
	Hurontario Street, Caledon, Ontario			Fourteen PCAs were identified on-site based on current and past operations at the Phase One property, that may contribute to an APEC. Three PCAs were identified at properties located within 250 metres of the Phase One property. The potential for each off-site PCA to result in an APEC was evaluated based on proximity to the site and on its location relative to the inferred southeasterly groundwater flow direction. A total of two PCAs were identified off-site that may contribute to an APEC on-site. In accordance with O. Reg. 153/04, a Phase Two ESA must be completed to evaluate soil and groundwater quality within the APECs before an RSC can be filed for the site. A review of the recent subsurface investigation completed by EXP (2019) indicates that soil and groundwater quality at the site meet the Table 2 Standards with the exception of PHC impacted soils beneath the northwestern portion of the site, and salt-related impacts in soil and groundwater at the location of the former salt storage. A Phase Two ESA Update, including remediation and further testing, was recommended.
May 22, 2020b	Phase Two Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 1233 Hurontario Street, Caledon, Ontario	Sobeys Capital Incorporated	Amanda Catenaro, P.Geo., QP_{ESA} with EXP	The objective of the Phase Two ESA was to evaluate subsurface conditions at the site in support of a RSC filing with the Ontario MECP. The Phase Two ESA involved the advancement of sixteen boreholes (BH101 to BH111 and BH201 to BH205), five of which were completed as groundwater monitors (BH102, BH103, BH201, BH202, and BH203) on February 27 and 28, April 30, and May 1, 2020. A soil and groundwater sampling program was completed, including sampling of select existing groundwater monitors. Parameters chosen for analysis were based upon the results of the Phase One ESA (EXP, dated January 20, 2020). Groundwater sampling was completed on March 5 and May 7, 2020. Soil samples were analyzed for polycyclic aromatic hydrocarbons (PAHs), electrical conductivity (EC) and sodium adsorpotion ratio (SAR). Groundwater samples were analyzed for PHC fractions F1 to F4, PAHs, volatile organic compounds (VOCs), sodium and chloride. The Ontario Regulation (O. Reg.) 153/04, Table 2 Standards for a residential/parkland/institutional property use and medium to fine textured soils, “Table 2 Standards; Table

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
				2 SCS", were deemed appropriate for evaluating conditions at the site. The soil samples collected from boreholes BH101 to BH111 and BH201 to BH205 were within the O. Reg. 153/04 Table 2 Standards for all of the parameters analyzed with the following exceptions: • Five soil samples, BH102 (and field duplicate BH1020), BH111, TH202 SS1, TH204 SS1, and TH204 SS5, at depths ranging from 0 to 0.61 mbgs exhibited concentrations of EC and SAR exceeding the O. Reg. 153/04 Table 2 Standards; and, • Two soil samples,TH202 SS5 and TH205 SS1 at a depth of grade to 3.7 mbgs, exhibited concentrations of EC exceeding the O. Reg. The groundwater samples collected from pre-existing monitors N6, N7, N11, and S3-S and newly installed monitors BH102, BH103, BH201, BH202, and BH203 were within the O. Reg. 153/04 Table 2 Standards for all of the parameters analyzed with the following exceptions: • Six groundwater samples from BH102 (and field duplicate BH1020), BH103, BH201 and BH202, with screened intervals of 1.1 to 3.6 mbgs, 6.1 to 9.1 mbgs, 1.3 to 4.3 mbgs and 1.3 to 4.3 mbgs, respectively, exhibited concentrations of sodium and/or chloride exceeding the O. Reg. 153/04 Table 2 Standards. As per Section 2 of Ontario Regulation 339 of the Revised Regulations of Ontario, 1990 (Classes of Contaminants – Exceptions) and section 48 (3) of Ontario Regulation 153/04, it is the QP's opinion that the applicable Table 2 SCS for EC, SAR, sodium, and chloride at the site, outside of the salt storage area identified, were exceeded solely because salt was used for the purpose of keeping the site safe for traffic under conditions of snow or ice or both. Therefore, these parameters are not considered contaminants of concern (COCs) and are deemed to not be an exceedance of the Standards, as long as they are located outside the former salt storage area identified. Soil previously identified as being in exceedance of the Standards for PHC fraction F2 and salt-impacted soil and groundwater in the vicinity of the former salt dome, must be remediated and/or risk assessed before an RSC can be filed.

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
July 29, 2021	Remediation Report: 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario	Sobeys Capital Incorporated	Amanda Catenaro, P.Geo., QP_{ESA} with EXP	The scope of the Remedial Excavation includes the removal of PHCs on the central portion of the Site and EC and SAR impacted soil at the northern portion of the Site. Remaining EC and SAR impacted soil following remedial activities and sodium and chloride impacts in groundwater that were identified on-site will be addressed through the RA being conducted at the Site. The objective of the remedial program was to remove impacted soil and to conduct confirmatory soil sampling at the limits of the excavations. The sampling work for the remediation program was conducted per O. Reg. 153/04. The data collected will be used to support the ongoing RA and subsequent RSC filing. It was noted that the EC and SAR impacts at the site were remediated to the Property Specific Standards (PSS) being implemented during the ongoing RA. A total of 7,820 tonnes (approximately 3,910 m^3) of PHC, EC, and SAR impacted soil was removed from the Site as part of the remedial excavation by Claybar, under the supervision of EXP, between August 28 to September 3, 2020 and May 17 to May 28, 2021. PHC impacted soil was disposed off-Site at an MECP licensed facility, GFL at Fenmar Drive, and EC/SAR impacted soil was disposed off-Site at Brock Aggregates in Caledon. The remedial excavation was divided into two Areas; a) Area 1 (PHC remediation) and B) Area 2 (EC/SAR remediation). The final size of the Area 1 Excavation was square in shape and measured approximately 6 metres at its maximum length and 6 metres at its maximum width, with a total area of approximately 36 m^2. The depth of excavation within Area 1 was 2.3 metres below ground surface (mbgs). A total of three (3) floor samples, two (2) wall samples, and one (1) field duplicate sample were used to verify the extent of the PHCs remediation in Area 1. All six (6) confirmatory floor samples for PHCs within the Area 1 Excavation met the MECP Table 4 SCS for residential/parkland/institutional land use with coarse textured soil. It is to be noted that the floor samples were collected from the bottom of the excavation at 2.3 mbgs, below the location where PHC exceedances were identified pre-remediation. The final size of the Area 2 Excavation was rectangular in shape and measured approximately 98 metres at its maximum length and 37 metres at its maximum width,

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
				with a total area of approximately 2,550 m^2. The depth of excavation within Area 2 ranged from approximately 1.5 to 2.0 metres in depth. A total of seventeen (17) floor samples, thirty-four (34) wall samples, and six (6) field duplicate samples were collected as part of the remedial activities. In the case where a sample was found to be in exceedance of the PSS, the excavation was further extended until a 'clean' boundary was found. The Area 2 excavation was advanced to the northern site boundary and as such, the wall samples from this portion of the Site were subsequently removed. A total of fourteen (14) floor samples and twenty-one (21) wall samples were collected from the final extent of the excavation, along the floor and the east, south and west walls to verify the extent of the remediation. The floor samples were collected from the bottom of the excavation between 1.5 to 2.0 mbgs and the wall samples were collected at 1.0 mbgs. All confirmatory soil samples collected from the final extents of the Area 1 Excavation and Area 2 Excavation had concentrations within the MECP Table 4 SCS (PHCs) or the PSS (EC and SAR). Therefore, the PHCs, EC and SAR impacts in soil were remediated to within Table 4 and/or PSS Standards. All soil remaining on-Site is within the Table 4 Standards with the exception of EC and SAR. Remaining EC and SAR impacted soils are being addressed through the RA being conducted. No further environmental work was recommended, at this time.
January 5, 2022	Phase One Environmental Site Assessment Update, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 1233 Hurontario Street, Caledon, Ontario	Argo Summer Valley Limited	Amanda Catenaro, P.Geo., QP_{ESA} with EXP	The objective of the investigation was to support the filing of a RSC under O. Reg. 153/04 and determine if any changes have been made to the site or surrounding area since the previous Phase One ESA (EXP, 2020a). The Phase One ESA involved a review of records pertaining to the site, an inspection of the property, interviews with personnel familiar with the site, and a walk-by inspection of the surrounding properties. The site was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the 1950s. The on-site structures were demolished between 2013 and 2014. At the time of the Phase One investigation, the site was vacant.

Date	Report Title	Prepared For	Prepared By	Findings of Areas of Potential Environmental Concern
				PCAs were identified based on a review of the inspection reports, Environmental Risk Information Services Ltd (ERIS) report, street directory search, Ontario Ministry of Environment, Conservation and Parks (MECP) records, aerial photographs, and on the site reconnaissance. Fourteen PCAs were identified on-site based on current and past operations at the Phase One property, that may contribute to an APEC. Three PCAs were identified at properties located within 250 metres of the Phase One property. The potential for each off-site PCA to result in an APEC was evaluated based on proximity to the site and on its location relative to the inferred southeasterly groundwater flow direction. A total of two PCAs were identified off-site that may contribute to an APEC on-site. Based on the previous Phase Two investigations (EXP, 2019, EXP 2020b, EXP 2021) the APECs identified in this Phase One ESA have been adequately assessed. However, it is understood that two RSCs are required for the site; one at the portion of the property located within Brampton (Parcel 1) and another for the portion of the property located within Caledon (Parcel 2). As such, additional sampling, including soil sampling and groundwater monitoring, is required in order to meet the minimum requirements at each parcel. In accordance with O. Reg. 153/04, a Phase Two ESA must be completed to evaluate soil and groundwater quality within the APECs before an RSC can be filed for the respective sites. It is noted that Parcel 2 is has undergone a remediation program and a risk assessment (RA) is currently underway. A Phase Two ESA Update, including further testing, dated with 18 months of the intended RSC filing, will be required to support the RSC filings.

The need for a Phase Two ESA Update on the site was identified in the Phase One ESA Update conducted by EXP, dated January 5, 2022. Based on the findings of the Phase One ESA Update, sixteen PCAs were identified on-site and within the Phase One ESA Study Area. Fourteen corresponding APECs (APEC A through APEC N) were identified. Although the Brampton parcel is considered with be within the relevant Standards, a Phase Two ESA was required in order to have intrusive work dated within 18 months of the RSC filing. For the Caledon parcel, a Phase two was required to investigate data gaps identified during the RA process.

4 Scope of Investigation

4.1 Overview of Site Investigation

The investigation included the following activities:

- Preparation of a site-specific Health and Safety Plan;
- Requesting, obtaining, and reviewing public utility locates prior to the Phase Two investigation field work;
- Retaining a subcontractor to locate on-site private utility locates prior to the Phase Two investigation field work;
- Inspecting soil and groundwater conditions by advancing six boreholes (BH301 to BH306) across the site, and installing groundwater monitors in four of the boreholes (BH301 to BH304);
- Field screening of all recovered soil samples for the presence of environmental impact (i.e. petroleum vapours, chemical staining, or odours);
- Submitting selected soil samples for laboratory analysis of the pCOCs;
- Monitoring and measuring groundwater levels in the monitors to determine groundwater elevations and groundwater flow direction;
- Submitting groundwater samples from four of the newly installed monitors (BH301 to BH304) for laboratory analysis of the pCOCs;
- Conducting soil and groundwater sampling in accordance with the MECP *Guidance on Sampling and Analytical Methods for Use at Contaminated Site in Ontario*, dated December 1996;
- Following Standard Operating Procedures (SOPs), and Quality Assurance and Quality Control (QA/QC) measures to ensure defined quality standards were met;
- Determining the appropriate Site Condition Standards (SCS) in accordance with O. Reg. 153/04 and comparing the results of the soil and groundwater analyses to these Standards; and,
- Documenting the results of the investigation.

EXP has confirmed neither the completeness nor the accuracy of any of the records that were obtained or of any of the statements made by others.

EXP personnel who conducted assessment work for this project included Ms. Amanda Catenaro (QP_{ESA}), Ms. Sarah DiBattista, Mr. Mike Luong, and Mr. Jonathan Keates. An outline of their qualifications is provided in Appendix C.

4.2 Media Investigated

A Phase Two ESA was conducted to evaluate soil and groundwater quality within the areas of potential environmental concern (APECs), identified during the Phase One ESA Update (dated January 5, 2022). Furthermore, the application of the RA to the MECP identified additional data gaps, requiring further investigation As there were no surface water bodies on the site, sediment sampling was not required.

Soil samples at three locations across the site (304 to BH306) were properly collected and analyzed for EC and SAR. Groundwater samples at the four newly installed monitors (BH301 to BH304) were properly collected and analysed for PHC fractions F1 to F4, PAHs, VOCs, sodium, and chloride.

4.3 Phase One Conceptual Site Model

Following a review of the historical documentation, previous investigations, and site reconnaissance during the Phase One ESA Update, it is possible to formulate an initial Conceptual Site Model (CSM). The CSM is a simplification of reality, which aims to

provide a description and assessment of any areas where a PCA on or potentially affecting the Phase One property has occurred, and any pCOCs.

A CSM was developed based on the findings of the Phase One investigation, completed in accordance with O. Reg. 153/04.

The site is located on the northeast side of Highway 10/Hurontario Street and the northwest side of Highwood Road, at 12197 Hurontario Street in the City of Brampton, and 12211, 12213, 12231 and 12233 Hurontario Street in the Town of Caledon. The site measures approximately 3.6 hectares (8.9 acres) in area.

The site was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the 1950s. The on-site structures were demolished between 2013 and 2014. At the time of the investigation, the site was vacant with no buildings.

Based on historical record reviews, five above ground storage tanks (ASTs) and one underground storage tank (UST) were previously located on-site. Several of the on-site buildings were used for trailer maintenance and repair and garage operations.

Fourteen PCAs were identified on-site based on current and past operations at the site, that may contribute to an APEC on-site.

Three PCAs were identified at properties located within 250 metres of the Phase One property. The potential for each off-site PCA to result in an APEC was evaluated based on proximity to the site and on its location relative to the inferred southeasterly groundwater flow direction. PCAs at properties located upgradient of the site were considered to result in APECs. A total of two PCAs were identified off-site that may contribute to an APEC on-site.

The PCAs on-site and within the Phase One Study Area, identified from Schedule D of O. Reg. 153/04, that are thought to contribute to an APEC are listed below:

- (28) Gasoline and associated product storage in fixed tanks (PCA S1, S2, S3a, S4, S12, and S14);
- (30) Importation of fill material of unknown quality (PCA S9, S10 and S11);
- (52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems (SPCA S6, S7 and S15);
- (Other) salt storage (S5);
- (Other) garage operations (S8 and S13); and,
- (Other) fuel leak (S3b).

The fourteen PCAs on-site and two PCAs identified within the Phase One Study Area result in fourteen APECs on-site (APEC A through APEC N). An expanded narrative of the PCAs and resulting APECs is presented in Appendix H, attached.

The pCOCs associated with these PCAs are PHCs, PAHs, VOCs, PAHs, metals (including hydride-forming metals) in soil and/or groundwater.

There is one record of a domestic well on-site and fourteen monitoring wells were documented on-site.

The site is located in the physiographic region known as the South Slope, characterized by sandy tills in the east and clayey tills in the west (Physiography of Southern Ontario, Chapman and Putnam, 1984). Overburden at the site is anticipated to consist of clay to silt-textured till (Sharpe, 1980).

According to the Geological Survey of Canada map of the area (Southern Ontario, 1:1,000,000 Scale, Sheet SSS, Map 2544), the underlying geology comprises the Queenston Formation. Bedrock at the site consists of shale, limestone, siltstone, and dolostone (Bedrock Geology of Ontario – Southern Sheet, Map 2544, Ministry of Northern Development and Mines).

The topography in the vicinity of the subject property is relatively flat. Regionally, the land slopes to the southeast, towards the Etobicoke Creek.

The nearest surface water body to the site is the Etobicoke Creek, located approximately 180 metres to the east of the site.

The site is not located within a "natural heritage system", the "Greenbelt Plan Area", "Niagara Escarpment Plan Area", or "Oak Ridges Moraine Conservation Plan Area" according to Schedules A1 and S, of the *Town of Caledon Official Plan (2018).*

The site is not located within 30 metres of an "environmentally sensitive/significant area", "provincially significant wetland", "special policy area", "provincial greenbelt/protected countryside", "areas of natural and scientific interest – life science and earth science" according to "Schedule D" of the *City of Brampton Official Plan* (2015).

No services are currently located at the site; however, the site was previously serviced with a private well and municipal electricity. The Phase One Study Area is serviced by the following:

- Natural gas is supplied by Enbridge;
- Electricity is supplied by Hydro One. Hydro Lines run parallel to Hurontario Street;
- Storm water and sanitary is supplied by the Region of Peel; and,
- Water is supplied by the Region of Peel.

At the time of the site reconnaissance, land usage within the Phase One Study Area included vacant land to the northwest, mixed commercial and residential use to the southwest and residential properties to the northeast and southeast.

The Phase One/Two CSMs for both the Brampton and Caledon parcels are illustrated and described in Appendix H. Given that the MECP has requested that two RSCs be filed for the site, the Phase Two CSMs are presented separately for the Caledon and Brampton parcels.

4.4 Deviations from Sampling and Analysis Plan

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

4.5 Impediments

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

5. Investigation Method

5.1 General

The site investigative activities consisted of the following:

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

EXP performed the Phase Two ESA following the requirements of O. Reg. 153/04, *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (MECP, 1996), and in accordance with generally accepted professional practices.

EXP followed Standards Operation Procedures (SOPs) and Quality Assurance and Quality Control (QA/QC) measures to ensure defined quality standards were met; there were no deviations from the associated SOPs.

5.2 Underground Utilities

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

5.3 Borehole Drilling

The drilling investigation was conducted on December 13 and 14, 2021. Pontil Drilling (Pontil) was contracted by EXP to advance six boreholes (BH301 to BH306), four of which were completed as monitors (BH301 to BH304). The boreholes were advanced to a maximum depth of 5.33 mbgs using a CME-45 track-mounted drill rig equipped with hollow and solid stem augers and a split spoon sampling system. Samples were collected from varying intervals, as shown in the borehole hole logs provided as Appendix E.

Proper field sampling procedures as documented in *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (MOE, 1996), including decontamination of sampling equipment, were followed to minimize the potential for cross-contamination.

The locations of the boreholes within the Caledon and Brampton parcels are shown in Appendix H.

5.4 Soil: Sampling

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

Boreholes BH301 to BH306 were advanced by Pontil using a CME-45 track-mounted drill rig equipped with hollow and solid stem augers and a split spoon sampling system.

Soil samples were collected as the drilling progressed and were examined for geologic information and for physical evidence of chemical impact. One worst-case soil sample was selected from each of BH304, BH305, and BH306 for laboratory analysis. No soil samples were obtained from BH301 to BH303; these boreholes were straight augered and completed as groundwater monitoring wells. The soil samples selected for laboratory analysis were immediately placed into laboratory prepared glass jars, labelled, and stored in a cooler with ice at less than 10˚C. A deeper soil sample was collected, preserved, and submitted for analysis for vertical delineation purposes if the worst-case soil sample was found to exceed the O. Reg. 153/04 Table 2 Standards for any of the parameters analyzed. A field duplicate sample was collected from BH305 for QA/QC purposes (discussed in Section 5.12).

The geology observed within BH304 to BH306 was sandy silt fill to a maximum depth of 0.75 mbgs, underlain by native silt till to a maximum depth of 5.3 mbgs. Bedrock was not encountered during the investigation; however, the top of the bedrock is anticipated at approximately 20 mbgs based on well records and maps in the vicinity of the site. The soil at the site was moist. No odours or staining were noted at any of the boreholes. No liquid petroleum was observed.

5.5 Field Screening Measurements

Readings of the petroleum vapour concentrations in the soil samples collected during the drilling investigation were measured using an RKI Instruments Eagle 2, where there was sufficient recovery. This instrument is designed to detect and measure concentrations of combustible gas in the atmosphere. It is equipped with two ranges of measurement, reading concentrations in parts per million by volume (ppmv) or in percentage lower explosive limit (LEL). The RKI Eagle 2 instrument can determine combustible vapour concentrations in the range equivalent to 0 to 11,000 ppmv of hexane. The instrument was configured to eliminate any response from methane for all sampling conducted at the site. Instrument calibration is checked on a daily basis in the LEL range using standard gases comprised of a known concentration of hexane in air. If the instrument readings are within ±10% of the standard gas value, then the instrument is deemed to be calibrated, however if the readings are greater than ±10% of the standard gas value then the instrument is re-calibrated prior to use. The vapour concentrations are accurate to within ±5% of reading or ±2% LEL (whichever is greater) in the 0-100% LEL range and to within ±50 ppm or ±10% of reading (whichever is greater) in the 0-50,000 ppm range.

Measured petroleum vapours ranged were non-detectable (<30 ppm) in samples taken from BH304 to BH306, where there was sufficient recovery to perform vapour measurements. Sample selection for laboratory analysis was determined based on visual observation, odour, and petroleum vapour readings from the RKI Eagle 2.

5.6 Groundwater: Monitoring Well Installation

The monitors BH301 to BH304 were installed by Pontil using a CME-45 track-mounted rig with hollow and solid stem augers between December 13 and 14, 2021.

The monitors were constructed from 50 millimetre diameter threaded Schedule 40 PVC pipe with a slot size of 0.01 inches and 2 threads per inch (TPI). At monitors BH301 through BH304, the screened interval is constructed with the lower slotted section of pipe located with the intention of straddling the water table. The upper riser section of the pipe is solid PVC. The lower part of the annulus of the monitoring well was backfilled with silica sand up to approximately 0.6 metres above the top of the slotted section. A bentonite seal, a minimum of 0.6 metres thick, was placed above the sand to just below grade. Bentonite and concrete were used to seal the monitors at grade. Each monitor is equipped with a protective casing and locking lid.

The screened interval from 1.52 to 4.57 mbgs at BH301 to BH303 and 2.29 to 5.33 mbgs at BH304 were selected given the soil moisture characteristics observed in the split spoon samples, with the intention of straddling the water table.

Proper field sampling procedures as documented in *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario* (MECP, 1996), including decontamination of sampling equipment, were followed to minimize the potential for cross-contamination.

Approximately one week prior to collecting the groundwater samples, the monitors were developed by removing a minimum of three well volume equivalents of groundwater or purging to dryness using a dedicated bailer. Purge water was examined for any petroleum product sheen or odours. Purge water did not demonstrate any indication of chemical impact and was therefore disposed onto a paved area at the site, away from any catch basins.

The location of the groundwater monitors is shown for each respective parcel in Appendix H.

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

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

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

5.7 Groundwater: Field Measurements of Water Quality Parameters

Immediately prior to collecting the groundwater samples, wells were purged until water quality parameters indicated that stable aquifer conditions had been reached.

Water quality parameters (pH, specific conductance (EC), total dissolved solids (TDS), and temperature) were measured using a Hanna Portable pH/EC/TDS/Temperature Meter. The pH (two-point calibration) and EC are calibrated prior to use. The meter detects pH in the range of 0.00 to 14.00 ±0.01 pH, EC from 0 to 3,999 µS/cm ±2% full scale (F.S.), TDS from 0 to 2,000 ppm (mg/L) ±2% F.S., and temperature from 0.0 to 60.0˚C ±0.5˚C.

5.8 Groundwater: Sampling

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

Groundwater sampling was conducted at newly installed monitors BH301 to BH304 on December 20, 2021. Field duplicate samples were collected from monitors BH303 and BH304 for QA/QC purposes (discussed in Section 5.12).

Approximately one week prior to sampling, the monitors were developed using a dedicated bailer by removing a minimum of three well volume equivalents of groundwater or purging to dryness. Immediately prior to collecting the groundwater samples, wells were purged until field stabilization parameters indicated that stable aquifer conditions had been reached; a peristaltic pump was used to collect the groundwater samples from BH301 to BH304.

The groundwater samples selected for laboratory analysis were immediately placed into laboratory prepared glass bottles and vials, labeled, and transported to the laboratory stored in a cooler with ice at less than 10˚C.

5.9 Sediment Sampling

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

5.10 Analytical Testing

All laboratory analyses were completed by AGAT Laboratories (AGAT), an accredited laboratory located in Mississauga, Ontario. AGAT performed the work following formal written methods and procedures. These methods include all the minimum requirements as specified in the document entitled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* (March 9, 2004, amended as of July 1, 2011).

5.11 Elevation Survey

An elevation survey was conducted by EXP on March 10 and May 14, 2020 and December 17, 2021, with the purpose of obtaining relative vertical control of the monitoring well locations. The top of pipe and ground surface elevations of each monitoring well were surveyed using a Trimble CS Controller. The elevations are recorded in the borehole logs in Appendix E.

5.12 Quality Assurance and Quality Control Measures

Soil and groundwater samples were collected, preserved, and handled in accordance with the sampling and analysis plan (Appendix D). Soil and groundwater samples selected for laboratory analysis were immediately placed into laboratory prepared glass jars, bottles and/or vials, labeled, and stored in a cooler with ice at less than 10˚C. All sample containers were labeled with the sample identification number, sample date and type and project number.

Dedicated equipment was used for groundwater sampling at different monitors and soil sampling equipment was thoroughly cleaned between sample sites. Where sampling for trace organics, it was ensured that bare hand or latex glove did not come into contact with the soil or groundwater as it was being placed into the laboratory sample container. Soil sampling equipment used for the collection of trace organics was cleaned using soap and water, followed by a water rinse and a methanol rinse between sampling locations.

One trip blank sample was submitted for laboratory analysis with each laboratory submission of groundwater samples to be analyzed for VOCs.

Field duplicate samples were collected from each medium being sampled, so that at least one field duplicate sample was submitted for laboratory analysis for every ten samples submitted for laboratory analysis. One field duplicate sample was collected for soil (BH305 SS2-0) and analyzed for the same parameters as the original samples (BH305 SS2). Two field duplicate groundwater samples (BH303D and BH304D) were collected and analyzed for the same parameters as the original samples (BH303 and BH304). Field duplicate samples were collected such that one field duplicate sample was collected for every ten samples collected, per media.

All field instruments are calibrated on a daily basis, prior to use, as described in Sections 5.5 and 5.7.

There were no deviations from the quality assurance and quality control measures as set out in the sampling and analysis plan. The quality assurance and quality control measures are discussed further in the Quality Management, Control and Assurance procedures outlined in Appendix F.

6. Review and Evaluation

6.1 Geology

The elevation and thickness of each geologic unit was determined based on test hole logs and an elevation survey conducted by EXP on March 10 and May 14, 2020 and December 17, 2021, using a Trimble CS Controller (Section 5.11).

Based on the results of the Phase Two investigation (EXP, 2020), the site stratigraphy is determined to be sand and gravel fill or reworked clayey silt native to a maximum depth of 1.5 mbgs, underlain by native clayey silt to silty clay till to a maximum depth of 9.1 mbgs, underlain by sandy silt till to a depth greater than 18.3 mbgs. The soil at the site was wet from below approximately 2.0 mbgs. Bedrock was not encountered during any of the investigations. However, based on MECP well records in the vicinity of the site, shale bedrock is present at approximately 38 mbgs.

The groundwater table was observed at a uniform elevation across the site (discussed in Section 6.2). A homogeneous isotropic unconfined aquifer is assumed, given the uniform elevation, grain size distribution of the native clayey silt to silt till, and soil stratigraphy at the site.

6.2 Groundwater: Elevations and Flow Direction

The screened interval from 1.52 to 4.57 mbgs at BH301 to BH303 and 2.29 to 5.33 mbgs at BH304 were selected given the soil moisture characteristics observed in the split spoon samples, with the intention of straddling the water table.

All measurements of groundwater and liquid petroleum (if any) depth were made with a Solinst Model 122 oil/water interface probe. Both the probe and the measuring tape that come into contact with liquids within the monitor are cleaned with Alconox detergent, and then rinsed with distilled water and methanol and allowed to air dry after each measurement.

For all monitors in which liquid petroleum is detected with the interface probe, the presence of liquid petroleum is verified with a bailer. For all monitors in which liquid petroleum is not detected with the interface probe, a bailer is used to check the monitor for the presence of phase-separated liquid petroleum. No liquid petroleum was observed in any of the monitors.

The CME-45 track mounted rig was used to install four monitors at the site (BH301 to BH304). The groundwater monitors were surveyed by EXP using a Trimble CS Controller on March 10 and May 14, 2020 and December 17, 2021 (Section 5.11). The groundwater elevations were calculated based on static water level measurements documented during the Phase Two investigation using a Solinst Model 122 oil/water interface probe. The measured depth to the static groundwater table ranged from 0.696 (BH301) to 3.270 (BH302) mbgs; the calculated groundwater elevations ranged from 254.13 (BH304) to 257.06 (BH303) masl. The groundwater elevations are provided in Table 3.

Taking into consideration surface water features in the surrounding area (discussed in Section 3.2.1), the regional groundwater flow direction is inferred to be southeast, towards Lake Ontario and Etobicoke Creek. Localized flow conditions across the site indicate a groundwater flow to the southeast in the unconfined aquifer.

Due to the unconfined hydrogeological characteristics of the unconfined aquifer, some seasonal variability in groundwater elevation is anticipated at the site. Given the depth of the unconfined groundwater table, ranging from 0.696 to 3.270 mbgs in the silt till layer, it is possible that local groundwater flow conditions would be influenced by the underground utilities. However, at present there are no active utilities on-site.

A free-flowing liquid petroleum layer was not detected in any of the groundwater monitors installed during the Phase Two investigation.

6.2.1 Groundwater: Hydraulic Conductivity

Based on the soil types and literature values provided in the textbook called *Groundwater* by Alan R. Freeze and John A. Cherry (1979), the permeability of the site is estimated to be 1 x 10^{-6} m/s. The Darcy's Law hydraulic conductivity calculations for the site are provided in Table 2.

6.2.2 Groundwater: Hydraulic Gradients

The horizontal hydraulic gradient is calculated using the following equation:

$i = \Delta h/\Delta s$

Where,

i = horizontal hydraulic gradient;

Δh (m) = groundwater elevation difference; and,

Δs (m) = separation distance.

Results of groundwater monitoring activities indicate a localized on-site horizontal hydraulic gradient of 0.025 m/m to the southeast, in the clayey silt to silty clay till. The regional horizontal hydraulic gradient is estimated to be approximately 0.001 m/m towards the southeast based on topography and surface water features in the region.

The vertical hydraulic gradient was calculated between the nested well pair N3/BH103 to be -7.81 m/m, in the downward direction.

The horizontal and vertical gradients were calculated based on the Phase Two CSMs are provided in Appendix H. Figures for the groundwater contours for each respective parcel are also provided in Appendix H.

6.3 Soil Texture

During previous investigations (EXP, 2020b; EXP, 2021), the soil at the Phase Two property was found to be sand and gravel fill or reworked native clayey silt to silty clay to a maximum depth of 1.5 mbgs, underlain by native clayey silt to clayey silt till to a maximum depth of 9.1 mbgs, underlain by sandy silt till to a depth greater than 18.3 mbgs. The soil at the site was wet from below approximately 2.0 mbgs.

Grain size analyses was performed on three samples in the previous Phase Two ESA report (EXP, 2020), BH101, BH102 and BH104. Approximately 70.3, 63.7, and 70.0 % by mass of the samples consisted of a particle size smaller than 75 µm in diameter for the samples. As a result, soil is considered medium to fine textured and soil quality will be compared to the O. Reg. 153/04 Table 2 Standards for a residential/parkland/institutional property use with medium to fine textured soil.

6.4 Soil: Field Screening

Readings of the petroleum vapour concentrations in the soil samples collected during the investigation were recorded using the method described in Section 4.4. Measured petroleum vapours were non-detectable (<30 ppm) in all samples where there was sufficient recovery to perform vapour measurements. Vapour readings for each soil sample are provided in the borehole logs (Appendix E).

6.5 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. The selection of representative "worst case" soil samples was based on field screening, visual and/or olfactory evidence of impacts, and the presence of potential water bearing zones. A sample submission table is provided as Table 4. Copies of the laboratory Certificates of Analysis for the analyzed soil samples are provided in Appendix G.

6.5.1 Electrical Conductivity and Sodium Adsorption Ratio

Three soil samples and one QA/QC field duplicates were analyzed for EC and SAR. The results of the analysis together with the applicable Table 2 SCS are presented in Table 6.

The analyzed samples were within the applicable Table 2 SCS. The laboratory RDLs were below the Table 2 SCS.

6.5.2 Chemical Transformation and Soil Contaminant Source

No chemical constituents were detected in the soil samples.

Based on previous investigations, EC and SAR exceedances were identified at the northern portion of the Caledon parcel. It is anticipated that the soil exceedances are associated with the APECs identified at the Site. EC and/or SAR levels measured to exceed the Table 2 SCS indicate the potential for soil to behave as a potential contaminant source contributing to groundwater sodium and/or chloride impacts, resulting from the leaching of salts present in soil.

6.5.3 Evidence of Non-Aqueous Phase Liquid

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

6.6 Groundwater Quality

In accordance with the scope of work, chemical analyses were performed on groundwater samples recovered from the monitoring wells. The selection of groundwater samples was based on location and/or screen depth. A sample submission table is provided as Table 4. Copies of the laboratory Certificates of Analysis for the analyzed groundwater samples are provided in Appendix G.

6.6.1 Petroleum Hydrocarbons

Three groundwater samples and one QA/QC field duplicate were analyzed for PHC fractions F1 to F4 and BTEX. The results of the analysis together with the applicable Table 2 SCS are presented in Table 7.

All samples were within the applicable Table 2 SCS. The laboratory RDLs were below the Table 2 SCS.

6.6.2 Volatile Organic Compounds

Three groundwater samples and one QA/QC duplicate, and one trip blank sample were analyzed for VOCs. The results of the analysis together with the applicable Table 2 SCS are presented in Table 8.

All samples were within the applicable Table 2 SCS. The laboratory RDLs were below the Table 2 SCS.

6.6.4 Sodium and Chloride

One groundwater samples and one QA/QC duplicate were analyzed for sodium and chloride. The results of the analysis together with the applicable Table 2 SCS are presented in Table 9.

All samples were within the applicable Table 2 SCS. The laboratory RDLs were below the Table 2 SCS.

6.6.5 Chemical Transformation and Groundwater Contaminant Source

The results of the current investigation do not indicate the presence of light or dense non-aqueous phase liquids, nor were contaminants related to chemical and biological transformations at the selected sampling locations. The groundwater results are not expected serve as a source of contaminant mass contributing to the local groundwater beneath the Phase Two property.

Based on previous investigations, sodium and chloride exceedances were identified at the Caledon parcel. Contaminated groundwater, currently being risk assessed at the Caledon parcel, is expected to migrate to the southeast, based on the calculated groundwater flow direction, as shown in the figures attached to each respective CSM (Appendix H).

6.6.6 Evidence of Non-Aqueous Phase Liquid (NAPL)

Inspection of the purged groundwater retrieved from the monitoring wells did not indicate the presence of NAPL, staining, or sheen.

6.7 Sediment Quality

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

6.8 Quality Assurance and Quality Control Measures

All laboratory analyses were completed by AGAT Laboratories (AGAT), an accredited laboratory located in Mississauga, Ontario. AGAT performed the work following formal written methods and procedures. These methods include all the minimum requirements as specified in the document entitled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* (March 9, 2004, amended as of July 1, 2011). All samples were handled in accordance with the Protocol.

Data quality objectives for the parameters of concern were set to meet acceptable Reporting Detection Limits (RDLs) to achieve the goal of defining areas where such parameters are present at levels in excess of applicable generic Standards, as defined in O. Reg. 153/04, under the Environmental Protection Act. This included providing written instruction to the participating analytical laboratory describing the required analyses on the Chain of Custody prepared and delivered with the samples. All laboratory RDLs were below the relevant Table 2 Standards.

One field duplicate samples were collected for soil (BH305 SS2-0) and analyzed for the same parameters as the original sample (BH305 SS2). Two field duplicate groundwater samples (BH303D and BH304D) were collected and analyzed for the same parameters as the original samples (BH303 and BH304). A VOC trip blank was also transported to the site during each sampling event where volatile parameters were being analyzed in groundwater and was submitted to the laboratory with the groundwater samples. A total of one trip blank was analyzed for VOCs during the Phase Two ESA.

The precision of the analytical results can be expressed by the relative percent difference (RPD) between the original sample and the duplicate sample. The equation used to determine the RPD is provided below.

$$RPD = 2 \times (|(S-D)|/(S+D)) \times 100$$

Where,
S = concentration of the original sample
D = concentration of the duplicate sample

RPDs can only be calculated if the concentration of both the duplicate sample and the original sample are above the analytical reporting detection limit (RDL) and the average of the two sample concentrations are greater than 5 times the RDL.

For soil samples, the alert limit criteria for the field duplicate RPD is >30% for metals, hydride-forming metals and inorganics. The calculated RPD between the duplicate samples and the original samples for soil was below the relevant alert criteria for all of the parameters analyzed with the following exception:

- The RPD for SAR between BH305-SS2 and its duplicate BH305 SS2-0.

However, both samples were within the Table 2 and 4 SCS and therefore, the objectives of the investigation are considered to have been met. Furthermore, the differences in the SAR concentrations are likely attributable to soil heterogeneity in the surficial soil.

For groundwater samples, the alert limit criteria for the field duplicate RPD is >30% for PHCs, VOCs and >20% for metals, hydride-forming metals, sodium and chloride. The calculated RPD between the duplicate sample and the original sample for groundwater was below the applicable alert limit criteria for all of the parameters analyzed.

The trip blank was below the laboratory RDL for all VOCs analyzed.

AGAT did not provide any comments or remarks on the Certificates of Analysis regarding the validity of the results for any of the samples analyzed.

The quality assurance and quality control measures are discussed further in the Quality Management, Control and Assurance procedures outlined in Appendix F.

Laboratory Certificates of Analysis were provided for all samples analyzed and are provided in Appendix G.

6.9 Phase Two Conceptual Site Model

A CSM was developed using the APECs and areas where a PCA has occurred, identified in the Phase One Study Area during the Phase One investigation (Section 4.3), as well as using information collected during the current Phase Two ESA conducted at the Phase Two property. The CSM is a simplification of reality, which aims to identify the areas of concern, contaminant transport and exposure pathways and receptors. Cross-sections of the site were developed showing the hydrogeological characteristics and distribution of potential COCs at the Phase Two property. Cross sections for the Brampton and Caledon parcels are presented in Appendix H.

The site stratigraphy was determined to be sandy silt fill to a maximum depth of 0.75 mbgs, underlain by native silt till with trace gravel to a maximum depth of 5.33 mbgs. Bedrock was not encountered during any of the investigations. However, based on MECP well records in the vicinity of the site, shale bedrock is present at approximately 38 mbgs. The soil at the site was moist. The measured depth to the groundwater table, in the wells installed in the unconfined aquifer, ranged from 0.696 (BH301) to 3.270 (BH302) mbgs; the calculated groundwater elevations ranged from 254.13 (BH304) to 257.06 (BH303) masl. Results of groundwater monitoring activities indicate a localized on-site hydraulic gradient of 0.025 m/m to the southeast in the unconfined clayey silt to silty clay aquifer. The regional hydraulic gradient is also estimated to be approximately 0.001 m/m towards the southeast based on topography and surface water features in the region.

Soil samples were not found to be in exceedance of the O. Reg. 153/04 Table 2 Standards for EC and SAR. There are historical exceedances identified for EC and SAR at the northern portion of the Caledon parcel (EXP, 2019; EXP, 2021a). Groundwater samples were not found to be in exceedance of the O. Reg. 153/04 Table 2 Standards for any of the parmeteres analyzed. However, there are historical groundwater exceedances identified for sodium and chloride at the northern portion of the Caledon parcel (EXP, 2019; EXP, 2021a). These are being addressed by the ongoing RA for the Caledon parcel.

The lateral and vertical delineation of the contaminants found to be in exceedance of the O. Reg. 153/04 Table 2 Standards are illustrated for the Caledon Parcel in Appendix H. Historical soil and groundwater analytical data from past investigations was included in the development of the Phase Two CSM. The maximum soil and groundwater concentrations determined during these investigations are presented in Table 5.

The potential human and ecological receptors located on, in, or under the site were evaluated given the release mechanisms and routes of exposure to contaminants present at the site at concentrations greater than the O. Reg. 153/04 Table 2 Standards. Human health receptors were assessed taking into consideration the current use of the site for residential land use. The Ecological Conceptual Site Model and Human Health Conceptual Site Model are provided in Appendix H for the Brampton and Caledon parcels.

There is the potential for ecological and human receptors, both on-site and off-site, to be exposed to PHCs, EC and SAR in soil and sodium and chloride in groundwater. Soil and groundwater in exceedance of the O. Reg. 153/04 Table 2 Standards must be remediated and/or risk assessed before an RSC can be filed.

The full Phase Two Conceptual Site Models for the Brampton and Caledon parcels are provided as Appendix H.

7. Conclusions

A Phase Two ESA was conducted to evaluate soil and groundwater quality within the APECs, identified during the Phase One ESA Update (dated January 5, 2022) and to support the filing of an RSC for the northern parcel of the site (Parcel 2). Soil samples were analyzed for EC and SAR. Groundwater samples were analyzed for PHC fractions F1 to F4, VOCs, sodium and chloride. The analytical results of the soil and groundwater samples were compared to O. Reg. 153/04 Table 2 Standards for a residential/parkland/institutional property use and medium to fine textured soils.

The soil samples collected from boreholes BH304 to BH306 were within the O. Reg. 153/04 Table 2 Standards for all of the parameters analyzed.

The groundwater samples collected from the newly installed monitors BH301 to BH304 were within the O. Reg. 153/04 Table 2 Standards for all the parameters analyzed.

Based on previous investigations, exceedances of the Table 2 Standards were identified for electrical conductivity (EC) and sodium adsorption ratio (SAR) in soil and is sodium and chloride in groundwater. However, these contaminants are being addressed by the Risk Assessment (RA) currently underway for the site.

Soil previously identified as being in exceedance of the Standards for PHC fraction F2, was remediated in 2020 and 2021.

Based on the work completed, to date, an RSC can be filed for the portion of the site located within the City of Brampton. Once the current RA is accepted by the MECP, an RSC can be filed for the portion of the site located within the Town of Caledon.

8. General Limitations

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

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

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

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

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

9 Closure

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

Yours truly,

EXP Services Inc.

Sarah DiBattista, M.E.Sc.
Environmental Scientist
Environmental Services

Amanda Catenaro, M.E.Sc., P.Geo., QP$_{ESA}$
Project Manager
Environmental Services

10 References

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

- Canadian Standards Association [CSA] (2000) Z769-00, Phase II Environmental Site Assessment. Canadian Standards Association, March 2000.
- Chapman, L.J. and D.F. Putnam, *The Physiography of Southern Ontario*, Third Edition, Ontario Ministry of Natural Resources, 1984.
- City of Brampton, City of Brampton Official Plan, 2015.
- Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended, September 2004.
- EXP Services Inc., Subsurface Environmental Investigation, 12197 Hurontario Street, City of Brampton, 1211, 12213, 12231, 12233 Hurontario Street, Town of Caledon, June 11, 2019.
- EXP Services Inc., Phase One Environmental Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario, January 20, 2020a.
- EXP Services Inc., Phase Two Environmental Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario, May 22, 2020b.
- EXP Services Inc., Remediation Report: 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario, July 29, 2021.
- EXP Services Inc., Phase One Environmental Assessment Update, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario, January 5, 2022.
- Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall of Canada Ltd., 1979.
- Google Earth, Version 6.1.0.5001 (http://www.google.com/earth/index.html).
- Ministry of the Environment [MECP] (1996) Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario. Ontario Ministry of the Environment, December 1996.
- MECP (2011a) Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, March 2004, amended as of July 1, 2011.
- MECP (2011) Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, April 15, 20101.
- Occupational Health and Safety Act - Ministry of Labour (MOL).
- Ontario Regulation 153/04, made under the Environmental Protection Act, May 2004, amended.
- Ontario Water Resources Act – R.R.O. 1990, Regulation 903, amended.
- Ontario Geological Survey (2010a) Physiography of Southern Ontario (Scale 1:22,000).
- Ontario Geological Survey, *Bedrock Geology of Ontario, Southern Sheet*, map 2544, scale 1:1,000,000, 1991.
- Ontario Ministry of the Environment, Conservation and Parks, Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011.
- Ontario Ministry of the Environment, Conservation and Parks, Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario, December 1996.

- Ontario Ministry of Natural Resources and Forestry, *Heritage Areas Map*, (http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).
- Ontario Regulation 153/04, Record of Site Condition, Part XV.1 of the *Environmental Protection Act*, July 1, 2011.
- Sharpe, D.R., Quaternary Geology of Toronto and Surrounding Area, Ontario Geological Survey Preliminary Map P. 2204, Geological Series, scale 1:100,000, 1980.
- Topographic Map available at the Natural Resources Canada (NRC) website http://atlas.nrcan.gc.ca/site/english/maps/topo/map.
- Town of Caledon, Town of Caledon Official Plan, 2018.

Tables

Table 1: SITE ENVIRONMENTAL SETTING DATA

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

NATIVE SOIL

Type:	Clayey Silt to Sandy Silt
Hydraulic Conductivity	(select range)
> 10^{-3} cm/s:	
<10^{-3} to >10^{-6} cm/s:	1.0 x 10^{-6}
< 10^{-6} cm/s:	
Soil Texture:	Medium to fine
Estimated or Measured:	Measured (EXP, 2020)

GROUND WATER

Depth to Water Table:	0.696 (BH301) to 3.270 (BH302) mbgs
Estimated or Measured:	Measured (EXP, 2022)
Direction of Flow:	Southeast
Estimated or Measured:	Measured (EXP, 2022)

MUNICIPAL SERVICES

Piped Water:	Yes
Ground Water Source:	Yes
Distance to Well:	On-site
Surface Water Source:	N/A
Sanitary Sewer:	Yes
Storm Sewer:	Yes

PRIVATE SERVICES

Distance to Nearest Well:	On-site
Approximate Depth of Well:	N/A
Private Sanitary Sewage:	No

SURFACE WATER

Name of water body:	Etobicoke Creek
Distance from site:	Approximately 180 metres east
Elevation drop from site:	4 meters
Direct Drainage from site:	No

Table 2: DARCY'S LAW CALCULATIONS

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

Q=kia v=ki/n t=T/v

Permeability k (m/sec)* =	1.00E-08		
(cm/sec) =	1.00E-06		
Gradient i (m/m) =	0.025		
Effective Porosity** n =	0.2	Velocity v (m/sec) =	1.25E-09
Thickness T (m) =	NA	(feet/sec) =	4.10E-09
		(feet/day) =	3.54E-04
		(feet/year) =	1.29E-01
		(metres/year) =	0.039

Gradient calculated based on groundwater elevations taken on April 30, 2019

* (from Freeze & Cherry, 1979)
** (from McWhorter and Sunada, 1977)

Table 3: ELEVATIONS OF GROUND WATER TABLE

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

Test Hole I.D.	Elevation at Ground Surface (masl)	Date	Ground Water Depth Below Grade (m)	Ground Water Table Elevation (masl)
BH301	257.27	14-Dec-21	2.09	255.18
		19-Dec-21	0.70	256.58
BH302	258.14	14-Dec-21	dry	-
		19-Dec-21	3.27	254.87
BH303	257.85	14-Dec-21	3.41	254.45
		19-Dec-21	0.79	257.06
BH304	256.94	14-Dec-21	2.81	254.13
		19-Dec-21	0.95	255.99

NOTES:

Test hole elevations shown above were measured using a Trimble CU Controller (EXP, 2021).

masl means "metres above sea level".

Table 4: SAMPLE ANALYSIS SUMMARY

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

Test Hole I.D.	Sample ID	Parameters																			
		Soil Sample Analysis											Ground Water Sample Analysis								
		Sampling Date	Sampling Interval (mbgs)	PHC F1 to F4	BTEX	VOCs	PAHs	Metals	Hydride-Forming Metals	ORPs*	EC and/or SAR	pH	Sampling Date	Sampling Interval (mbgs)	PHC F1 to F4	BTEX	VOCs	PAHs	Metals and Hydride-Forming Metals	ORPs*	Sodium and Chloride
BH301	-	-	-										20-Dec-21	1.52 to 4.57	**X**		**X**				
BH302	-	-	-										20-Dec-21	1.52 to 4.57	**X**		**X**				
BH303	-	-	-										20-Dec-21	1.52 to 4.57	**(X)**		**(X)**				
BH304	BH304 SS2	14-Dec-21	0.76 to 1.37								**X**		20-Dec-21	2.29 to 5.33							**(X)**
BH305	BH305 SS2	14-Dec-21	0.76 to 1.37								**(X)**		-	-							
BH306	BH306 SS2	14-Dec-21	0.76 to 1.37								**X**		-	-							
		TOTAL		0	0	0	0	0	0	0	3	0	**TOTAL**		3	0	3	0	0	0	1

NOTES:

mbgs means "metres below ground surface".

Sample collection location is indicated with an **X**. The locations where field duplicate samples were collected are indicated using **(X)**.

*ORPs for soil include HWS Boron, CrVI, CN^- and Hg; ORPs for groundwater include CrVI and CN^-.

Table 5: MAXIMUM GROUND WATER CONCENTRATION DATA - Metals and Inorganics

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

Contaminant Name	Maximum Measured Concentration	Ontario Regulation 153/04 Table 2 Standards*	Date of Sampling	Monitor	Screen Interval (mbgs)
Antimony	0.7	6	12-Apr-19	N6	3.0 to 6.0
Arsenic	1	25	12-Apr-19	N6 S3-D	3.0 to 6.0 4.6 to 7.6
Barium	480	1,000	12-Apr-19	N2	3.0 to 6.0
Beryllium	<0.5	4	12-Apr-19	All	3.0 to 7.6
Boron	60	5,000	12-Apr-19	S3-D	4.6 to 7.6
Cadmium	<0.1	2.7	12-Apr-19	All	3.0 to 7.6
Chromium	<1	50	12-Apr-19	All	3.0 to 7.6
Cobalt	0.9	3.8	12-Apr-19	S3-D	4.6 to 7.6
Copper	1	87	12-Apr-19	N6	3.0 to 6.0
Lead	<1	10	12-Apr-19	All	3.0 to 7.6
Molybdenum	18	70	12-Apr-19	S3-D	4.6 to 7.6
Nickel	<5	100	12-Apr-19	All	3.0 to 7.6
Selenium	2	10	12-Apr-19	N6	3.0 to 6.0
Silver	<0.1	1.5	12-Apr-19	All	3.0 to 7.6
Thallium	<0.1	2	12-Apr-19	All	3.0 to 7.6
Uranium	6	20	12-Apr-19	All	3.0 to 7.6
Vanadium	<1	6.2	12-Apr-19	All	3.0 to 7.6
Zinc	<10	1,100	12-Apr-19	All	3.0 to 7.6
Mercury	<0.1	1	12-Apr-19	All	3.0 to 7.6
Chromium VI	<10	25	12-Apr-19	All	3.0 to 7.6
Cyanide	<5	66	12-Apr-19	All	3.0 to 7.6
Sodium	**3,360,000**	490,000	7-May-20	BH102	1.1 to 3.6
Chloride	**8,400,000**	790,000	7-May-20	BH102	1.1 to 3.6

NOTES:

Analysis by Eurofins Scientifc and AGAT Laboratories.

All results in ppb (µg/L).

Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

* Standards shown are for all types of property use and medium to fine textured soil.
Exceedances of the Table 2 Standards are shown in **bold**.

Table 7: SOIL CHEMICAL ANALYSIS - Electrical Conductivity and Sodium Adsorption Ratio

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

January 2022

Sample I.D.	Units	MDL*	Test Hole BH304 SS2	Test Hole BH305 SS2	Duplicate of BH305 BH305 SS2-0	Test Hole BH306 SS2	Ontario Regulation 153/04 Table 2 Soil Standards**
Depth (m)			0.76 to 1.37	0.76 to 1.37	0.76 to 1.37	0.76 to 1.37	
Soil Type			Silt Till	Silt Till	Silt Till	Silt Till	
Date of Sample Collection			14-Dec-21	14-Dec-21	14-Dec-21	14-Dec-21	
Date of Sample Analysis			22-Dec-21	22-Dec-21	22-Dec-21	22-Dec-21	
Certificate of Analysis Number			21T844771	21T844771	21T844771	21T844771	
Laboratory I.D.			3344975	3345052	3345053	3345055	
Electrical Conductivity (2:1)	mS/cm	0.005	0.463	0.238	0.233	0.255	0.7
Sodium Adsorption Ratio	N/A	NV	2.30	0.452	0.616	0.347	5

NOTES:

Analysis by AGAT Laboratories.

NV mean "no value". N/A means "not applicable". NA means "not analyzed".

All results in ppm (µg/g) and based on dry weight basis.

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

** Standards shown are for Table 2 Site Condition Standards in a Potable Ground Water Condition residential/parkland/institutional property use, medium to fine textured soil and surface soil.

Exceedances of Table 2 Standards are shown in **bold**.

Table 7: GROUND WATER CHEMICAL ANALYSIS - Petroleum Hydrocarbon Parameters

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

Sample I.D.	Units	MDL*	Monitor BH301	Monitor BH302	Monitor BH303	Duplicate of BH303 BH303D	Ontario Regulation 153/04 Table 2 Groundwater Standards**
Screen Interval (m)			1.52 to 4.57	1.52 to 4.57	1.52 to 4.57	1.52 to 4.57	
Date of Sample Collection			20-Dec-21	20-Dec-21	20-Dec-21	20-Dec-21	
Date of Sample Analysis			7-Jan-21	7-Jan-21	7-Jan-21	7-Jan-21	
Certificate of Analysis Number			21T847305	21T847305	21T847305	21T847305	
Laboratory I.D.			3372155	3372156	3372157	3372158	
Benzene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	5
Toluene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	24
Ethylbenzene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	2.4
Xylene Mixture (Total)	µg/L	0.20	<0.20	<0.20	0.22	<0.20	300
PHC F1 (C6 to C10) - BTEX	µg/L	25	<25	<25	<25	<25	750
PHC F2 (C10 to C16)	µg/L	100	<100	<100	<100	<100	150
PHC F3 (C16 to C34)	µg/L	100	<100	<100	<100	<100	500
PHC F4 (C34 to C50)	µg/L	100	<100	<100	<100	<100	500

NOTES:

Analysis by AGAT Laboratories.

All results in ppb (µg/L).

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

** Standards shown are for Table 2 Site Condition Standards in a Potable Ground Water Condition, all types of property use and medium to fine textured soil.
Exceedances of Table 2 Standards are shown in **bold**.

257876

Table 8: GROUND WATER CHEMICAL ANALYSIS - Volatile Organic Compounds

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario
January 2022

Sample I.D.	Units	MDL*	Monitor BH301	Monitor BH302	Monitor BH303	Duplicate of BH303 BH303D	TRIP BLANK -	Ontario Regulation 153/04 Table 2 Ground Water Standards**
Screen Interval (m)			1.52 to 4.57	1.52 to 4.57	1.52 to 4.57	1.52 to 4.57	-	
Date of Sample Collection			20-Dec-21	20-Dec-21	20-Dec-21	20-Dec-21	20-Dec-21	
Date of Sample Analysis			7-Jan-21	7-Jan-21	7-Jan-21	7-Jan-21	7-Jan-21	
Certificate of Analysis Number			21T847305	21T847305	21T847305	21T847305	21T847305	
Laboratory I.D.			3372155	3372156	3372157	3372158	3374253	
1,1,1,2-Tetrachloroethane	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1.1
1,1,1-Trichloroethane	µg/L	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	200
1,1,2,2-Tetrachloroethane	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1
1,1,2-Trichloroethane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5
1,1-Dichloroethane	µg/L	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	5
1,1-Dichloroethylene	µg/L	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	14
1,2-Dichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	3
1,2-Dichloroethane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5
1,2-Dichloropropane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5
1,3-Dichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	59
1,3-Dichloropropene	µg/L	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.5
1,4-Dichlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	1
Acetone	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2700
Benzene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5.0
Bromodichloromethane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	16
Bromoform	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	25
Bromomethane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.89
Carbon Tetrachloride	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5.0
Chlorobenzene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	30
Chloroform	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	22
cis- 1,2-Dichloroethylene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	17
Dibromochloromethane	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	25
Dichlorodifluoromethane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	590
Ethylbenzene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	2.4
Ethylene Dibromide	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.2
Methyl Ethyl Ketone	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1800
Methyl Isobutyl Ketone	µg/L	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	640
Methyl tert-butyl ether	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	15
Methylene Chloride	µg/L	0.30	<0.30	<0.30	<0.30	<0.30	<0.30	50
Styrene	µg/L	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	5.4
Tetrachloroethylene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	17
Toluene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	24
trans- 1,2-Dichloroethylene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	17
Trichloroethylene	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	5
Trichlorofluoromethane	µg/L	0.40	<0.40	<0.40	<0.40	<0.40	<0.40	150
Vinyl Chloride	µg/L	0.17	<0.17	<0.17	<0.17	<0.17	<0.17	1.7
Xylenes (Total)	µg/L	0.20	<0.20	<0.20	0.22	<0.20	<0.20	300
n-Hexane	µg/L	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	520

NOTES:

Analysis by AGAT Laboratories.

All results in ppb (µg/L).

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

** Standards shown are for Table 2 Site Condition Standards in a Potable Ground Water Condition, all types of property use and medium to fine textured soil.
Exceedances of Table 2 Standards are shown in **bold**.

exp.

Table 9: GROUND WATER CHEMICAL ANALYSIS - Metals and Inorganic Parameters

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

January 2022

Sample I.D.	Units	MDL*	Monitor BH304	Duplicate of BH304 BH304D	Ontario Regulation 153/04 Table 2 Ground Water Standards**
Screen Interval (m)			2.29 to 5.33	2.29 to 5.33	
Date of Sample Collection			20-Dec-21	20-Dec-21	
Date of Sample Analysis			7-Jan-21	7-Jan-21	
Certificate of Analysis Number			21T847305	21T847305	
Laboratory I.D.			3372159	3372160	
Sodium	µg/L	2,500	111,000	112,000	490,000
Chloride	µg/L	100	264,000	269,000	790,000

NOTES:

Analysis by AGAT Laboratories.

All results in ppb (µg/L).

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

** Standards shown are for Table 2 Site Condition Standards in a Potable Ground Water Condition, all types of property use and medium to fine textured soil. Exceedances of Table 2 Standards are shown in **bold**.

Appendix A – Limitations and Use of Report

LIMITATIONS AND USE OF REPORT

BASIS OF REPORT

The Report is based on site conditions known or inferred by the investigation undertaken as of the date of the Report. Should changes occur which potentially impact the condition of the site the recommendations of EXP may require re-evaluation. Where special concerns exist, or the Client has special considerations or requirements, these should be disclosed to EXP to allow for additional or special investigations to be undertaken not otherwise within the scope of investigation conducted for the purpose of the Report.

Where applicable, recommended field services are the minimum necessary to ascertain that construction is being carried out in general conformity with building code guidelines, generally accepted practices and EXP's recommendations. Any reduction in the level of services recommended will result in EXP providing qualified opinions regarding the adequacy of the work. EXP can assist design professionals or contractors retained by the Client to review applicable plans, drawings, and specifications as they relate to the Report or to conduct field reviews during construction.

RELIANCE ON INFORMATION PROVIDED

The evaluation and conclusions contained in the Report are based on conditions in evidence at the time of site inspections and information provided to EXP by the Client and others. The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose as communicated by the Client. EXP has relied in good faith upon such representations, information and instructions and accepts no responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of any misstatements, omissions, misrepresentation or fraudulent acts of persons providing information. Unless specifically stated otherwise, the applicability and reliability of the findings, recommendations, suggestions or opinions expressed in the Report are only valid to the extent that there has been no material alteration to or variation from any of the information provided to EXP.

STANDARD OF CARE

This report ("Report") has been prepared in a manner consistent with the degree of care and skill exercised by engineering consultants currently practicing under similar circumstances and locale. No other warranty, EXPressed or implied, is made. Unless specifically stated otherwise, the Report does not contain environmental consulting advice.

COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment form part of the Report. This material includes, but is not limited to, the terms of reference given to EXP by the Client, communications between EXP and the Client, other reports, proposals or documents prepared by EXP for the Client in connection with the site described in the Report. In order to properly understand the suggestions, recommendations and opinions expressed in the Report, reference must be made to the Report in its entirety. EXP is not responsible for use by any party of portions of the Report.

1595 Clark Blvd, Brampton, ON L6T 4V1, Canada
T: +1.905.793.9800 | exp.com

USE OF REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. No other party may use or rely upon the Report in whole or in part without the written consent of EXP. Any use of the Report, or any portion of the Report, by a third party are the sole responsibility of such third party. EXP is not responsible for damages suffered by any third party resulting from unauthorised use of the Report.

REPORT FORMAT

Where EXP has submitted both electronic file and a hard copy of the Report, or any document forming part of the Report, only the signed and sealed hard copy shall be the original documents for record and working purposes. In the event of a dispute or discrepancy, the hard copy shall govern. Electronic files transmitted by EXP utilize specific software and hardware systems. EXP makes no representation about the compatibility of these files with the Client's current or future software and hardware systems. Regardless of format, the documents described herein are EXP's instruments of professional service and shall not be altered without the written consent of EXP.

1595 Clark Blvd, Brampton, ON L6T 4V1, Canada
T: +1.905.793.9800 | exp.com

Appendix B – Survey Plan

PLAN OF SURVEY OF
PART OF LOT 18, CONCESSION 1
EAST OF HURONTARIO STREET

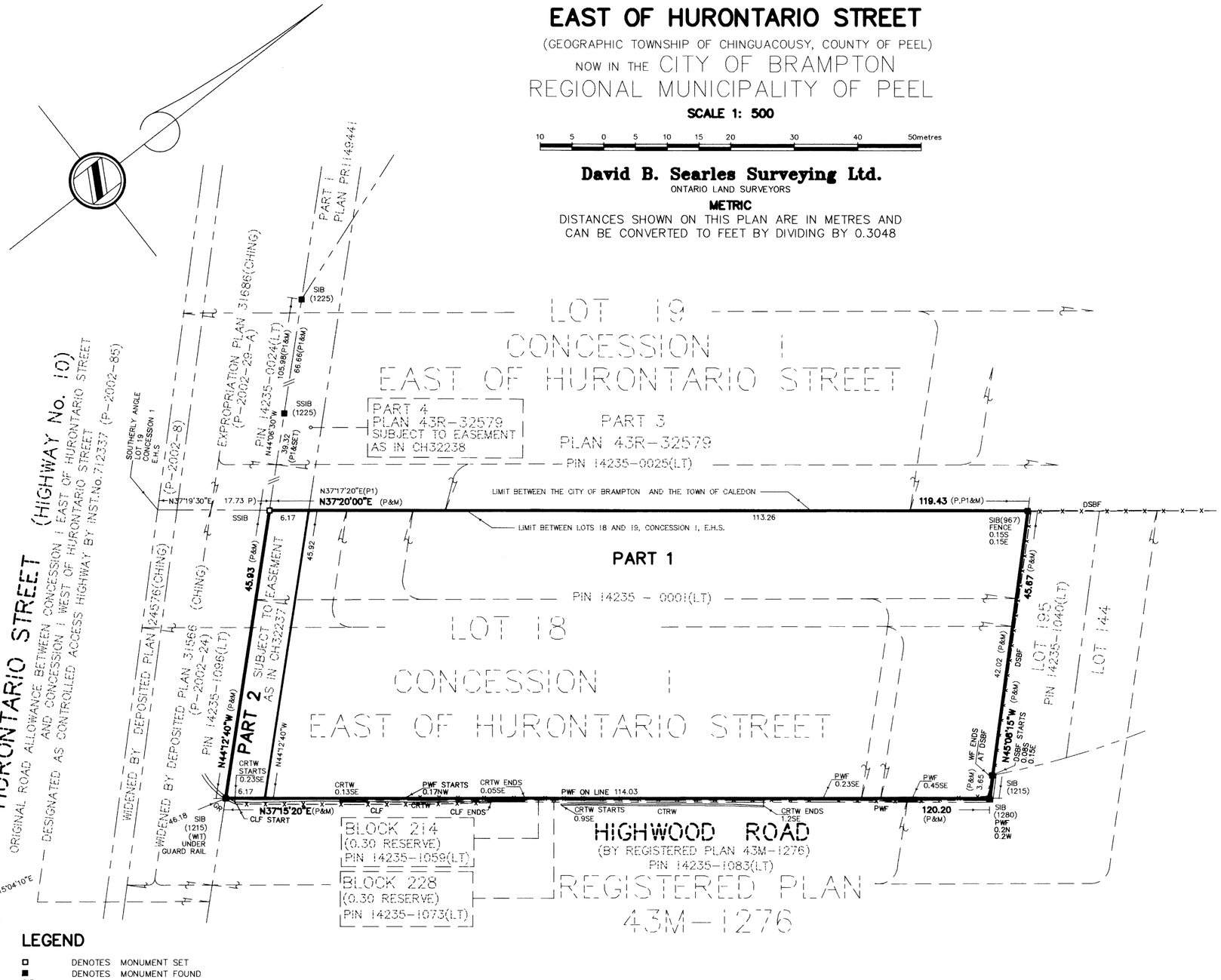
(GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL)
NOW IN THE CITY OF BRAMPTON
REGIONAL MUNICIPALITY OF PEEL

SCALE 1: 500

10 5 0 5 10 15 20 30 40 50metres

David B. Searles Surveying Ltd.
ONTARIO LAND SURVEYORS

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



LEGEND

□	DENOTES	MONUMENT SET
■	DENOTES	MONUMENT FOUND
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
WIT	DENOTES	WITNESS
1225	DENOTES	DAVID B. SEARLES SURVEYING LTD
967	DENOTES	W.N. WILDMAN O.L.S.
1215	DENOTES	OTTO ERTL, O.L.S.
1280	DENOTES	ANTON KIKAS, O.L.S.
E.H.S.	DENOTES	EAST OF HURONTARIO STREET
DSBF	DENOTES	DOUBLE SIDED BOARD FENCE
PWF	DENOTES	POST AND WIRE FENCE
GR	DENOTES	GUARD RAIL
WF	DENOTES	WIRE FENCE
CRTW	DENOTES	CONCRETE RETAINING WALL (INTERLOCKING)
CLF	DENOTES	CHAIN LINK FENCE
P	DENOTES	SURVEYOR'S REAL PROPERTY REPORT BY DAVID B. SEARLES SURVEYING LTD. DATED MAY 8, 2008 (FILE 27-1-08)
P1	DENOTES	PLAN 43R-32579
M	DENOTES	MEASURED

I require this plan to be deposited under the Land Titles Act

Date JUNE 9, 2011

ALISTER SANKEY – O.L.S.

PLAN 43R-33945

Received and deposited

Date June 10/11

ASSISTANT DEPUTY LAND REGISTRAR
FOR THE LAND TITLES DIVISION OF
PEEL (No. 43)

SCHEDULE

PART	PART OF LOT	CONCESSION	ALL OF PIN
1	18	1, E.H.S.	14235 – 0001(LT)
2			

PART 2 – SUBJECT TO EASEMENT AS IN CH32237

NOTE

PROPERTY LIMITS ARE NOT FENCED UNLESS OTHERWISE NOTED ON THE FACE OF THE PLAN.

BEARING NOTE

BEARINGS SHOWN HEREON ARE UTM GRID AND ARE DERIVED FROM HORIZONTAL CONTROL MONUMENTS:

HCM 42050257
HCM 42050258
HCM 42050260

AND ARE REFERRED TO THE CENTRAL MERIDIAN 81°00" WEST LONGITUDE, ZONE 17, UNIVERSAL TRANSVERSE MERCATOR PROJECTION, NAD 83 (ORIGINAL) DATUM

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.9997674

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

BEARINGS ON SURVEYOR'S REAL PROPERTY REPORT BY DAVID B. SEARLES SURVEYING, LTD, DATED MAY 8, 2008 HAVE BEEN ROTATED BY 00°48'00" COUNTERCLOCKWISE TO MAKE COMPARISONS.

BEARINGS ON PLAN 43R-32579 HAVE BEEN ROTATED BY 00°48'00" COUNTERCLOCKWISE TO MAKE COMPARISONS.

INTEGRATION NOTE

OBSERVED HORIZONTAL CONTROL POINTS DERIVED FROM GPS OBSERVATIONS USING THE SMARTNET NETWORK, AND ARE REFERRED TO UTM ZONE 17, CENTRAL MERIDIAN 81°00' WEST LONGITUDE, NAD 83 (ORIGINAL) DATUM
COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF ONT. REG. 216/10

POINT ID	NORTHINGS	EASTINGS
HCM 42050257	N 4842631.848	E 594332.268
HCM 42050258	N 4843357.995	E 594224.476
HCM 42050260	N 4842095.859	E 595558.188

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE *SURVEYS ACT*, THE *SURVEYORS ACT*, AND THE *LAND TITLES ACT* AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 5th DAY OF JANUARY, 2011

JUNE 9, 2011
DATE

ALISTER SANKEY – ONTARIO LAND SURVEYOR

David B.Searles Surveying Ltd.
ONTARIO LAND SURVEYORS
4284 VILLAGE CENTRE COURT, MISSISSAUGA, ONTARIO L4Z 1S2
(905) 273-6840 FAX: (905) 896-4410
E MAIL: DBSOLS @ ON.AIBN.COM

Drawn	Checked
GC	ADS/DBS

File No. 30-1-10

Computer Storage File No.	Operator	Disk Plan Storage No.	Plan Index No.
30-10FW-GPS-JAN0411.DWG	RSW	30-1-10.DWG	G 14

43R-33945 (5)

PLAN OF SURVEY OF
PART OF LOT 19, CONCESSION 1
EAST OF HURONTARIO STREET

(GEOGRAPHIC TOWNSHIP OF CHINGUACOUSY, COUNTY OF PEEL)

NOW IN THE TOWN OF CALEDON

REGIONAL MUNICIPALITY OF PEEL

SCALE 1: 750

15 0 15 30 45 80 75

David B. Searles Surveying Ltd.

ONTARIO LAND SURVEYORS

METRIC

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

I require this plan to be deposited under the Land Titles Act

Date DECEMBER 2, 2008

David B. Searles

DAVID B. SEARLES -O.L.S.

PLAN 43R-32579

Received and deposited

Date December 3, 2008

Jason Watt

ASST. DEP. LAND REGISTRAR FOR THE LAND TITLES DIVISION OF PEEL (No. 43)

SCHEDULE

PART	PART OF LOT	CONCESSION	PIN
1	19	1, E.H.S.	ALL OF 14235-1693(LT)
2			
3			ALL OF 14235-DD25(LT)
4			
5			ALL OF 14235-1665(LT)

PARTS 2 AND 4 – SUBJECT TO EASEMENT AS IN CH32238

NOTE

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHWEST LIMIT OF PART 7 AS SHOWN ON PLAN 43R-27780, HAVING A BEARING OF N38°06'50"E.

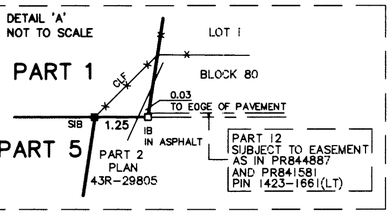
ALL FOUND MONUMENTS ARE DAVID B. SEARLES SURVEYING LTD(1225) UNLESS OTHERWISE NOTED

PROPERTY LIMITS ARE NOT FENCED UNLESS OTHERWISE NOTED ON THE FACE OF THE PLAN

LEGEND

■	DENOTES	MONUMENT FOUND
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
CC	DENOTES	CUT CROSS
WIT	DENOTES	WITNESS
CP	DENOTES	CONCRETE PIN IN ASPHALT
MTO	DENOTES	MINISTRY OF TRANSPORTATION ONTARIO
SVNG	DENOTES	SPEIGHT, VAN NOSTRAND & GIBSON LIMITED
967	DENOTES	W.N. WILDMAN O.L.S.
TOS	DENOTES	TOP OF SLOPE
OHW	DENOTES	OVERHEAD WIRES
DSCF	DENOTES	DOUBLE SIDED COMPOSITE FENCE
BF	DENOTES	BOARD FENCE
CLF	DENOTES	CHAIN LINK FENCE
DSBF	DENOTES	DOUBLE SIDED BOARD FENCE
PROD	DENOTES	PRODUCTION
E.H.S.	DENOTES	EAST OF HURONTARIO STREET
DI	DENOTES	DITCH INLET CULVERT
EB	DENOTES	ELECTRICAL BOX
MHC	DENOTES	MAINTENANCE HOLE COVER
MH(B)	DENOTES	MAINTENANCE HOLE COVER (BELL)
WP(H)	DENOTES	WOODED POLE HYDRO
ANC	DENOTES	ANCHOR CABLE
M	DENOTES	MEASURED
P	DENOTES	PLAN 43R-27781
P1	DENOTES	PLAN 43R-7911
P2	DENOTES	REGISTERED PLAN 43M-1615
P3	DENOTES	PLAN 43R-29805
P4	DENOTES	PR1149441

DETAIL 'A' NOT TO SCALE



SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE *SURVEYS ACT*, THE *SURVEYORS ACT*, AND THE *LAND TITLES ACT* AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 9th DAY OF JULY, 2008

NOVEMBER 26, 2008
DATE

David B. Searles
DAVID B. SEARLES – ONTARIO LAND SURVEYOR

David B.Searles Surveying Ltd.
ONTARIO LAND SURVEYORS
4284 VILLAGE CENTRE COURT, MISSISSAUGA, ONTARIO L4Z 1S2
(905) 273-6840 FAX: (905) 896-4410
E MAIL: DBSOLS @ ON.AIBN.COM

Drawn	Checked
K.P.	V.G./JJS

File No. 27-0-08

Computer Storage File No.	Operator	Disk Plan Storage No.	Plan Index No.
	R.S.W	27-0-08.DWG	G 13

Appendix C – Qualification of Assessors

Amanda Catenaro, M.E.Sc., P.Geo., QP_{ESA} (Senior Project Manager)

Amanda Catenaro graduated from McMaster University in 2012 with a Bachelor of Science degree in Environmental Science, specialized in Hydrogeology and Climatology. She completed her Master of Environmental Science Degree from the University of Toronto in 2013. Ms. Catenaro has worked on a number of Phase One and Two environmental site assessments, delineation programs, ex-situ and in-situ remediation projects, and peer reviews since joining EXP Services Inc. in 2013. Ms. Catenaro is a Professional Geologist (P.Geo.) in Ontario and is a Qualified Person (QP) for environmental site assessments under Ontario Regulation 153/04.

Ms. Catenaro has international experience working on environmental projects in the United Kingdom and United States of America, including undertaking desk studies, risk assessments, and remediation projects (strategy development, design, implementation and validation). She has closed-out projects in a variety of specialized sectors such as transportation, highway, rail, and water schemes.

Sarah DiBattista, B.Sc, M.E.Sc. (Environmental Scientist)

Sarah DiBattista graduated from the University of Toronto with an Honours Bachelor of Science, double majoring in Nutrition and Environment and Health and minoring in Environmental Studies. Following her graduation in 2019, Ms. DiBattista earned her Master of Environmental Science from the University of Toronto in 2021. Since joining EXP in January 2021, her fieldwork experiences have included overseeing the drilling of boreholes and installation of monitoring wells, the development and monitoring of said wells, conducting Phase One and Two Environmental Site Assessments, and aiding in project reporting efforts.

Jon Keates, B.Sc, AdvDip (Environmental Technician)

Jon Keates graduated from the University of Waterloo in 2019 with a Bachelor of Science in Environmental Science and obtained an Advanced Diploma in Environmental Technology from Durham College in 2020. Since starting at EXP January 18, 2021, he has been involved in groundwater monitoring, borehole logging, test pitting, well installations, and Phase One and Two Environmental Site Assessments.

Mike Luong

Since joining EXP in 2019, Mr. Luong has been involved in the oversight, planning and execution of numerous Phase One and Two Environmental Site Assessments, and remediation projects. His work has included test hole drilling, soil and ground water sampling and analysis, supervision of in-situ and ex-situ remediation projects, and report writing.

Appendix D – Sampling and Analysis Plan

Memorandum

Date:	February 25, 2020
To:	Harry Nandakumar
From:	Amanda Catenaro
CC:	Ruxandra Côté

RE: Phase Two Environmental Site Assessment
12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon

Project Number:	**MRK-00257876-A0**
Date(s) of Field Work:	**Private Locates – Tuesday February 25, 2020, 7:30am** **Drilling – Tuesday February 25, 2020, 9am to Wednesday February 26, 2020** **Groundwater Sampling – March 3, 2020**
Site Address:	**12197 Hurontario Street, Brampton, Ontario and** **1211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario**
PM Contact:	**Amanda Catenaro, 647-937-7008**
Client Contact:	**André Duval, Andre.Duval@sobeys.com, 514.607.5909**
Laboratory:	**AGAT, Michael Conversano, 905-712-5074**
Drilling Subcontractor:	**Landshark Drilling – 519-449-1110**
Private Locator:	**All Clear Locates, Drew –416-890-4357**

PROJECT OBJECTIVES:

The purpose of this Phase Two Environmental Site Assessment is:

- To update past investigations conducted at the site to within Ontario Regulation (O.Reg.) 153/04 compliance. To achieve this, the following is required:
    - Investigation of volatile organic compounds (VOCs), inorganic parameters, and polycyclic aromatic hydrocarbons (PAHs) across the site, identified as contaminants of concern (COCs) during EXP's recent Phase One Environmental Site Assessment (ESA) (EXP, 2020); and,
    - Delineation of electrical conductivity (EC), sodium adsorption ratio (SAR) impacts in soil, and chloride impacts in groundwater, in the vicinity of a historical salt storage area.

SCOPE OF WORK:

EXP will carry out a soil and groundwater sampling program at the Site. Landshark Drilling (Landshark) has been retained for the drilling work. The environmental drilling is anticipated to take two days to complete, from February 25 to 26, 2020. Since the drilling work is to be performed on private property, private underground services, wires, or structures in the proposed drilling area must be identified by the owner prior to initiation of the work. Public utility locates were requested by EXP on January 2, 2019 (See attached locates for OneCall Ticket # 2020010956) and relocated on January 23, 2019 (2020046590). All Clear Locates was retained to clear the test

…/2

hole locations on February 25, 2020 at 7:30 am. A lock is located on the front entrance of the site. The code for the lock box is **2019**. If you have any problem accessing the site, you can contact Rob Dyet @ 416-709-1151.

Soil Sampling

- Eleven boreholes (BH101 through BH111) will be advanced at the site for environmental purposes and to provide vertical delineation of previously identified impacts. These boreholes will be advanced to and sampled at varying depths, as outlined in Table 1, below. Two of the eleven boreholes, BH102 and BH103, will be installed as monitoring wells. The proposed test hole locations are shown on the attached figure.

- Soil samples will be inspected for visual and olfactory evidence of chemical impact and for geological composition. The findings will be recorded in a log. Vapour readings in the soil will be measured using an RKI Eagle 2 portable hydrocarbon surveyor.

- One "worst-case" or targeted depth soil sample will be collected from test holes BH101 and BH104 to BH111 for laboratory analysis of PAHs, as set out in Table 1. Please collect a deeper delineation sample for each parameter and submit on hold. For soil samples placed in methanol vials, please ensure that they are accompanied by a jar of soil for **moisture content** analysis, if they are not accompanied by a jar for another parameter (i.e. PHCs).

Table 1: Soil Sampling Summary

Test Hole ID	**Parameters**	**Approximate depth of sample (mbgs)**	**Sampling Rationale**	**Well installation (mbgs)**
BH101 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess fill material in location of former building (vicinity of N1)	none
BH102 (advance to 1m below water table)	EC/SAR, PAHs	Worst case** Delineation sample on HOLD	Assess off-site impacts from historic transportation company with USTs	0.5-3.5 mbgs* (previously identified water table was 0.5 to 2.0 mbgs)
BH103 (straight auger to 9.0m for well install)	none	n/a	Assess vertical impacts of chloride in groundwater	6-9 mbgs
BH104 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess historic trailer maintenance activities at 12231 Hurontario Street, rear building (vicinity of N6)	none
BH105 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess historic trailer maintenance activities at 12231 Hurontario Street, front building Vicinity of N7	none
BH106 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess fill material in location of form building (Vicinity of N9)	none
BH107 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess historic garage operations at 12211 Hurontario Street (Vicinity of N11)	none

BH108 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess fill material in location of form building (Vicinity of S1)	none
BH109 (advance to 2m)	PAHs	Worst case** Delineation sample on HOLD	Assess historic garage operations at 12197 Hurontario Street (Vicinity of S3)	none
BH110 (advance to 2m)	EC/SAR	Worst case** Delineation sample on HOLD	Horizontal delineation of historical EC/SAR impacts	none
BH111 (advance to 2m)	EC/SAR	Worst case** Delineation sample on HOLD	Horizontal delineation of historical EC/SAR impacts	none

*Well installation depths are approximate only and are dependent on the inferred water table during drilling activities

**Guidance on sampling depths:

PAHs, EC/SAR – worst case from fill material or based on visual and olfactory evidence.
VOCs – worst case based on visual and olfactory evidence and vapour readings. If no evidence of contamination is observed, take at the suspected water table.

NOTE: Please do not straddle 1.5 mbgs interval when submitting soil samples.

- Three Grain size analysis samples are required.
- Collect one field duplicate per 10 soil samples for each parameter, to be submitted to the laboratory for QA/QC purposes. This includes, at minimum, two duplicates for PAHs, and one for VOCs.
- Monitors will be constructed as 2'' monitors with a PVC screen interval no longer than 3.1 metres (10 feet) as specified by O. Reg. 153/04, and capped at the base of the monitor. The monitor will be backfilled with sand to an elevation of 0.3 to 0.6 metres (1 to 2 feet) above the top of the screened interval. The monitor will be sealed with bentonite to surface, capped with a locked j-plug and finished with a flush mount casing set in concrete. Please record monitor installation details including riser pipe length, screen interval slot size (e.g. 0.01-inch slot size, 2 TPI), diameter of annulus and depth to top of sand pack.
- Develop the newly installed groundwater monitoring wells as they are installed, to ensure that they can be sampled concurrent with the drilling program.
- **Soil cuttings will be segregated on-site for future disposal**, if required. In the event that the need to identify soil cuttings is identified, please contact the PM prior to proceeding. Please submit a TCLP sample on hold for ignitibility, metals, b(a)pyrene, and PAHs. **Please do not drum soil if you do not need to.**
- Sample pick-ups will be organized for the site on as as-needed basis, based on the progress of drilling. Please discuss with the PM to ensure that sample pick-ups are scheduled as required.
- Soil samples should be submitted on a **regular (4 day)** turn-around time. Please ensure soil samples are properly preserved with ice in a storage cooler maintained below 10ºC.

Groundwater Sampling

- The groundwater monitoring wells will be sampled using **low flow techniques**; record stabilized field parameters for each monitor on sample form. One groundwater sample will be retrieved from each of the newly installed monitors (BH102 and BH103) and select pre-existing monitors, using either a peristaltic pump or bladder pump. Use proper sampling techniques to avoid introducing contaminants into the groundwater sample. Use proper decontamination techniques between monitors.

- If no obvious impacts are noted, purged water can be disposed onto a paved area of the site away from any catch basins.

- Groundwater samples will be collected from the groundwater monitoring wells using new clean tubing. Collected groundwater samples will be submitted to AGAT for analysis of VOCs, chloride and/or PAHs.

- Collect one field duplicate sample for VOCs, chloride and PAHs, to be submitted to the laboratory for QA/QC purposes. A trip blank should be submitted with each submission of groundwater samples to the laboratory and analyzed for VOCs.

- Please communicate with the PM to arrange the sample pickup details for the groundwater samples. Groundwater samples should be submitted on a **regular (4 day)** turn-around time. Please ensure samples are properly preserved with ice in a storage cooler maintained below 10ºC.

Monitor	Approximate depth to bottom (mbgs)	Screen Interval (mbgs)	Parameters	Sampling Rationale
BH102	3.5	0.5-3.5*	PHCs, VOCs, Sodium, Chloride	Assess off-site impacts from historic transportation company with USTs
BH103	9.0	6.0-9.0*	Sodium, Chloride	Assess vertical impacts of chloride in groundwater
N6	6.1	3.1 to 6.1	PAHs	Assess historic trailer maintenance activities at 12231 Hurontario Street, rear building (vicinity of N6)
N7	6.1	3.1 to 6.1	PAHs	Assess historic trailer maintenance activities at 12231 Hurontario Street, front building Vicinity of N7
N11	7.6	4.6 to 7.6	PAHs	Assess historic garage operations at 12211 Hurontario Street (Vicinity of N11)
S3-S	3.5	1.5 to 3.5	PAHs	Assess historic garage operations at 12197 Hurontario Street (Vicinity of S3)

Notes:
*This is only an assumed screen interval, please ensure monitors are straddling the water table.
Please include one field duplicate for each parameter (VOCs, chloride, and PAHs)
Please include trip blank and submit for VOCs for each sampling event

Reminders

- Please ensure that the HASP paperwork is completed prior to any drilling activities. All subcontractors should sign-off on this paperwork.
- Always wear hard hat, visi-vest and use pylons as needed. Discuss scope of work with any other contractors on-site, prior to the commencement of field work.
- Call PM after the completion of the first test hole, and before leaving the site for the day.
- Mark BH locations with measurements/GPS coordinates on a site plan.
- Take photographs of the site during the investigation.
- Document any near miss incidents.
- The lockbox code for the site is 2019

Chain of Custody Information

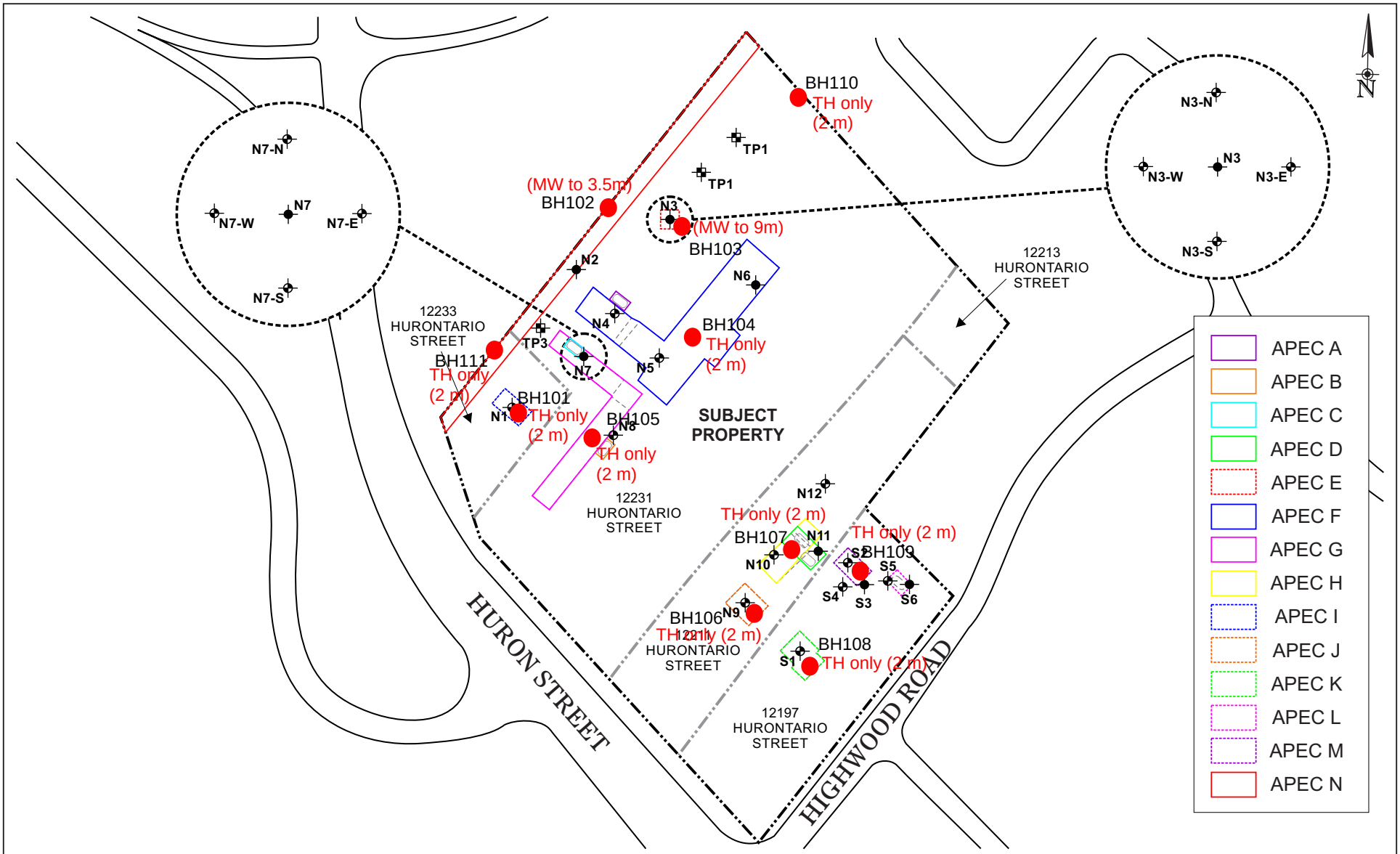
- Project number MRK-00257876-A0-C200, Table 2 RPI Standards (soil texture = medium/fine).
- Use BH101, BH102 … etc. nomenclature.
- Soil Analyses: PAHs, VOCs, grain size.
- Soil QA/QC: field duplicate samples.
- Groundwater Analyses: PAHs, VOCs, chloride
- Groundwater QA/QC: field duplicate samples, VOC trip blank with each submission.

Soil and groundwater samples will be submitted on a regular (4 day) turn-around time.

Submit results to amanda.catenaro@exp.com and ruxandra.cote@exp.com

References

EXP SOP, *Decontamination, Version 2.0*, rev. 2017
EXP SOP, *Field Screening, Version 2.0*, rev. 2017
EXP SOP, *Field QA/QC Programs, Version 2.0*, rev. 2012
EXP SOP, *Monitor Installation, Version 2.0*, rev. 2017
EXP SOP, *Monitor Development, Version 2.0*, rev. 2017
EXP SOP, *Monitor and Groundwater Sampling, Version 2.0*, rev. 2017
EXP SOP, *Soil Descriptions, Version 2.0*, rev. 2017
EXP SOP, *Subsurface Soil Sampling, Version 2.0*, rev. 2017
EXP SOP, *Test Hole Assessment, Version 2.0*, rev. 2017
EXP SOP, *Test Hole Procedure, Version 2.0*, rev. 2017



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR (EXP, 2019)
- TEST HOLE (EXP, 2019)
- TEST PIT (EXP, 2019)
- FORMER FEATURES
- LOCATION FORMER ABOVE GROUND STORAGE TANKS
- LOCATION FORMER UNDER GROUND STORAGE TANKS

DRAWN BY	CHECKED BY
J.D.H.	A.C.

CONCEPTUAL SITE MODEL -APECs

FIGURE 3B

HURONTARIO STREET, BRAMPTON AND 12211, 12213, 12231 AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2020

257876-CSM-APECs-JAN20

Memorandum

Date:	April 30, 2020
To:	Harry Nandakumar
From:	Amanda Catenaro
CC:	Carly Roszell

RE: Supplemental Phase Two Environmental Site Assessment
12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon

Project Number:	**MRK-00257876-A0**
Date(s) of Field Work:	**Private Locates – April 30, 2020, 8am** **Drilling – April 30 to May 1, 2020, 9am** **Groundwater Sampling – May 6, 2020**
Site Address:	**12197 Hurontario Street, Brampton, Ontario and** **1211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario**
PM Contact:	**Amanda Catenaro, 647-937-7008**
Client Contact:	**André Duval, Andre.Duval@sobeys.com, 514.607.5909**
Laboratory:	**AGAT, Michael Conversano, 905-712-5074**
Drilling Subcontractor:	**Pontil Drilling – 905-557-0190**
Private Locator:	**All Clear Locates, Drew –416-890-4357**

PROJECT OBJECTIVES:

The purpose of this Supplemental Phase Two Environmental Site Assessment is:

- Vertical and Horizontal delineation of electrical conductivity (EC) and sodium adsorption ratio (SAR) impacts in soil, and chloride impacts in groundwater, in the vicinity of a historical salt storage area.
- Updating groundwater quality information and 2 existing groundwater monitors.

SCOPE OF WORK:

EXP will carry out a soil and groundwater sampling program at the Site. Pontil Drilling (Pontil) has been retained for the drilling work. The environmental drilling is anticipated to take two days to complete, from April 30 to May 1, 2020. Since the drilling work is to be performed on private property, private underground services, wires, or structures in the proposed drilling area must be identified by the owner prior to initiation of the work. Public utility locates were requested by EXP on April 20, 2020 (See attached locates for OneCall Ticket # 2020170921). All Clear Locates was retained to clear the test hole locations on April 30, 2020, at 8 am. A lock is located on the front entrance of the site. The code for the lock box is **2019**. If you have any problem accessing the site, you can contact Rob Dyet @ 416-709-1151.

Soil Sampling

- Five boreholes (BH201 through BH205) will be advanced at the site for environmental purposes, to provide vertical and horizontal delineation of previously identified impacts. These boreholes will be advanced to and sampled at varying depths, as outlined in Table 1, below. Three of the five boreholes,

…/2

220 Commerce Valley Drive West, Suite 110, Markham, Ontario L3T 0A8
T: +1.905.695.3217 • F: +1.905.695.0169 • www.exp.com

BH201 to BH203, will be installed as monitoring wells. The proposed test hole locations are shown on the attached figure.

- Soil samples will be inspected for visual and olfactory evidence of chemical impact and for geological composition. The findings will be recorded in a log.

- One "worst-case" or targeted depth soil sample will be collected from test holes BH201, BH202, BH204 and BH205 for laboratory analysis of EC/SAR, as set out in Table 1. Please collect a deeper delineation sample for each parameter and submit on hold. Soil sampling is not required at BH203 and this borehole can be straight augured for a monitoring well installation.

Table 1: Test Hole Details and Soil Sampling Summary

Test Hole ID	Soil Parameters for Analysis	Approximate depth of samples (mbgs)	Sampling Rationale	Well installation (mbgs)
BH201	EC/SAR	Worst case** and Vertical delineation at 3mbgs (submit on hold)	Horizontal and vertical delineation of EC/SAR impacts in soil. Horizontal delineation of sodium and chloride impacts in groundwater.	1-4 mbgs* (previously identified water table was 0.5 to 2.0 mbgs) (For horizontal delineation purposes)
BH202	EC/SAR	Worst case** and Vertical delineation at 3mbgs (submit on hold)	Horizontal and vertical delineation of EC/SAR impacts in soil. Horizontal delineation of sodium and chloride impacts in groundwater.	1-4 mbgs* (previously identified water table was 0.5 to 2.0 mbgs) (For horizontal delineation purposes)
BH203 (straight auger to 20m for well install)	none	n/a	Vertical delineation of sodium and chloride impacts in groundwater.	17-18 mbgs
BH204	EC/SAR	Worst case** and Vertical delineation at 3mbgs (submit on hold)	Horizontal and vertical delineation of EC/SAR impacts in soil.	none
BH205	EC/SAR	Worst case** and Vertical delineation at 3mbgs (submit on hold)	Horizontal and vertical delineation of EC/SAR impacts in soil.	none

*Well installation depths are approximate only and are dependent on the inferred water table during drilling activities

**Guidance on sampling depths:

EC/SAR – worst case from fill material (likely the first split spoon).

- Collect one field duplicate per 10 soil samples for each parameter, to be submitted to the laboratory for QA/QC purposes.

- Monitors will be constructed as 2'' monitors with a PVC screen interval no longer than 3.1 metres (10 feet) as specified by O. Reg. 153/04, and capped at the base of the monitor. The monitor will be backfilled with sand to an elevation of 0.3 to 0.6 metres (1 to 2 feet) above the top of the screened interval. The monitor will be sealed with bentonite to surface, capped with a locked j-plug and finished with a flush mount casing set in concrete. Please record monitor installation details including riser pipe

length, screen interval slot size (e.g. 0.01-inch slot size, 2 TPI), diameter of annulus and depth to top of sand pack.

- Develop the newly installed groundwater monitoring wells as they are installed, to ensure that they can be sampled concurrent with the drilling program.

- **Soil cuttings will be left on-site in an appropriate location**. In the event that visible soil impact is identified, please contact the PM prior to drumming soil. If soil is drummed, colelct a TCLP sample to the laboratory **on hold** for ignitibility, metals, b(a)pyrene, and PAHs. **Please do not drum soil if you do not need to.**

- Sample pick-ups will be organized for the site on as as-needed basis, based on the progress of drilling. Please discuss with the PM to ensure that sample pick-ups are scheduled as required.

- Soil samples should be submitted on a **regular (4 day)** turn-around time. Please ensure soil samples are properly preserved with ice in a storage cooler maintained below 10ºC.

Groundwater Sampling

- The groundwater monitoring wells will be sampled using **low flow techniques**; record stabilized field parameters for each monitor on sample form. One groundwater sample will be retrieved from each of the newly installed monitors (BH201 to BH203) and select pre-existing monitors, using either a peristaltic pump or bladder pump with new clean tubing. Use proper sampling techniques to avoid introducing contaminants into the groundwater sample. Use proper decontamination techniques between monitors.

- If no obvious impacts are noted, purged water can be disposed onto a paved area of the site away from any catch basins.

- Collected groundwater samples will be submitted to AGAT for analysis of sodium and chloride.

- Collect one field duplicate sample for sodium and chloride, to be submitted to the laboratory for QA/QC purposes. A trip blank is not required.

- Please communicate with the PM to arrange the sample pickup details for the groundwater samples. Groundwater samples should be submitted on a **regular (4 day)** turn-around time. Please ensure samples are properly preserved with ice in a storage cooler maintained below 10ºC.

Table 2: Groundwater Sampling Summary

Groundwater Monitor	Approximate depth to bottom (mbgs)	Screen Interval (mbgs)	Parameters for Analysis	Sampling Rationale
BH102	3.6	1.5 to 3.6	Sodium, Chloride	Updating/resampling a previous sodium and chloride exceedance.
BH103	9.1	6.1 to 9.1	Sodium, Chloride	Updating/resampling a previous sodium and chloride exceedance.
BH201	4.0*	1.0 to 4.0*	Sodium, Chloride	Horizontal delineation of sodium and chloride impacts in groundwater at ??.
BH202	4.0*	1.0 to 4.0*	Sodium, Chloride	Horizontal delineation of sodium and chloride impacts in groundwater at ??.

Groundwater Monitor	Approximate depth to bottom (mbgs)	Screen Interval (mbgs)	Parameters for Analysis	Sampling Rationale
BH203	20*	17 to 20*	Sodium, Chloride	Vertical delineation of sodium and chloride impacts in groundwater at ??.

Notes:
*This is only an assumed screen interval, please ensure monitors are straddling the water table and an adequate seal on the monitoring can be achieved or installed as per Table 1, above
Please include one field duplicate for each parameter (sodium and chloride)

Reminders

- Please ensure that the HASP paperwork is completed prior to any drilling activities. All subcontractors should sign-off on this paperwork.
- Always wear hard hat, visi-vest and use pylons as needed based on traffic at the site. Discuss scope of work with any other contractors on-site, prior to the commencement of field work.
- Call PM after the completion of the first test hole, and before leaving the site for the day.
- Mark BH locations with measurements/GPS coordinates on a site plan.
- Take photographs of the site during the investigation.
- Document any near miss incidents.
- Please use social distancing practices, where applicable (see HASP). Do not come into contact with drillers or other field staff.
- The lockbox code for the site is 2019

Chain of Custody Information

- Project number MRK-00257876-A0-C600-T200, Table 2 RPI Standards (soil texture = medium/fine)
- Use BH201, BH202 … etc. nomenclature per Tables 1 and 2
- Soil Analyses: EC/SAR
- Soil QA/QC: field duplicate samples
- Groundwater Analyses: sodium/chloride
- Groundwater QA/QC: field duplicate samples

Soil and groundwater samples will be submitted on a regular (4 day) turn-around time.

Submit results to amanda.catenaro@exp.com

Attachments
BH Location Plan
HASP
??

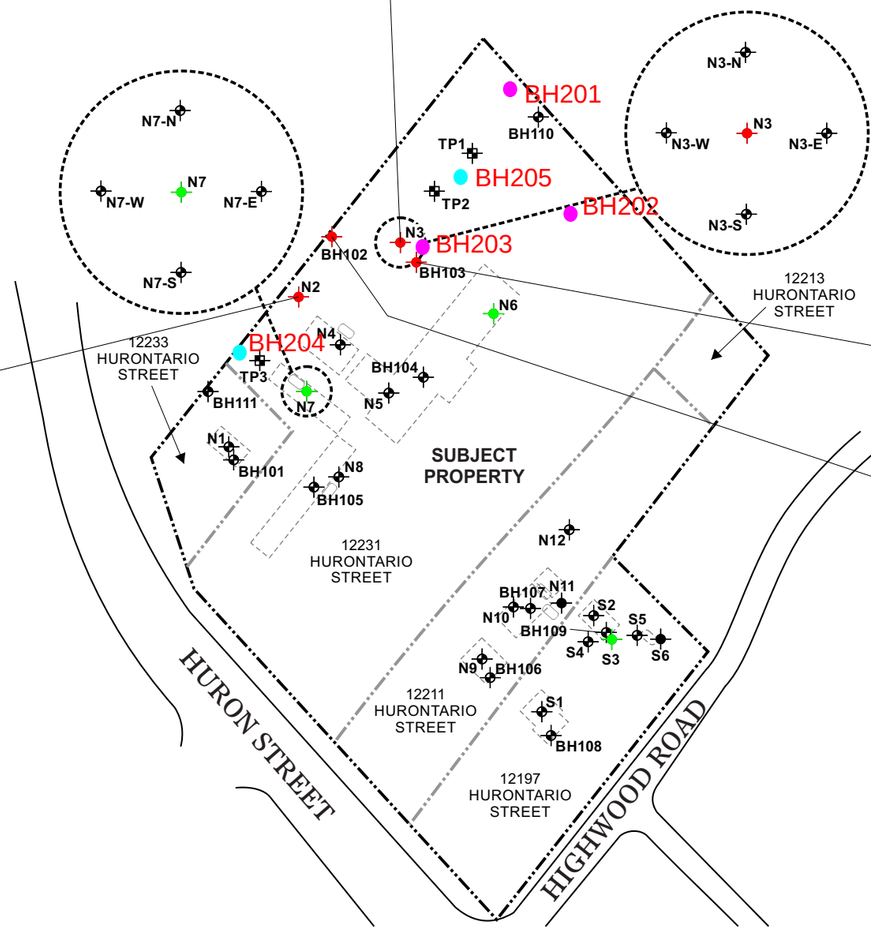
References

EXP SOP, *Decontamination, Version 2.0*, rev. 2017
EXP SOP, *Field Screening, Version 2.0*, rev. 2017
EXP SOP, *Field QA/QC Programs, Version 2.0*, rev. 2012
EXP SOP, *Monitor Installation, Version 2.0*, rev. 2017
EXP SOP, *Monitor Development, Version 2.0*, rev. 2017
EXP SOP, *Monitor and Groundwater Sampling, Version 2.0*, rev. 2017
EXP SOP, *Soil Descriptions, Version 2.0*, rev. 2017

EXP SOP, *Subsurface Soil Sampling, Version 2.0*, rev. 2017
EXP SOP, *Test Hole Assessment, Version 2.0*, rev. 2017
EXP SOP, *Test Hole Procedure, Version 2.0*, rev. 2017

Location	Screen Interval (mbgs)	Date
BH-N6	(3.0-6.0)	12-Apr-2019
BH-N7	(3.0-6.0)	25-Apr-2019
BHS3-D	(4.6-7.6)	12-Apr-2019

BH-N3	~N113			
Screen Interval (mbgs)	3.0-6.0			
Date	25-Apr-2019	1-May-2019	9-May-2019	9-May-2019
Cl	1580000	1430000	1120000	1260000
Na	159000	113000	78000	78000



BH-N2	~N112			
Screen Interval (mbgs)	3.0-6.0			
Date	25-Apr-2019	1-May-2019	9-May-2019	1-May-2019
Cl	1240000	2520000	2800000	2760000
Na	485000	607000	620000	n/a

BH103	
Screen Interval (mbgs)	6.1 to 9.1
Date	5-Mar-2020
Cl	3690000
Na	812000

BH102	~BH102	
Screen Interval (mbgs)	1.5 to 3.6	
Date	5-Mar-2020	5-Mar-2020
Cl	8140000	8150000
Na	3350000	3320000

Parameter	Abbreviation	Table 2 Soil Standards*	Units
Chloride	Cl	790000	µg/L
Sodium	Na	490000	µg/L

SCALE: 0 25 50m

SOURCE:
BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
J.D.H.	A.C.

LEGEND:
- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR (EXP, 2019)
- TEST HOLE (EXP, 2019)
- TEST PIT (EXP, 2019)
- FORMER FEATURES
- LOCATION FORMER ABOVE GROUND STORAGE TANKS
- LOCATION FORMER UNDER GROUND STORAGE TANKS

*Standards shown are for an residential/parkland/institutional property use and medium/fine textured soils
~ indicates field duplicate sample
mbgs - metres below ground surface
All results in units of µg/L, unless otherwise noted

Location where sample is within O.Reg. 153/04 Table 2 Standards for all parameters analyzed is shown in GREEN
Location where sample exceeds O.Reg. 153/04 Table 2 Standards for at least one parameter is shown in RED
Concentration of contaminant exceeding Table 2 Standard shown in text as **RED BOLD**
Concentration of contaminant within Table 2 Standard shown in text as GREEN

Ground Water Analytical Results – Other Regulated Parameters (including Sodium and Chloride)

FIGURE 8E

HURONTARIO STREET, BRAMPTON AND 12211, 12213, 12231 AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: MARCH 2020

257876-RESULTS-MAR20-**GW SODIUM & CHLORIDE**

Memorandum

Date:	December 13, 2021
To:	Mike Luong; Jon Keates
From:	Amanda Catenaro
CC:	Sarah DiBattista

RE: Supplemental Phase Two Environmental Site Assessment
12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon

Project Number:	**GTR-00257876-B0**
Date(s) of Field Work:	**Private Locates – December 13, 2021, 8am** **Drilling – December 13 to 15, 2021, 9am** **Groundwater Sampling – December 17, 2021**
Site Address:	**12197 Hurontario Street, Brampton, Ontario and** **1211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario**
PM Contact:	**Amanda Catenaro, 647-937-7008**
Laboratory:	**AGAT, Michael Conversano, 905-712-5074**
Drilling Subcontractor:	**Pontil Drilling – 905-557-0190**
Private Locator:	**All Clear Locates, Drew –416-890-4357**

PROJECT OBJECTIVES:

The purpose of this Supplemental Phase Two Environmental Site Assessment is:

- Vertical and Horizontal delineation of electrical conductivity (EC) and sodium adsorption ratio (SAR) impacts in soil, and chloride impacts in groundwater, as requested by the MECP.

HEALTH AND SAFETY:
Complete the Covid-19 screening form found at the following website:
https://covid-19.ontario.ca/screening/worker/

Email the completed form to amanda.catenaro@exp.com

…/2

SCOPE OF WORK:

EXP will carry out a soil and groundwater sampling program at the Site. Pontil Drilling (Pontil) has been retained for the drilling work. The environmental drilling is anticipated to take two to three days to complete, from December 13-15, 2021. Since the drilling work is to be performed on private property, private underground services, wires, or structures in the proposed drilling area must be identified by the owner prior to initiation of the work. Public utility locates were requested by EXP in November of 2021. (All Clear Locates was retained to clear the test hole locations on December 13, 2021, at 8 am. A lock is located on the front entrance of the site. The code for the lock box is **2019**.

Soil Sampling

- Six boreholes (BH301 through BH306) will be advanced at the site for environmental purposes, to provide vertical and horizontal delineation of previously identified impacts. These boreholes will be advanced to and sampled at varying depths, as outlined in Table 1, below. Four of the six boreholes, BH301 to BH304, will be installed as monitoring wells. The proposed test hole locations are shown on the attached figure.

- Soil samples will be inspected for visual and olfactory evidence of chemical impact and for geological composition. The findings will be recorded in a log.

- Samples will be collected as set out in Table 1. Please collect a deeper delineation sample for each parameter and submit on hold.

Table 1: Test Hole Details and Soil Sampling Summary

Test Hole ID	Soil Parameters for Analysis	Approximate depth of samples (mbgs)	Sampling Rationale	Well installation (mbgs)
BH301 (straight auger)	None	None	Assess off-site PCA at the north adjacent property (north part of site)	1-4 mbgs* (previously identified water table was 0.5 to 2.0 mbgs)
BH302 (straight auger)	None	None	Assess off-site PCA at the north adjacent property (north part of site)	1-4 mbgs* (previously identified water table was 0.5 to 2.0 mbgs)
BH303 (straight auger)	None	None	Assess off-site PCA at the north adjacent property (north part of site)	1-4 mbgs* (previously identified water table was 0.5 to 2.0 mbgs)
BH304 (straight auger)	EC/SAR	From grade (0-1.5 metres) Deeper sample (3.0-4.0 metres on hold)	Horizontal delineation of EC/SAR impacts in groundwater and soil.	1-4 mbgs* (previously identified water table was 0.5 to 2.0 mbgs)
BH305	EC/SAR + dup	From grade (0-1.5 metres) Deeper sample (3.0-4.0 metres on hold)	Horizontal delineation of EC/SAR impacts in soil	None
BH306	EC/SAR	From grade (0-1.5 metres) Deeper sample (3.0-4.0 metres on hold)	Horizontal delineation of EC/SAR impacts in soil	None

- Collect one field duplicate per 10 soil samples for each parameter, to be submitted to the laboratory for QA/QC purposes.

- Monitors will be constructed as 2'' monitors with a PVC screen interval no longer than 3.1 metres (10 feet) as specified by O. Reg. 153/04, and capped at the base of the monitor. The monitor will be backfilled with sand to an elevation of 0.3 to 0.6 metres (1 to 2 feet) above the top of the screened interval. The monitor will be sealed with bentonite to surface, capped with a locked j-plug and finished with a flush mount casing set in concrete. Please record monitor installation details including riser pipe length, screen interval slot size (e.g. 0.01-inch slot size, 2 TPI), diameter of annulus and depth to top of sand pack.

- Develop the newly installed groundwater monitoring wells as they are installed, to ensure that they can be sampled concurrent with the drilling program.

- **Soil cuttings will be left on-site in an appropriate location**. In the event that visible soil impact is identified, please contact the PM prior to drumming soil.
- Sample pick-ups will be organized for the site on as as-needed basis, based on the progress of drilling. Please discuss with the PM to ensure that sample pick-ups are scheduled as required.

- Soil samples should be submitted on a **regular (4 day)** turn-around time. Please ensure soil samples are properly preserved with ice in a storage cooler maintained below 10ºC.

Groundwater Sampling

- The groundwater monitoring wells will be sampled using **low flow techniques**; record stabilized field parameters for each monitor on sample form. One groundwater sample will be retrieved from each of the newly installed monitors (BH301 to BH304) and select pre-existing monitors, using either a peristaltic pump or bladder pump with new clean tubing. Use proper sampling techniques to avoid introducing contaminants into the groundwater sample. Use proper decontamination techniques between monitors.

- If no obvious impacts are noted, purged water can be disposed onto a paved area of the site away from any catch basins.

- Collected groundwater samples will be submitted to AGAT for analysis of sodium and chloride.

- Collect one field duplicate sample for sodium and chloride, to be submitted to the laboratory for QA/QC purposes. A trip blank is not required.

- Please communicate with the PM to arrange the sample pickup details for the groundwater samples. Groundwater samples should be submitted on a **regular (4 day)** turn-around time. Please ensure samples are properly preserved with ice in a storage cooler maintained below 10ºC.

Table 2: Groundwater Sampling Summary

Groundwater Monitor	Approximate depth to bottom (mbgs)	Screen Interval (mbgs)	Parameters for Analysis	Sampling Rationale
BH301	4.0	1.0 to 4.0	PHCs, VOCs	Assess off-site PCA at the north adjacent property (north part of site)
BH302	4.0	1.0 to 4.0	PHCs, VOCs	Assess off-site PCA at the north adjacent property (north part of site)

Groundwater Monitor	Approximate depth to bottom (mbgs)	Screen Interval (mbgs)	Parameters for Analysis	Sampling Rationale
BH303	4.0	1.0 to 4.0	PHCs, VOCs	Assess off-site PCA at the north adjacent property (north part of site)
BH304	4.0	1.0 to 4.0	Sodium, Chloride	Horizontal delineation of salt impacts in groundwater.

Notes:
*This is only an assumed screen interval, please ensure monitors are straddling the water table and an adequate seal on the monitoring can be achieved or installed as per Table 1, above
Please include one field duplicate for each parameter (sodium and chloride, PHCs and VOCs)

Reminders

- Please ensure that the HASP paperwork is completed prior to any drilling activities. All subcontractors should sign-off on this paperwork.
- Always wear hard hat, visi-vest and use pylons as needed based on traffic at the site. Discuss scope of work with any other contractors on-site, prior to the commencement of field work.
- Call PM after the completion of the first test hole, and before leaving the site for the day.
- Mark BH locations with measurements/GPS coordinates on a site plan.
- Take photographs of the site during the investigation.
- Document any near miss incidents.
- Please use social distancing practices, where applicable (see HASP). Do not come into contact with drillers or other field staff.
- The lockbox code for the site is 2019

Chain of Custody Information

- Project number GTR-00257876-B0-2, Table 2 RPI Standards (soil texture = medium/fine)
- Use BH301, BH302 … etc. nomenclature per Tables 1 and 2
- Soil Analyses: EC/SAR
- Soil QA/QC: field duplicate samples
- Groundwater Analyses: sodium/chloride, PHCs, VOCs
- Groundwater QA/QC: field duplicate samples

Soil and groundwater samples will be submitted on a regular (4 day) turn-around time.

Submit results to amanda.catenaro@exp.com

References

EXP SOP, *Decontamination, Version 2.0*, rev. 2017
EXP SOP, *Field Screening, Version 2.0*, rev. 2017
EXP SOP, *Field QA/QC Programs, Version 2.0*, rev. 2012
EXP SOP, *Monitor Installation, Version 2.0*, rev. 2017
EXP SOP, *Monitor Development, Version 2.0*, rev. 2017
EXP SOP, *Monitor and Groundwater Sampling, Version 2.0*, rev. 2017
EXP SOP, *Soil Descriptions, Version 2.0*, rev. 2017
EXP SOP, *Subsurface Soil Sampling, Version 2.0*, rev. 2017

EXP SOP, *Test Hole Assessment, Version 2.0*, rev. 2017
EXP SOP, *Test Hole Procedure, Version 2.0*, rev. 2017

N3					
Sample	N3 SS1	~N33 SS1	N3 SS3	N3 SS5	~N3 SS15
Depth (mbgs)	0.2 - 0.6	0.2 - 0.6	1.5-2.1	3.1 - 3.7	3.1 - 3.7
Date	8-Apr-2019	8-Apr-2019	8-Apr-2019	8-Apr-2019	8-Apr-2019
EC	3.11	1.75	1.42	0.4	0.39
SAR	60	30.5	2.28	0.58	0.59

N3-W			
Sample	N3-W-S1	N3-W-S4	N3-WW-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019	23-Apr-2019
EC	4.79	2.95	2.53
SAR	47.5	8.61	8.03

N3-2N		
Sample	N3-2N-S1	N3-2N-S2
Depth (mbgs)	0.2 - 0.6	0.6 - 1.2
Date	24-Apr-2019	24-Apr-2019
EC	1.91	0.87
SAR	20.6	45

N3-2W		
Sample	N3-2W-S1	N3-2W-S2
Depth (mbgs)	0.2 - 0.6	0.6 - 1.2
Date	24-Apr-2019	24-Apr-2019
EC	3.29	2.35
SAR	30.1	6.56

N3-N		
Sample	N3-N-S1	N3-N-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	2.1	0.21
SAR	21.1	0.53

N3-S		
Sample	N3-S-S1	N3-S-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	8.67	1.23
SAR	86	8.5

N3-E		
Sample	N3-E-S1	N3-E-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	3.43	0.44
SAR	7.87	0.92

TP1		
Sample	TP1	TP111
Depth (mbgs)	0.3 - 0.6	0.3 - 0.6
Date	9-May-2019	9-May-2019
EC	1.81	1.77
SAR	17.4	18.4

TP2	
Sample	TP2
Depth (mbgs)	0.3 -0.6
Date	9-May-2019
EC	0.47
SAR	6.25

TP3	
Sample	TP3
Depth (mbgs)	0.3 -0.6
Date	9-May-2019
EC	0.52
SAR	5.5

N2	
Sample	N2 SS1
Depth (mbgs)	0.3 -0.6
Date	9-Apr-2019
EC	0.85
SAR	5.64

CS-A-W101		
Sample	CS-A-W101	~CS-A-W1010
Depth (mbgs)	1	1
Date	3-Sep-2020	3-Sep-2020
EC	2.57	2.6
SAR	26	26.9

BH102		
Sample	BH102	~BH102
Depth (mbgs)	0 - 0.6	0 - 0.6
Date	27-Feb-2020	27-Feb-2020
EC	1.74	1.72
SAR	21.5	28.8

BH111	
Sample	BH111
Depth (mbgs)	0.3 - 0.61
Date	1-May-2020
EC	0.794
SAR	7.5

CS-A-W102	
Sample	CS-A-W102
Depth (mbgs)	1
Date	3-Sep-2020
EC	1.09
SAR	21.3

CS-A-W103	
Sample	CS-A-W103
Depth (mbgs)	1
Date	3-Sep-2020
EC	1.53
SAR	19.6

BH204		
Sample	BH204 SS1	BH204 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	4.08	2.99
SAR	68.1	9.4

BH202		
Sample	BH202 SS1	BH202 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	0.729	1
SAR	8.05	0.709

BH205		
Sample	BH205 SS1	BH205 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	0.782	0.576
SAR	4.56	NA

CS-A-W109		
Sample	CS-A-W109	~CS-A-W109-0
Depth (mbgs)	1	1
Date	18-May-2021	18-May-2021
EC	2.47	2.6
SAR	7.54	7.87

CS-A-W110	
Sample	CS-A-W110
Depth (mbgs)	1
Date	18-May-2021
EC	4.37
SAR	16.7

CS-A-W111	
Sample	CS-A-W111
Depth (mbgs)	1
Date	18-May-2021
EC	4.9
SAR	19.1

CS-A-W112	
Sample	CS-A-W112
Depth (mbgs)	1
Date	18-May-2021
EC	4.16
SAR	22.2

CS-A-W114	
Sample	CS-A-W114
Depth (mbgs)	1
Date	18-May-2021
EC	0.898
SAR	3.97

CS-A-W115	
Sample	CS-A-W115
Depth (mbgs)	1
Date	19-May-2021
EC	2.05
SAR	12.2

CS-A-W116	
Sample	CS-A-W116
Depth (mbgs)	1
Date	19-May-2021
EC	2.65
SAR	38.3

CS-A-W117	
Sample	CS-A-W117
Depth (mbgs)	1
Date	19-May-2021
EC	0.665
SAR	8.85

CS-A-W118	
Sample	CS-A-W118
Depth (mbgs)	1
Date	19-May-2021
EC	1.9
SAR	7.99

CS-A-W119	
Sample	CS-A-W119
Depth (mbgs)	1
Date	19-May-2021
EC	1.15
SAR	3.79

CS-A-W120	
Sample	CS-A-W120
Depth (mbgs)	1
Date	19-May-2021
EC	1.47
SAR	5.97

CS-A-W127	
Sample	CS-A-W127
Depth (mbgs)	1
Date	21-May-2021
EC	1.46
SAR	4.93

CS-A-W128		
Sample	CS-A-W128	CS-A-W128-O
Depth (mbgs)	1	1
Date	21-May-2021	21-May-2021
EC	0.936	0.917
SAR	2.65	2.78

CS-A-W129	
Sample	CS-A-W128
Depth (mbgs)	1
Date	21-May-2021
EC	0.8
SAR	2.15

CS-A-W130	
Sample	CS-A-W130
Depth (mbgs)	1
Date	21-May-2021
EC	2.1
SAR	6.95

CS-A-W140	
Sample	CS-A-W140
Depth (mbgs)	1
Date	27-May-2021
EC	0.815
SAR	2.45

CS-A-W141	
Sample	CS-A-W141
Depth (mbgs)	1
Date	27-May-2021
EC	0.703
SAR	2.65

CS-A-W142	
Sample	CS-A-W142
Depth (mbgs)	1
Date	27-May-2021
EC	1.2
SAR	2.42

CS-A-W143	
Sample	CS-A-W143
Depth (mbgs)	1
Date	27-May-2021
EC	0.944
SAR	3.1

CS-A-W144		
Sample	CS-A-W144	CS-A-W144-0
Depth (mbgs)	1	1
Date	27-May-2021	27-May-2021
EC	1.25	1.1
SAR	2.78	2.81

CS-A-F105	
Sample	CS-A-F105
Depth (mbgs)	1.5
Date	18-May-2021
EC	0.814
SAR	4.43

CS-A-F106	
Sample	CS-A-F106
Depth (mbgs)	1.5
Date	18-May-2021
EC	1.79
SAR	1.64

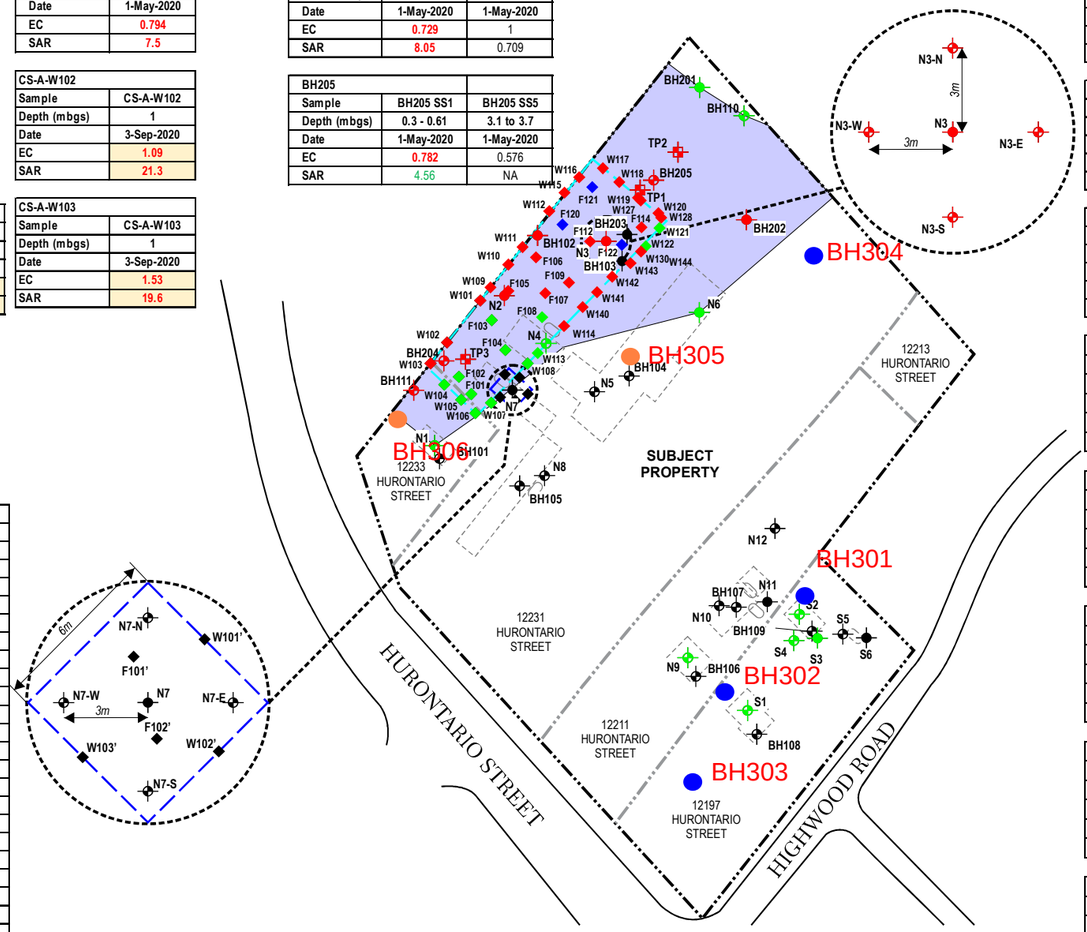
CS-A-F107	
Sample	CS-A-F107
Depth (mbgs)	1.5
Date	18-May-2021
EC	1.49
SAR	3.99

CS-A-F109		
Sample	CS-A-F109	CS-A-F109-0
Depth (mbgs)	1.5	1.5
Date	18-May-2021	18-May-2021
EC	0.733	0.791
SAR	4.17	4.15

CS-A-F112	
Sample	CS-A-F112
Depth (mbgs)	1.5
Date	19-May-2021
EC	1.19
SAR	0.615

CS-A-F114	
Sample	CS-A-F114
Depth (mbgs)	1.5
Date	19-May-2021
EC	1.55
SAR	1.82

Location	Depth (mbgs)	Date
BH110	(0 - 0.6)	8-Feb-2020
N1 SS2	(0.8 - 1.4)	8-Apr-2019
N2 SS1	(0.3 - 0.6)	9-Apr-2019
N4 SS1	(0.3 - 0.6)	9-Apr-2019
N6 SS1	(0.2 - 0.6)	9-Apr-2019
N9 (SS2 + SS3)	(0.9 - 1.8)	9-Apr-2019
S1 SS2	(0.8 - 1.4)	10-Apr-2019
~S1 SS2	(0.8 - 1.4)	10-Apr-2019
S2 SS2	(0.8 - 1.4)	10-Apr-2019
S3 SS3	(1.5 - 2.1)	9-Apr-2019
S4 SS2	(0.8 - 1.4)	9-Apr-2019
TP2	(0.3 - 0.6)	9-May-2019
TP3	(0.3 - 0.6)	9-May-2019
BH201 SS1	(0 - 0.61)	1-May-2020
~BH201 SS1	(0 - 0.61)	1-May-2020
CS-A-F101	(1.5)	3-Sep-2020
CS-A-F102	(1.5)	3-Sep-2020
CS-A-F103	(1.5)	3-Sep-2020
CS-A-F104	(1.5)	3-Sep-2020
CS-A-F108	(1.5)	18-May-2021
CS-A-F120	(2)	27-May-2021
CS-A-F121	(2)	27-May-2021
CS-A-F122	(2)	27-May-2021
CS-A-W104	(1)	3-Sep-2020
CS-A-W105	(1)	3-Sep-2020
CS-A-W106	(1)	3-Sep-2020
CS-A-W107	(1)	3-Sep-2020
CS-A-W108	(1)	3-Sep-2020
CS-A-W113	(1)	18-May-2021
CS-A-W121	(1)	19-May-2021
CS-A-W122	(1)	19-May-2021



Parameter	Abbreviation	TABLE 4 Soil Standards - Surface*	TABLE 4 Soil Standards - Subsurface*	Units
Conductivity (mS/cm)	EC	0.7	NA	mS/cm
Sodium Adsorption Ratio	SAR	5	NA	µg/g

SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- AREA OF CONTAMINATION AOC B
- SOIL REMOVED DURING REMEDIATION ACTIVITIES. NOT CARRIED FORWARD IN PHASE TWO CSM

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
LOCATION WHERE SAMPLE COLLECTED BELOW 1.5 mbgs IS SHOWN IN DARK BLUE
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD (SUBSURFACE/COLLECTED BELOW 1.5 mbgs) SHOWN IN TEXT AS BLACK.

SOIL ANALYTICAL RESULTS – OTHER REGULATED PARAMETERS (INCLUDING EC AND SAR)

FIGURE 8E

12197 HURONTARIO STREET, BRAMPTON, ONTARIO AND 12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 DATE: JULY 2021

Appendix E – Borehole Logs

Log of Borehole BH101

Project No. MRK-00257876-A0 Drawing No. 1

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 28, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace gravel, moist, no odour, no staining.	258.52	0		ND		80	SS1	PAHs
		- Reworked Native.		1		ND		80	SS2	
			~257.0							
		Brown clayey **SILT TILL**, moist, no odour, no staining.	~256.4	2		ND		80	SS3	
		End of Test hole at 2.13 mbgs.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH102

Project No. MRK-00257876-A0 Drawing No. 2

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 27, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace gravel, moist, no odour, no staining.	257.77	0		ND		70	SS1	EC* SAR* PAHs*
		- Reworked Native.	~257.0	1		ND		70	SS2	
		Brown clayey **SILT TILL**, moist, no odour, no staining.		2		ND		70	SS3	
			~255.7	3		ND		70	SS4	
			~254.1	4		ND		70	SS5	
		End of Test hole at 3.65 mbgs.		5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)
March 5, 2020	2.99m	
May 7 , 2020	2.044m	

Log of Borehole BH103

Project No. MRK-00257876-A0 Drawing No. 3

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

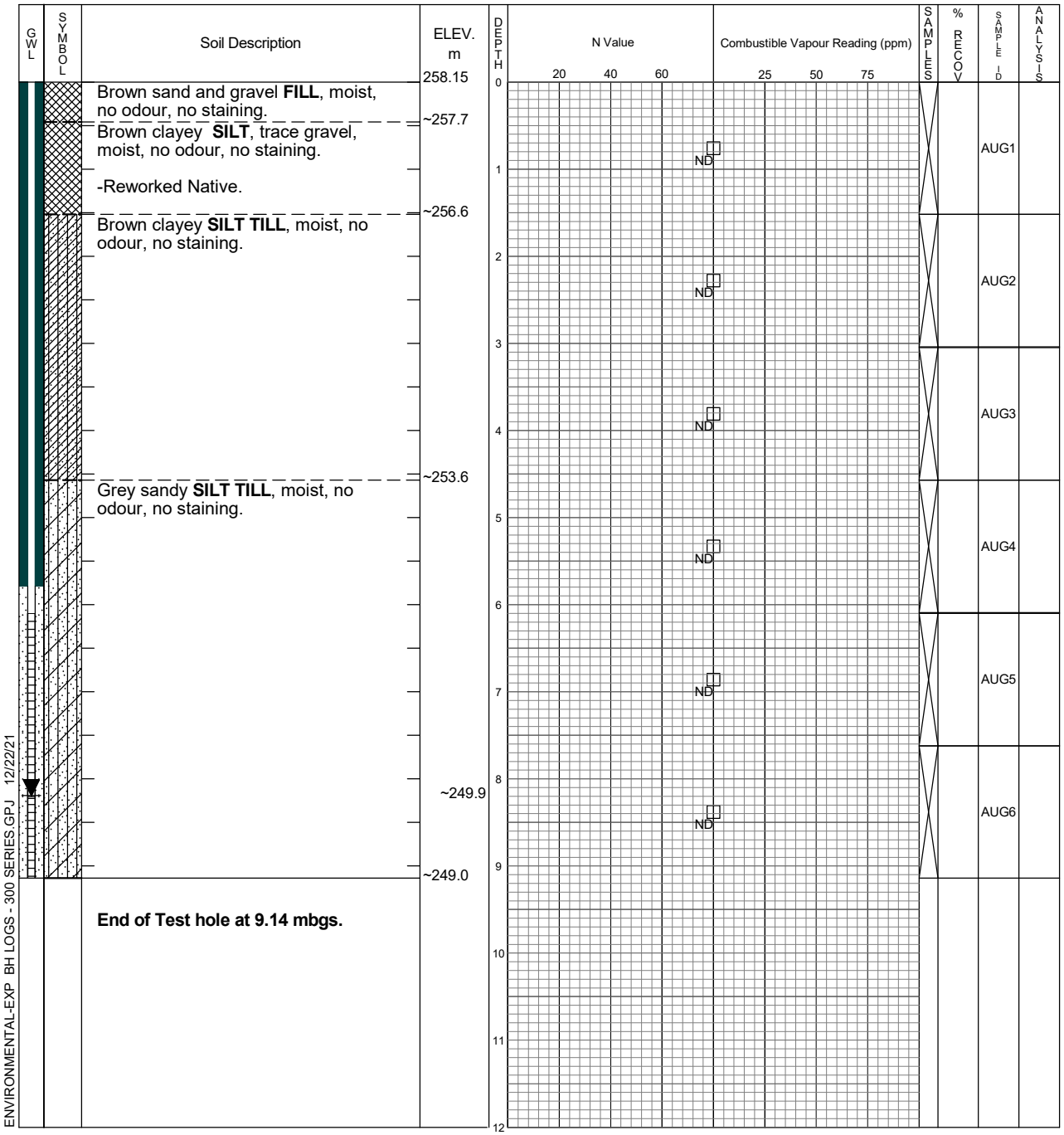
Date Drilled: February 27, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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



Time	Water Level (m)	Depth to Cave (m)
March 5, 2020	8.19m	
May 7 , 2020	8.226m	

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH104

Project No. MRK-00257876-A0 Drawing No. 4

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 27, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace sand and gravel, moist, no odour, no staining.	258.14	0	20 40 60	25 50 75		30	SS1	PAHs
		- Reworked Native.	~257.4	1				70	SS2	
		Brown clayey **SILT TILL**, moist, no odour, no staining.	~256.0	2				70	SS3	
		End of Test hole at 2.13 mbgs.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ND

ND

ND

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH105

Project No. MRK-00257876-A0 Drawing No. 5

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 27, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			258.26	0	20 40 60	25 50 75				
		Brown clayey silt **FILL**, some gravel and some sand from grade to 0.762 mbgs, moist, no odour, no staining.				ND		80	SS1	PAHs
		- Reworked Native.		1		ND		80	SS2	
			~256.7							
		Brown clayey **SILT TILL**, moist, no odour, no staining.		2		ND		80	SS3	
			~256.1							
		End of Test hole at 2.13 mbgs.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH106

Project No. MRK-00257876-A0 Drawing No. 6

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 28, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace sand and gravel, moist, no odour, no staining.	258.78	0	20 40 60	25 50 75		80	SS1	PAHs
		- Reworked Native.		1		ND		80	SS2	
		Brown clayey **SILT TILL**, moist, no odour, no staining.	~257.3	2		ND		80	SS3	
			~256.7	3						
		End of Test hole at 2.13 mbgs.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH107

Project No. MRK-00257876-A0 Drawing No. 7

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 28, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace gravel, moist, no odour, no staining.	258.72	0		ND		80	SS1	PAHs
				1		ND		80	SS2	
			~257.2							
		Brown clayey **SILT TILL**, moist, no odour, no staining.	~256.6	2		ND		80	SS3	
		End of Test hole at 2.13 mbgs.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

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

Log of Borehole BH108

Project No. MRK-00257876-A0 Drawing No. 8

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 28, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace gravel, moist, no odour, no staining.	258.02	0		ND		80	SS1	PAHs
				1		ND		80	SS2	
		Brown clayey **SILT TILL**, moist, no odour, no staining.	~256.5	2		ND		80	SS3	
			~255.9							
		End of Test hole at 2.13 mbgs.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH109

Project No. MRK-00257876-A0 Drawing No. 9

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 28, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace gravel, moist, no odour, no staining.	257.43	0		ND		70	SS1	PAHs
		- Reworked Native		1		ND		70	SS2	
			~255.9							
		Brown clayey **SILT TILL**, moist, no odour, no staining.	~255.3	2		ND		70	SS3	
		End of Test hole at 2.13 mbgs.		3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH110

Project No. MRK-00257876-A0 Drawing No. 10

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 27, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
			257.74	0	20 40 60	25 50 75				
		Brown sand and gravel **FILL**, moist, no odour, no staining.	~257.3			ND		30	SS1	EC SAR
		Brown clayey silt **FILL**, trace gravel, moist, no odour, no staining.	~257.0	1		ND		70	SS2	
		- Reworked Native.								
		Brown clayey silt **TILL**, moist, no odour, no staining.		2		ND		50	SS3	
			~255.6	3						
		End of Test hole at 2.13 mbgs.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH111

Project No. MRK-00257876-A0 Drawing No. 11

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: February 28, 2020

Drill Type: B57-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH
			258.30	0
		Brown clayey silt **FILL**, trace sand and gravel from grade to 0.762 mbgs, moist, no odour, no staining.		
		- Reworked Native.		1
			~256.8	
		Brown clayey **SILT TILL**, moist, no odour, no staining.		2
			~256.2	
		End of Test hole at 2.13 mbgs.		3
				4
				5
				6
				7
				8
				9
				10
				11
				12

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

ND

ND

ND

SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
	70	SS1	EC SAR
	70	SS2	
	70	SS3	

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

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

Log of Borehole TH201

Project No. MRK-00257876-A0 Drawing No. 12

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

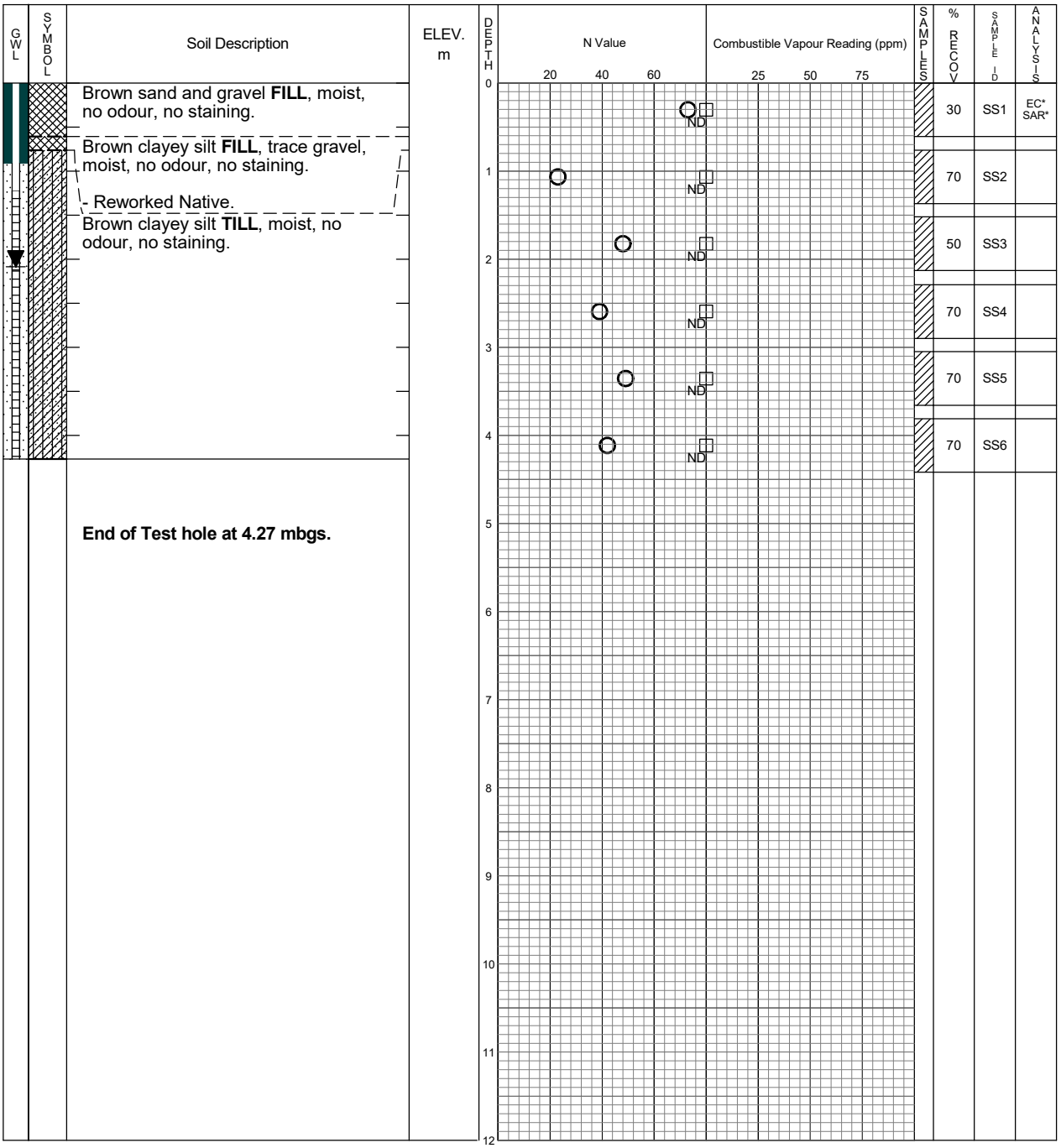
Date Drilled: April 30, 2020

Drill Type: CME 55-Track Mount

Datum:

Chemical Analysis

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



ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

Time	Water Level (m)	Depth to Cave (m)
May 7 , 2020	2.122m	

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole TH202

Project No. MRK-00257876-A0 Drawing No. 13

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

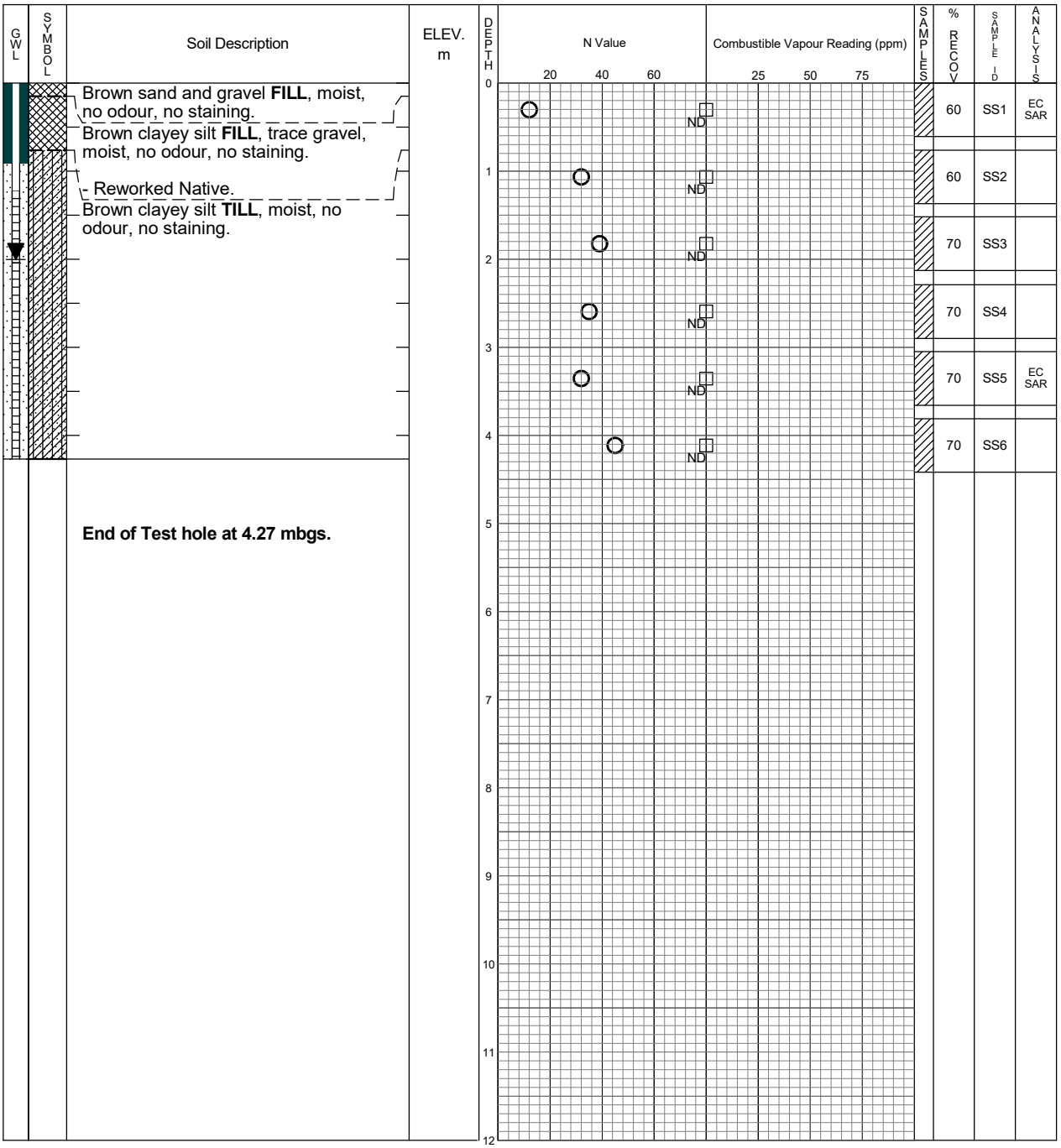
Date Drilled: May 1, 2020

Drill Type: CME 55-Track Mount

Datum:

Chemical Analysis

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



ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

Time	Water Level (m)	Depth to Cave (m)
May 7 , 2020	2.041m	

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole TH203

Project No. MRK-00257876-A0 Drawing No. 14

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 2

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: May 1, 2020

Drill Type: CME 55-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown sand and gravel **FILL**, moist, no odour, no staining.		0						
		Brown clayey **SILT**, trace gravel, moist, no odour, no staining. -Reworked Native.		1						
		Brown clayey **SILT TILL**, moist, no odour, no staining.		2						
				3						
				4						
		Grey sandy **SILT TILL**, moist, no odour, no staining.		5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

Continued Next Page

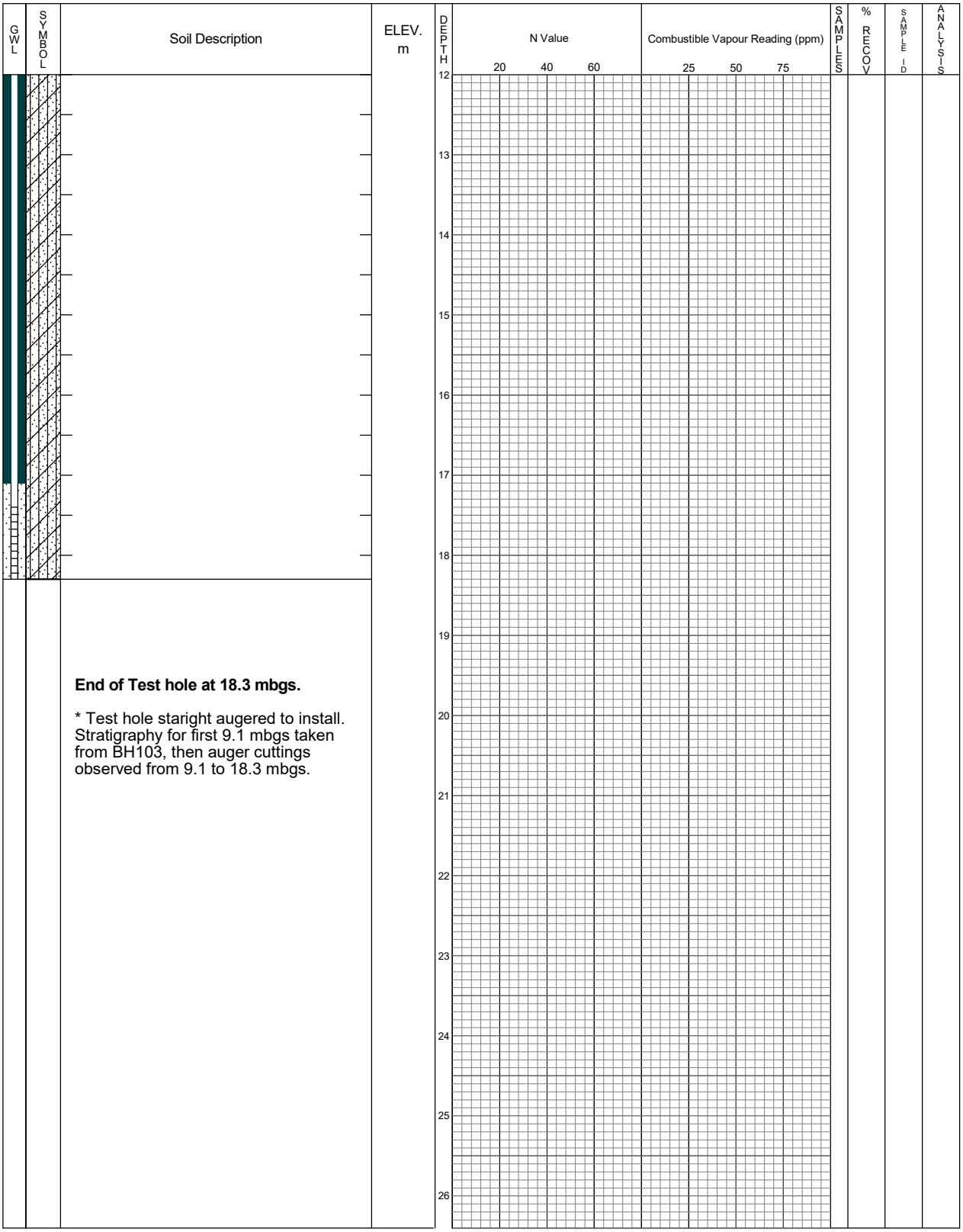
Time	Water Level (m)	Depth to Cave (m)
May 7 , 2020	9.727m	

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole TH203

Project No. MRK-00257876-A0 Drawing No. 14

Project: Phase Two Environmental Site Assessment Sheet No. 2 of 2



exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)
May 7 , 2020	9.727m	

Log of Borehole TH204

Project No. MRK-00257876-A0 Drawing No. 15

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: May 1, 2020

Drill Type: CME 55-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown sand and gravel **FILL**, moist, no odour, no staining.		0	20 40 60	25 50 75		70	SS1	EC SAR
		Brown clayey silt **FILL**, trace sand and gravel, moist, no odour, no staining.		1				70	SS2	
		- Reworked Native. Brown clayey **SILT TILL**, moist, no odour, no staining.		2				70	SS3	
				3				70	SS4	
		End of Test hole at 3.66 mbgs.		4				70	SS5	EC SAR
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ND

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

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

Log of Borehole TH205

Project No. MRK-00257876-A0 Drawing No. 16

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: April 30, 2020

Drill Type: CME 55-Track Mount

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown clayey silt **FILL**, trace sand and gravel, moist, no odour, no staining.		0		ND		70	SS1	EC SAR
		- Reworked Native.		1		ND		70	SS2	
		Brown clayey **SILT TILL**, moist, no odour, no staining.		2		ND		70	SS3	
						ND		70	SS4	
				3		ND		70	SS5	EC
		End of Test hole at 3.66 mbgs.		4						
				5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 12/22/21

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

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

Log of Borehole BH301

Project No. MRK-00257876-A0 Drawing No. 1

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: December 13, 2021

Drill Type: CME 45

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Straight auger to 4.57 mbgs.	257.27	0						
			~256.6	1						
				2						
				3						
				4						
			~252.7	5						
		End of Borehole at 4.57 mbgs.		6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 1/7/22

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)
December 14, 2021	255.18	
December 19, 2021	256.58	

Log of Borehole BH302

Project No. MRK-00257876-A0 Drawing No. 2

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: December 13, 2021

Drill Type: CME 45

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Straight auger to 4.57 mbgs.	258.14	0						
			~254.9	3						
		End of Borehole at 4.57 mbgs.	~253.6	5						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 1/7/22

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)
December 14, 2021 December 19, 2021	254.87	

Log of Borehole BH303

Project No. MRK-00257876-A0 Drawing No. 3

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: December 13, 2021

Drill Type: CME 45

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value (20, 40, 60)	Combustible Vapour Reading (ppm) (25, 50, 75)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Straight auger to 4.57 mbgs.	257.85	0						
			~257.1	1						
				2						
				3						
				4						
			~253.3	5						
		End of Borehole at 4.57 mbgs.		6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 1/7/22

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Time	Water Level (m)	Depth to Cave (m)
December 14, 2021	254.45	
December 19, 2021	257.06	

Log of Borehole BH304

Project No. MRK-00257876-A0 Drawing No. 4

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: December 14, 2021

Drill Type: CME 45

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown, sandy silt **FILL**, some gravel, moist, no odour, no staining.	256.94	0	10	ND		60	SS1	
			~256.2							
		Brown, dense, silt **TILL** turning grey at 4.42 mbgs, some soft clay from 1.23 to 2.13 mbgs, trace gravel up to 2.29 mbgs, moist, no odour, no staining.	~256.0	1	8	30		60	SS2	EC SAR
				2	9	5		100	SS3	
					27	ND		100	SS4	
				3	41	ND		60	SS5	
				4	38	ND		60	SS6	
					40	ND		60	SS7	
			~251.6	5						
		End of Borehole at 5.33 mbgs.		6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 1/7/22

Time	Water Level (m)	Depth to Cave (m)
December 14, 2021	254.13	
December 19, 2021	255.99	

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH305

Project No. MRK-00257876-A0 Drawing No. 5

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: December 14, 2021

Drill Type: CME 45

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown, loose, sandy silt **FILL** with trace rootlets, moist, no odour, no staining.	258.26	0	4	ND		80	SS1	
		Brown, loose to firm, silt **TILL**, moist, no odour, no staining.	~257.5	1	8	ND		80	SS2	EC SAR
				2	19	ND		100	SS3	
				3	22	ND		100	SS4	
				4	37	ND		60	SS5	
				5	40	ND		60	SS6	
		End of Borehole at 4.57 mbgs.	~253.7	6						
				7						
				8						
				9						
				10						
				11						
				12						

N Value: 20, 40, 60

Combustible Vapour Reading (ppm): 25, 50, 75

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 1/7/22

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Log of Borehole BH306

Project No. MRK-00257876-A0 Drawing No. 6

Project: Phase Two Environmental Site Assessment Sheet No. 1 of 1

Location: 12197 Hurontario Street, Brampton and 12211, 12213, 12231 and 12233 Hurontario Street, Caledon, Ontario

Date Drilled: December 14, 2021

Drill Type: CME 45

Datum:

Chemical Analysis

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

GWL	SYMBOL	Soil Description	ELEV. m	DEPTH	N Value	Combustible Vapour Reading (ppm)	SAMPLES	% RECOV	SAMPLE ID	ANALYSIS
		Brown, loose, sandy silt **FILL** with trace rootlets and gravel, moist, no odour, no staining.	258.89	0	3	ND		80	SS1	
		Brown, loose, silt **TILL**, turns grey from 1.68 to 2.59 mbgs, trace sand from 2.59 mbgs, moist, no odour, no staining.	~258.1	1	7	ND		80	SS2	EC SAR
				2	9	ND		60	SS3	
					13	ND		80	SS4	
				3	11	ND		100	SS5	
				4	20	ND		100	SS6	
		End of Borehole at 4.57 mbgs.	~254.3	5						
				6						
				7						
				8						
				9						
				10						
				11						
				12						

ENVIRONMENTAL-EXP BH LOGS - 300 SERIES.GPJ 1/7/22

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

exp Services Inc.
Markham, Ontario
Telephone: 905.695.3217

Appendix F – Quality Assurance and Quality Control Measures

Quality Management, Control and Assurance

Project Quality Management

Sample collection was performed using generally accepted principles and with appropriate sampling equipment. Written field sampling procedures for soil and ground water developed by EXP were used to ensure consistency in sample collection and preparation of samples for submission to the laboratory. The Ministry of Environment, Conservation and Parks (MECP) document entitled *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, December 1996, was used as a reference.

The staff involved in the field sampling have participated in regular, ongoing EXP training programs and were qualified and experienced in collecting, describing, and preparing environmental samples for laboratory analysis.

Laboratory analysis was performed using generally accepted principles in accordance with the *Protocol for Analytical Methods Used in the Assessment of Properties* under Part XV.1 of the Environmental Protection Act (Protocol).

Data quality objectives for the parameters of concern were set to meet acceptable Reporting Detection Limits (RDLs) to achieve the goal of defining areas where such parameters are present at levels in excess of applicable generic Standards, as defined in Ontario Regulation (O. Reg.) 153/04, as amended to date, under the Environmental Protection Act. This included providing written instruction to the participating analytical laboratory describing the required analyses on the Chain of Custody prepared and delivered with the samples.

Field Quality Assurance/Quality Control

The Sampling and Analysis Plan was prepared and executed based on the findings of the Phase One Environmental Site Assessment (ESA) and Phase One ESA Update (EXP, 2020a; EXP, 2021b), including the needs of the client during future site redevelopment activities, and on professional judgment at the time of the investigation.

Field observations were made and documented in a field book in accordance with generally accepted practices and with the procedures developed and utilized by EXP.

EXP field sampling Quality Assurance/ Quality Control (QA/QC) protocols are tailored to the investigation and include, where appropriate:

- the collection of at least one field duplicate sample per site for every ten samples of both soil and ground water;
- where volatile organic chemical analysis of ground water is required, one trip blank shall be submitted for laboratory analysis of VOCs with each submission;
- where volatile organic chemical analysis is required, the collection of discrete samples directly into sample bottles with teflon-lined lids and immediate placement into a cooler with free ice to maintain the temperature at less than 10^{o} C for transport to the laboratory;
- the use of dedicated equipment for ground water sampling at different monitors and the thorough cleaning of soil sampling equipment between sample sites; and,

- where sampling for trace organics (organic chemicals with a criterion value of less than 1 µg/g and/or samples collected for determination of background trace organic concentrations), ensuring that neither the bare hand or latex glove comes into contact with the soil or water as it is being placed into the laboratory sample container; soil sampling equipment used for the collection of trace organics is cleaned using soap & water, followed by a water rinse and a methanol rinse between sampling sites.

The results of the duplicate sample(s) are presented along with the tabulated data in the report. Tabulated data are presented to a maximum of three significant digits where reported by the laboratory.

Laboratory Quality Assurance/Quality Control

All laboratory analyses were completed by AGAT Laboratories (AGAT), an accredited laboratory for these tests. AGAT performed the work following formal written methods and procedures. These methods include all the minimum requirements as specified in the Protocol.

EXP has accepted the data provided by AGAT based on the assurance from AGAT that as a minimum, the following requirements have been met and documentation to demonstrate compliance can be produced on request:

- the method performance criteria identified in the Protocol were met;
- sample storage requirements, pre-analysis processing techniques, and holding times for all sample types as identified in the Protocol were met;
- the results of all laboratory QC samples were within statistically determined control limits and if not, reasons were provided;
- surrogate recoveries (for organic analyses) were monitored and recorded;
- details on the precision and accuracy of the data have been recorded and retained and are available from the laboratory should they be required as a result of an MECP audit;
- the analytical data were reported without blank correction (unless the correction was clearly identified on the Certificate of Analysis);
- all soil sampling results were reported on a dry weight basis; and,
- a Certificate of Analysis with all QA/QC sample data, including surrogate recoveries, has been received from the laboratory and is appended.

Field duplicate samples were collected from each medium being sampled, so that at least one field duplicate sample was submitted for laboratory analysis for every ten samples submitted for laboratory analysis. One field duplicate sample was collected for soil (BH305 SS2-0) and analyzed for the same parameters as the original samples (BH305 SS2). Two field duplicate groundwater samples (BH3030 and BH3040) were collected and analyzed for the same parameters as the original samples (BH303 and BH304). Field duplicate samples were collected such that one field duplicate sample was collected for every ten samples collected, per media. A VOC trip blank was also transported to the site during each sampling event where volatile parameters were being analyzed in groundwater and was submitted to the laboratory with the groundwater samples. A total of one trip blank was analyzed for VOCs during the Phase Two ESA.

For soil samples, the alert limit criteria for the field duplicate RPD is >30% for metals, hydride-forming metals and inorganics. The calculated RPD between the duplicate samples and the original samples for soil was below the relevant alert criteria for all of the parameters analyzed with the following exception:

- The RPD for SAR between BH305-SS2 and its duplicate BH305 SS2-0.

However, both samples were within the Table 2 and 4 SCS and therefore, the objectives of the investigation are considered to have been met. Furthermore, the differences in the SAR concentrations are likely attributable to soil heterogeneity in the surficial soil.

For groundwater samples, the alert limit criteria for the field duplicate RPD is >30% for PHCs, VOCs and >20% for metals, hydride-forming metals, sodium and chloride. The calculated RPD between the duplicate sample and the original sample for groundwater was below the applicable alert limit criteria for all of the parameters analyzed.

The trip blanks were below the laboratory RDL for all VOCs analyzed. No laboratory data quality issues were identified that would have a material effect on the interpretation of results presented in this report.

SOIL FIELD DUPLICATES - RELATIVE PERCENT DIFFERENCES

Electrical Conductivity and Sodium Adsorption Ratio

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

January 2021

Sample I.D.	MDL*	Test Hole BH305 SS2	Duplicate of BH305 SS2 BH305 SS2-0	RPD	Alert Limit
Depth (m)		0.76 to 1.37	0.76 to 1.37		
Soil Type		Silt Till	Silt Till		
Date of Sample Collection		14-Dec-21	14-Dec-21		
Date of Sample Analysis		22-Dec-21	22-Dec-21		
Certificate of Analysis Number		21T844771	21T844771		
Laboratory I.D.		3345052	3345053		
Electrical Conductivity (2:1)	0.005	0.238	0.233	2	>30%
Sodium Adsorption Ratio	NV	0.452	0.616	**31**	>30%

NOTES:

Analysis by AGAT Laboratories.

All results in ppm (µg/g) and based on dry weight basis.

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

'nc' means "not calculable", since one (or both) of the results are less than the Reporting Detection Limit (RDL).

Exceedences of alert limits are shown in **bold**.

GROUND WATER FIELD DUPLICATES - RELATIVE PERCENT DIFFERENCES

Petroleum Hydrocarbon Parameters

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

January 2021

Sample I.D.	MDL*	Monitor BH303	Duplicate of BH303 BH303D	RPD	Alert Limit
Depth (m)		1.52 to 4.57	1.52 to 4.57		
Date of Sample Collection		20-Dec-21	20-Dec-21		
Date of Sample Analysis		7-Jan-21	7-Jan-21		
Certificate of Analysis Number		21T847305	21T847305		
Laboratory I.D.		3372157	3372158		
Benzene	0.20	<0.20	<0.20	nc	>30%
Toluene	0.20	<0.20	<0.20	nc	>30%
Ethylbenzene	0.10	<0.10	<0.10	nc	>30%
Xylene Mixture (Total)	0.20	0.22	<0.20	nc	>30%
PHC F1 (C6 to C10) - BTEX	25	<25	<25	nc	>30%
PHC F2 (C10 to C16)	100	<100	<100	nc	>30%
PHC F3 (C16 to C34)	100	<100	<100	nc	>30%
PHC F4 (C34 to C50)	100	<100	<100	nc	>30%

NOTES:

Analysis by AGAT Laboratories.

NA means 'not analyzed'.

All results in ppb (µg/L).

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

'nc' means "not calculable", since one (or both) of the results are less than the RDL.

Exceedences of alert limits are shown in **bold**.

GROUND WATER FIELD DUPLICATES - RELATIVE PERCENT DIFFERENCES

Volatile Organic Compounds

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

January 2021

Sample I.D.	MDL*	Monitor BH303	Duplicate of BH303 BH303D	RPD	Alert Limit
Depth (m)		1.52 to 4.57	1.52 to 4.57		
Date of Sample Collection		20-Dec-21	20-Dec-21		
Date of Sample Analysis		7-Jan-21	7-Jan-21		
Certificate of Analysis Number		21T847305	21T847305		
Laboratory I.D.		3372157	3372158		
1,1,1,2-Tetrachloroethane	0.10	<0.10	<0.10	nc	>30%
1,1,1-Trichloroethane	0.30	<0.30	<0.30	nc	>30%
1,1,2,2-Tetrachloroethane	0.10	<0.10	<0.10	nc	>30%
1,1,2-Trichloroethane	0.20	<0.20	<0.20	nc	>30%
1,1-Dichloroethane	0.30	<0.30	<0.30	nc	>30%
1,1-Dichloroethylene	0.30	<0.30	<0.30	nc	>30%
1,2-Dichlorobenzene	0.10	<0.10	<0.10	nc	>30%
1,2-Dichloroethane	0.20	<0.20	<0.20	nc	>30%
1,2-Dichloropropane	0.20	<0.20	<0.20	nc	>30%
1,3-Dichlorobenzene	0.10	<0.10	<0.10	nc	>30%
1,3-Dichloropropene	0.30	<0.30	<0.30	nc	>30%
1,4-Dichlorobenzene	0.10	<0.10	<0.10	nc	>30%
Acetone	1.0	<1.0	<1.0	nc	>30%
Benzene	0.20	<0.20	<0.20	nc	>30%
Bromodichloromethane	0.20	<0.20	<0.20	nc	>30%
Bromoform	0.10	<0.10	<0.10	nc	>30%
Bromomethane	0.20	<0.20	<0.20	nc	>30%
Carbon Tetrachloride	0.20	<0.20	<0.20	nc	>30%
Chlorobenzene	0.10	<0.10	<0.10	nc	>30%
Chloroform	0.20	<0.20	<0.20	nc	>30%
cis- 1,2-Dichloroethylene	0.20	<0.20	<0.20	nc	>30%
Dibromochloromethane	0.10	<0.10	<0.10	nc	>30%
Dichlorodifluoromethane	0.20	<0.20	<0.20	nc	>30%
Ethylbenzene	0.10	<0.10	<0.10	nc	>30%
Ethylene Dibromide	0.10	<0.10	<0.10	nc	>30%
Methyl Ethyl Ketone	1.0	<1.0	<1.0	nc	>30%
Methyl Isobutyl Ketone	1.0	<1.0	<1.0	nc	>30%
Methyl tert-butyl ether	0.20	<0.20	<0.20	nc	>30%
Methylene Chloride	0.30	<0.30	<0.30	nc	>30%
n-Hexane	0.20	<0.10	<0.10	nc	>30%
Styrene	0.10	<0.20	<0.20	nc	>30%
Tetrachloroethylene	0.20	<0.20	<0.20	nc	>30%
Toluene	0.20	<0.20	<0.20	nc	>30%
trans- 1,2-Dichloroethylene	0.20	<0.20	<0.20	nc	>30%
Trichloroethylene	0.20	<0.40	<0.40	nc	>30%
Trichlorofluoromethane	0.40	<0.17	<0.17	nc	>30%
Vinyl Chloride	0.17	0.22	<0.20	nc	>30%
Xylene Mixture	0.20	<0.20	<0.20	nc	>30%

NOTES:

Analysis by AGAT Laboratories.

All results in ppb (µg/L).

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

'nc' means "not calculable", since one (or both) of the results are less than the RDL.

Exceedences of alert limits are shown in **bold**.

GROUND WATER FIELD DUPLICATES - RELATIVE PERCENT DIFFERENCES

Metals and Inorganic Compounds

12197 Hurontario Street, Brampton and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario

January 2021

Sample I.D.	MDL*	Monitor BH304	Duplicate of BH304 BH304D	RPD	Alert Limit
Depth (m)		2.29 to 5.33	2.29 to 5.33		
Date of Sample Collection		20-Dec-21	20-Dec-21		
Date of Sample Analysis		7-Jan-21	7-Jan-21		
Certificate of Analysis Number		21T847305	21T847305		
Laboratory I.D.		3372159	3372160		
Sodium	50,000	111,000	112,000	1	>20%
Chloride	20,000	264,000	269,000	2	>20%

NOTES:

Analysis by AGAT Laboratories.

All results in ppb (µg/L).

* Minimum Analytical Reporting Detection Limit (MDL) is listed. Refer to individual Certificate of Analyses for sample-specific Reporting Detection Limit (RDL) value.

'nc' means "not calculable", since one (or both) of the results are less than the RDL.

Exceedences of alert limits are shown in **bold**.

Appendix G – Laboratory Certificates of Analysis

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: EXP SERVICES INC
220 Commerce Valley Drive West,Suite 500
Markham, ON, ON L3T0A8
(905) 695-3217
ATTENTION TO: Amanda Catenaro
PROJECT: GTR-00257876-BO
AGAT WORK ORDER: 21T844771
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
DATE REPORTED: Dec 22, 2021
PAGES (INCLUDING COVER): 5
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T844771

PROJECT: GTR-00257876-BO

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario, St. Caledon

SAMPLED BY:M.L

O. Reg. 153(511) - ORPs (Soil)

DATE RECEIVED: 2021-12-14

DATE REPORTED: 2021-12-22

				SAMPLE DESCRIPTION:	BH304 SS2	BH305 SS2	BH305 SS2-0	BH306 SS2
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2021-12-14 09:00	2021-12-14 11:00	2021-12-14 11:00	2021-12-14 13:00
Parameter	Unit	G / S	RDL		3344975	3345052	3345053	3345055
Electrical Conductivity (2:1)	mS/cm	0.7	0.005		0.463	0.238	0.233	0.255
Sodium Adsorption Ratio (2:1) (Calc.)	N/A	5	N/A		2.30	0.452	0.616	0.347

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Medium and Fine Textured Soils **pH range listed applies to surface soil only**
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3344975-3345055 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T844771

PROJECT: GTR-00257876-BO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario, St. Caledon

SAMPLED BY:M.L

Soil Analysis

RPT Date: Dec 22, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - ORPs (Soil)															
Electrical Conductivity (2:1)	3344975	3344975	0.463	0.465	0.6%	< 0.005	106%	80%	120%						
Sodium Adsorption Ratio (2:1) (Calc.)	3344975	3344975	2.30	2.35	2.0%	NA									

Comments: NA signifies Not Applicable.

Certified By:

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T844771

PROJECT: GTR-00257876-BO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario, St. Caledon

SAMPLED BY:M.L

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio (2:1) (Calc.)	INOR-93-6007	modified from EPA 6010D & Analytical Protocol	ICP/OES

AGAT Laboratories

1 small Ice

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 21T844 721

Cooler Quantity:

Arrival Temperatures: 1.8 | 2.1 | 2.5

Custody Seal Intact: ☐Yes ☐No ☐N/A

Notes:

Report Information:

Company: Exp Services Inc
Contact: Amanda Caterero
Address: 220 Commerce Valley Dr. W
Suite 110, Markham ON
Phone: 905 695 3217 Fax:
Reports to be sent to:
1. Email: amanda.caterero@exp.com
2. Email:

Regulatory Requirements:

(Please check all applicable boxes)

☒ Regulation 153/04
Table 2 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture (Check One)
☐ Coarse
☒ Fine

☐ Excess Soils R406
Table ____ (Indicate One)

☐ Regulation 558

☐ CCME

☐ Sewer Use ☐ Sanitary ☐ Storm
____ (Region)

☐ Prov. Water Quality Objectives (PWQO)

☐ Other
____ (Indicate One)

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: GTR-00257876-B0
Site Location: Hurontario St. Caledon
Sampled By: M.L.
AGAT ID #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:
Contact:
Address:
Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs; Analyze F4G if required ☐ Yes ☐ No	O. Reg 153: PAHs	O. Reg 153: Total PCBs ☐ Aroclor	O. Reg 153: VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
BH304 SS2	21/12/14	9:00 AM/PM	1	S												X	
BH304 SS6		9:00 AM/PM	1		Hold											X	
BH305 SS2		11:00 AM/PM	1													X	
BH305 SS2-0		11:00 AM/PM	1													X	
BH305 SS6		11:00 AM/PM	1		Hold											X	
BH306 SS2		13:00 AM/PM	1													X	
BH306 SS6		13:00 AM/PM	1		Hold											X	
		AM/PM															
		AM/PM															
		AM/PM															
		AM/PM															

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Mike Luong	21/12/14	14:40	Anthony Davilva		
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

'21 DEC 14 2:42PM

Page 1 of 1

Nº: T 120870

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: EXP SERVICES INC
220 Commerce Valley Drive West,Suite 500
Markham, ON, ON L3T0A8
(905) 695-3217
ATTENTION TO: Amanda Catenaro
PROJECT: MRK-00257876-AO
AGAT WORK ORDER: 21T847305
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
WATER ANALYSIS REVIEWED BY: Amanjot Bhela, Inorganic Lab Manager
DATE REPORTED: Jan 07, 2022
PAGES (INCLUDING COVER): 13
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)

DATE RECEIVED: 2021-12-20

DATE REPORTED: 2022-01-07

		SAMPLE DESCRIPTION:		BH301	BH302	BH303	BH303D
		SAMPLE TYPE:		Water	Water	Water	Water
		DATE SAMPLED:		2021-12-20	2021-12-20	2021-12-20	2021-12-20
Parameter	Unit	G / S	RDL	3372155	3372156	3372157	3372158
F1 (C6 - C10)	µg/L	750	25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA
Sediment				NO	NO	NO	NO
Surrogate	**Unit**	**Acceptable Limits**					
Toluene-d8	% Recovery	50-140		95.8	97.8	113	74.5
Terphenyl	%	60-140		75	82	85	75

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3372155-3372158 The C6-C10 fraction is calculated using Toluene response factor.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contribution.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

O. Reg. 153(511) - PHCs F1/BTEX (Water)

DATE RECEIVED: 2021-12-20

DATE REPORTED: 2022-01-07

		SAMPLE DESCRIPTION:		Trip Blank
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-12-20
Parameter	**Unit**	**G / S**	**RDL**	**3374253**
Benzene	µg/L	5.0	0.20	<0.20
Toluene	µg/L	24	0.20	<0.20
Ethylbenzene	µg/L	2.4	0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20
o-Xylene	µg/L		0.10	<0.10
Xylenes (Total)	µg/L	300	0.20	<0.20
F1 (C6-C10)	µg/L	750	25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	60-140		90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3374253 The C6-C10 fraction is calculated using Toluene response factor.
Total C6-C10 results are corrected for BTEX contributions.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
Extraction and holding times were met for this sample.
NA = Not Applicable

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-12-20 **DATE REPORTED: 2022-01-07**

		SAMPLE DESCRIPTION:		BH301	BH302	BH303	BH303D	Trip Blank
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2021-12-20	2021-12-20	2021-12-20	2021-12-20	2021-12-20
Parameter	Unit	G / S	RDL	3372155	3372156	3372157	3372158	3374253
Dichlorodifluoromethane	µg/L	590	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	µg/L	1.7	0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L	0.89	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L	150	0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L	2700	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethylene	µg/L	14	0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L	50	0.30	<0.30	<0.30	<0.30	<0.30	<0.30
trans- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L	15	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1-Dichloroethane	µg/L	5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L	1800	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis- 1,2-Dichloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L	22	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	µg/L	200	0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L	5.0	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L	5.0	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloropropane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L	16	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L	640	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	µg/L	5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	µg/L	25	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L	0.2	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L	17	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L	30	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20	0.22	<0.20	<0.20

Certified By: N Popnikolof

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2021-12-20

DATE REPORTED: 2022-01-07

		SAMPLE DESCRIPTION:		BH301	BH302	BH303	BH303D	Trip Blank
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2021-12-20	2021-12-20	2021-12-20	2021-12-20	2021-12-20
Parameter	**Unit**	**G / S**	**RDL**	**3372155**	**3372156**	**3372157**	**3372158**	**3374253**
Bromoform	µg/L	25	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Styrene	µg/L	5.4	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,2,2-Tetrachloroethane	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
o-Xylene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichlorobenzene	µg/L	59	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,4-Dichlorobenzene	µg/L	1	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,2-Dichlorobenzene	µg/L	3	0.10	<0.10	<0.10	<0.10	<0.10	<0.10
1,3-Dichloropropene	µg/L	0.5	0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes (Total)	µg/L	300	0.20	<0.20	<0.20	0.22	<0.20	<0.20
n-Hexane	µg/L	520	0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	50-140		101	105	100	102	104
4-Bromofluorobenzene	% Recovery	50-140		96	94	100	94	95

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3372155-3374253 Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
1,3-Dichloropropene total is a calculated parameter. The calculated value is the sum of Cis-1,3-Dichloropropene and Trans-1,3-Dichloropropene.
The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowich

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

O. Reg. 153(511) - ORPs (Water)

DATE RECEIVED: 2021-12-20

DATE REPORTED: 2022-01-07

		SAMPLE DESCRIPTION:		BH304	BH304D
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2021-12-20	2021-12-20
Parameter	Unit	G / S	RDL	3372159	3372160
Dissolved Sodium	µg/L	490000	2500	111000	112000
Chloride	µg/L	790000	100	264000	269000

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Potable Ground Water - All Types of Property Uses - Medium and Fine Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3372159-3372160 Dilution required, RDL has been increased accordingly.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

Trace Organics Analysis

RPT Date: Jan 07, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)															
F1 (C6 - C10)	3361760		188	176	6.6%	< 25	93%	60%	140%	104%	60%	140%	105%	60%	140%
F2 (C10 to C16)	3374488		< 100	< 100	NA	< 100	109%	60%	140%	67%	60%	140%	67%	60%	140%
F3 (C16 to C34)	3374488		< 100	< 100	NA	< 100	115%	60%	140%	71%	60%	140%	68%	60%	140%
F4 (C34 to C50)	3374488		< 100	< 100	NA	< 100	106%	60%	140%	82%	60%	140%	79%	60%	140%
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	3362024		< 0.20	< 0.20	NA	< 0.20	56%	50%	140%	102%	50%	140%	68%	50%	140%
Vinyl Chloride	3362024		< 0.17	< 0.17	NA	< 0.17	106%	50%	140%	90%	50%	140%	75%	50%	140%
Bromomethane	3362024		< 0.20	< 0.20	NA	< 0.20	82%	50%	140%	107%	50%	140%	95%	50%	140%
Trichlorofluoromethane	3362024		< 0.40	< 0.40	NA	< 0.40	92%	50%	140%	77%	50%	140%	79%	50%	140%
Acetone	3362024		< 1.0	< 1.0	NA	< 1.0	93%	50%	140%	106%	50%	140%	99%	50%	140%
1,1-Dichloroethylene	3362024		< 0.30	< 0.30	NA	< 0.30	96%	50%	140%	75%	60%	130%	102%	50%	140%
Methylene Chloride	3362024		< 0.30	< 0.30	NA	< 0.30	90%	50%	140%	97%	60%	130%	107%	50%	140%
trans- 1,2-Dichloroethylene	3362024		< 0.20	< 0.20	NA	< 0.20	115%	50%	140%	93%	60%	130%	99%	50%	140%
Methyl tert-butyl ether	3362024		< 0.20	< 0.20	NA	< 0.20	110%	50%	140%	94%	60%	130%	78%	50%	140%
1,1-Dichloroethane	3362024		< 0.30	< 0.30	NA	< 0.30	84%	50%	140%	90%	60%	130%	98%	50%	140%
Methyl Ethyl Ketone	3362024		< 1.0	< 1.0	NA	< 1.0	103%	50%	140%	98%	50%	140%	85%	50%	140%
cis- 1,2-Dichloroethylene	3362024		< 0.20	< 0.20	NA	< 0.20	109%	50%	140%	76%	60%	130%	104%	50%	140%
Chloroform	3362024		< 0.20	< 0.20	NA	< 0.20	100%	50%	140%	77%	60%	130%	98%	50%	140%
1,2-Dichloroethane	3362024		< 0.20	< 0.20	NA	< 0.20	91%	50%	140%	74%	60%	130%	75%	50%	140%
1,1,1-Trichloroethane	3362024		< 0.30	< 0.30	NA	< 0.30	87%	50%	140%	83%	60%	130%	84%	50%	140%
Carbon Tetrachloride	3362024		< 0.20	< 0.20	NA	< 0.20	97%	50%	140%	105%	60%	130%	79%	50%	140%
Benzene	3362024		< 0.20	< 0.20	NA	< 0.20	75%	50%	140%	92%	60%	130%	115%	50%	140%
1,2-Dichloropropane	3362024		< 0.20	< 0.20	NA	< 0.20	108%	50%	140%	82%	60%	130%	99%	50%	140%
Trichloroethylene	3362024		< 0.20	< 0.20	NA	< 0.20	75%	50%	140%	116%	60%	130%	107%	50%	140%
Bromodichloromethane	3362024		< 0.20	< 0.20	NA	< 0.20	70%	50%	140%	76%	60%	130%	94%	50%	140%
Methyl Isobutyl Ketone	3362024		< 1.0	< 1.0	NA	< 1.0	95%	50%	140%	98%	50%	140%	97%	50%	140%
1,1,2-Trichloroethane	3362024		< 0.20	< 0.20	NA	< 0.20	87%	50%	140%	94%	60%	130%	107%	50%	140%
Toluene	3362024		< 0.20	< 0.20	NA	< 0.20	91%	50%	140%	86%	60%	130%	103%	50%	140%
Dibromochloromethane	3362024		< 0.10	< 0.10	NA	< 0.10	100%	50%	140%	81%	60%	130%	87%	50%	140%
Ethylene Dibromide	3362024		< 0.10	< 0.10	NA	< 0.10	92%	50%	140%	91%	60%	130%	91%	50%	140%
Tetrachloroethylene	3362024		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	72%	60%	130%	99%	50%	140%
1,1,1,2-Tetrachloroethane	3362024		< 0.10	< 0.10	NA	< 0.10	82%	50%	140%	78%	60%	130%	92%	50%	140%
Chlorobenzene	3362024		< 0.10	< 0.10	NA	< 0.10	97%	50%	140%	102%	60%	130%	107%	50%	140%
Ethylbenzene	3362024		< 0.10	< 0.10	NA	< 0.10	88%	50%	140%	97%	60%	130%	73%	50%	140%
m & p-Xylene	3362024		< 0.20	< 0.20	NA	< 0.20	96%	50%	140%	109%	60%	130%	107%	50%	140%
Bromoform	3362024		< 0.10	< 0.10	NA	< 0.10	100%	50%	140%	71%	60%	130%	93%	50%	140%
Styrene	3362024		< 0.10	< 0.10	NA	< 0.10	106%	50%	140%	88%	60%	130%	96%	50%	140%
1,1,2,2-Tetrachloroethane	3362024		< 0.10	< 0.10	NA	< 0.10	112%	50%	140%	103%	60%	130%	110%	50%	140%
o-Xylene	3362024		< 0.10	< 0.10	NA	< 0.10	89%	50%	140%	85%	60%	130%	100%	50%	140%

AGAT Laboratories
5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC
AGAT WORK ORDER: 21T847305
PROJECT: MRK-00257876-AO
ATTENTION TO: Amanda Catenaro
SAMPLING SITE:Hurontario
SAMPLED BY:JK

Trace Organics Analysis (Continued)

RPT Date: Jan 07, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
1,3-Dichlorobenzene	3362024		< 0.10	< 0.10	NA	< 0.10	79%	50%	140%	113%	60%	130%	110%	50%	140%
1,4-Dichlorobenzene	3362024		< 0.10	< 0.10	NA	< 0.10	111%	50%	140%	96%	60%	130%	107%	50%	140%
1,2-Dichlorobenzene	3362024		< 0.10	< 0.10	NA	< 0.10	115%	50%	140%	104%	60%	130%	101%	50%	140%
n-Hexane	3362024		< 0.20	< 0.20	NA	< 0.20	109%	50%	140%	102%	60%	130%	86%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popowkolof

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

Water Analysis

RPT Date: Jan 07, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - ORPs (Water)															
Dissolved Sodium	3351963		10600	10400	1.9%	< 500	103%	70%	130%	97%	80%	120%	96%	70%	130%
Chloride	3376248		44100	43900	0.5%	< 100	90%	70%	130%	105%	80%	120%	109%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

Amanjot Bhela

CHARTERED CHEMIST AMANJOT BHELA

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6 - C10)	VOL-91- 5010	modified from MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5009	modified from MOE PHC E3421	GC/FID
Sediment			
Benzene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F1 (C6-C10)	VOL-91-5010	modified from MOE E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE E3421	(P&T)GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Dichlorodifluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromomethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Acetone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
trans- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
cis- 1,2-Dichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chloroform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
1,1,1-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Benzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichloropropane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2-Trichloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,1,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Bromoform	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Styrene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,1,2,2-Tetrachloroethane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
1,3-Dichloropropene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
n-Hexane	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
Toluene-d8	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	modified from EPA 5030B & EPA 8260D	(P&T)GC/MS

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21T847305

PROJECT: MRK-00257876-AO

ATTENTION TO: Amanda Catenaro

SAMPLING SITE:Hurontario

SAMPLED BY:JK

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Sodium	MET-93-6105	modified from EPA 6010D	ICP/OES
Chloride	INOR-93-6004	modified from SM 4110 B	ION CHROMATOGRAPH

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Laboratory Use Only

Work Order #: 21T847305

Cooler Quantity: 1 med Red

Arrival Temperatures: 7.6 | 6.8 | 7.2

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: On Ice

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: exp Services Inc
Contact: Amanda Catenaro
Address: 220 Commerce Valley Dr
Phone: 289-221-8725 Fax:
Reports to be sent to:
1. Email: amanda.catenaro@exp.com
2. Email: jon.keates@exp.com

Regulatory Requirements:

(Please check all applicable boxes)

☑ Regulation 153/04
Table 2 *Indicate One*
☐ Ind/Com
☑ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☑ Fine

☐ Excess Soils R406
Table ______ *Indicate One*
☐ Regulation 558
☐ CCME

☐ Sewer Use
☐ Sanitary ☐ Storm
______ *Region*
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
______ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: MRK-00257876-A0
Site Location: Hurontario
Sampled By: JK
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company:
Contact:
Address:
Email:

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics	O. Reg 153: Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	O. Reg 153: BTEX, F1-F4 PHCs; Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Sodium / Chloride						Potentially Hazardous or High Concentration (Y/N)
BH301	Dec 20/21	AM	5	GW					✓			✓											
BH302	↓	↓	5	↓					✓			✓											
BH303	↓	↓	5	↓					✓			✓											
BH303D	↓	↓	5	↓					✓			✓											
BH304	↓	↓	2	↓													✓						
BH304D	↓	↓	2	↓													✓						
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					
		AM PM																					

21DEC20 2:45PM

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Jon Keates	Dec 20/21	2:45pm	Joseph Nevin		

Page 1 of 1

Nº: T 128572

Appendix H – Phase Two CSM

PHASE TWO CONCEPTUAL SITE MODEL

A Phase Two Conceptual Site Model (CSM) has been prepared for the site. The CSM make reference to the following figures:

Figure 1: Locality Plan

Figure 2: Site Plan

Figure 3A: Potentially Contaminating Activities

Figure 3B: Areas of Potential Environmental Concern

Figure 4: Groundwater Contour Plan – December 14, 2021

Figure 5: Cross Section Plan

Figure 6A: Cross Section A and B– Soil Analytical Results: Petroleum Hydrocarbons

Figure 6B: Cross Section A and B – Soil Analytical Results: Volatile Organic Compounds

Figure 6C: Cross Section A and B – Soil Analytical Results: Polycyclic Aromatic Hydrocarbons

Figure 6D: Cross Section A and B – Soil Analytical Results: Metals (including Hydride-forming Metals)

Figure 6E: Cross Section A and B – Soil Analytical Results: Other Regulated Parameters (including EC and SAR)

Figure 6F: Cross Section A and B – Groundwater Analytical Results: Petroleum Hydrocarbons

Figure 6G: Cross Section A and B – Groundwater Analytical Results: Volatile Organic Compounds

Figure 6H: Cross Section A and B – Groundwater Analytical Results: Polycyclic Aromatic Hydrocarbons

Figure 6I: Cross Section A and B – Groundwater Analytical Results: Metals (Including Hydride-Forming Metals)

Figure 6J: Cross Section A and B – Groundwater Analytical Results: Other Regulated Parameters (including Sodium and Chloride)

Figure 7A: Soil Analytical Results – Petroleum Hydrocarbons

Figure 7B: Soil Analytical Results – Volatile Organic Compounds

Figure 7C: Soil Analytical Results – Polycyclic Aromatic Hydrocarbons

Figure 7D: Soil Analytical Results – Metals (including Hydride-forming)

Figure 7E: Soil Analytical Results – Other Regulated Parameters (including EC and SAR)

Figure 8A: Groundwater Analytical Results – Petroleum Hydrocarbons

Figure 8B: Groundwater Analytical Results – Volatile Organic Compounds

The Phase Two property or "site" consists of the property with the municipal address 12197 Hurontario Street, Brampton, Ontario and is located on the east side of Hurontario Street and the north side of Highwood Road, as shown on Figure 1. Surrounding properties include mixed vacant and community (Highway 410 and ramps) land to the northwest, mixed commercial and residential use to the southwest and residential use to the northeast and southeast. The site has an area of approximately 0.518 hectares (1.28 acres). A site plan is provided as Figure 2.

The legal description, Property Identification Number (PIN) and owner of the site are as follows:

- PART LOT 18, CON 1 EHS (CHINGUACOUSY), DESIGNATED AS PARTS 1&2 OF PLAN 43R33945
- PIN: 14235-0001 (LT)

Based on a review of historical aerial photographs, chain of title information, historical maps, other historical documentation as well as interviews with the present and past property owners completed as part of the Phase One ESAs completed by EXP (2020a, 2021a), it was determined that the site was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the late 1950s. The on-site structures were demolished between 2013 and 2014. Prior to that time, the site was used for agricultural purposes or vacant; no orchards were present on, or in the vicinity of the site. At the time of EXP's latest site visit, the site was a vacant lot covered in grass, with small areas containing asphalt, and gravel.

A Phase Two conceptual site model (CSM) was developed for the site using information collected during the previous Phase One Environmental Site Assessments (ESA; EXP, 2020a; EXP, 2021a) and Phase Two ESA investigations (2019, 2020b, 2021b). The CSM is a simplification of reality, which aims to identify the potentially contaminating activities (PCA), areas of potential environmental concern (APEC), contaminant transport and exposure pathways, and receptors. The CSM is a compilation of narrative description, diagrams, cross-sections and figures illustrating the current condition of the Phase Two property as well as the intended future use.

1. Potentially Contaminating Activities and Areas of Potential Environmental Concern

Three (3) PCAs were identified on-site based on current and past operations at the Phase One property, that may contribute to an APEC.

Six (6) off-site PCAs, located north adjacent to the site were also considered to contribute to an APEC on-site.

APEC A – S11: (30) Importation of Fill Material of Unknown Quality – A former residential building with a basement was located at 12197 Hurontario Street. As this building has been demolished, it was conservatively assumed that fill is present within the building footprint. It is noted that based on the stratigraphy encountered at boreholes advanced within this APEC, it appears the fill in this area is reworked native material.

APEC B – S12: (28) Gasoline and associated product storage in fixed tanks – According to previous environmental reports, an UST was present at 12197 Hurontario Street. The capacity, contents and condition of the tank were not provided. The UST was not present during EXP's investigation on-site.

APEC C – S13: (other) garage operations – According to previous reports, historic garage operations were present at historically at 12197 Hurontario Street. As the site was vacant during EXP's investigations on-site, additional details of these maintenance activities are unknown.

APEC D – multiple PCAs, as listed below:

S3B: (Other) – fuel leak. According to previous environmental reports, an AST was present at the front building at 12231 Hurontario Street. The capacity, contents and condition of the tank were not provided but may be one (1) of the two (2) 909-litre capacity tanks containing fuel oil, installed in 2004, as reported in the "All Risk Report" completed for Brampton Live Stock Exchange Inc. at 12231 Hurontario Street in 2007. A leak was reported on May 28, 2007. This tank was not present during EXP's investigation on-site.

S6: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems – According to previous reports and the 2007 "All Risk Report", trailer maintenance activities occurred at 12231 Hurontario Street. As the site was vacant during EXP's investigations, additional details of these maintenance activities are unknown.

S7: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems – According to previous reports and the 2007 "All Risk Report", trailer maintenance activities occurred at 12231 Hurontario Street. As the site was vacant during EXP's investigations, additional details of these maintenance activities are unknown.

S8: (other) garage operations – According to previous reports, historic garage operations were present at historically at 12211 Hurontario Street. As the site was vacant during EXP's investigations, additional details of these maintenance activities are unknown.

S14: (28) Gasoline and Associated Products Storage in Fixed Tanks. A UST was formerly present at 12267 Hurontario Street, approximately 250 metres north of the site, as provided in the Environmental Risk Information Services Ltd (ERIS) report. The tank was reported to have a capacity 68,190 litres. Based on previous reports, vent pipes were observed on the south side of the former building on this property. No other details were provided in the records reviewed.

S15: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems – Former school bus maintenance activities occurred at 12267 Hurontario Street by Travelways School Transit Ltd/Laidlaw Transit Ltd. based on waste generator records provided in the ERIS report. Travelways School Transit Ltd/Laidlaw Transit Ltd. was listed as a waste generator of oil skimmings & sludges, petroleum distillates, light fuels, aliphatic solvents, and waste oils & lubricants from 1986 to 1990 and 1992 to 2004.

Figure 3A illustrates all PCAs. Resulting APECs are shown on Figure 3B. The APECs are summarized below:

APEC	Location of APEC on Phase One Property	PCA[1]	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
A	Northern portion of the site	S11: (30) Importation of Fill Material of Unknown Quality Former residential building with a basement located at 12197 Hurontario Street	On-site	PAHs, metals (including hydride forming metals) and inorganics	Soil
B	Southeastern portion of the site	S12: (28) Gasoline and Associated Products Storage in Fixed Tanks	On-site	PHCs, VOCs	Soil and groundwater

APEC	Location of APEC on Phase One Property	PCA[1]	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
		Former UST located at 12197 Hurontario Street			
C	Northeastern portion of the site	S13: (other) garage operations Former garage operations at 12197 Hurontario Street	On-site	PHCs, VOCs, PAHs, metals (including hydride forming metals) and inorganics	Soil and Groundwater
D	Northern portion of the site	S3B: (Other) – fuel leak S6: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems S7: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems S8: (other) garage operations S14: (28) Gasoline and Associated Products Storage in Fixed Tanks S15: (52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-site	PHCs, VOCs	Groundwater

[1] The number presented in brackets is the PCA number listed in Table 2, Schedule D of O. Reg. 153/04. Where the activity is not listed, it is identified as "Other".

PHCs – Petroleum hydrocarbons; BTEX – benzene, toluene, ethylbenzene, xylenes; VOC – volatile organic compounds; PAH – polycyclic aromatic hydrocarbons; EC – Electrical Conductivity; and, SAR – Sodium Adsorption Ratio

2. Subsurface Structures and Utilities

The utilities and services were identified at the site based on information provided in environmental records, relevant utility infrastructure observed during the site reconnaissance, and public and private locates completed at the site. Given the depth of the unconfined groundwater table, ranging from 0.79 to 3.41 metres below ground surface (mbgs), it is possible that local groundwater flow conditions would be influenced by the underground gas lines at the western portion of the site along Hurontario Road. However, based on the distribution of groundwater impacts, the impacts do not extend to the present location of utilities. The site utilities are summarized in the table below.

Utility	Source	Location
Natural Gas	Enbridge	Utility enters the from Hurontario Street and is present at the western boundary of the site.
Sanitary Sewer	Municipality – Region of Peel	Not present on-site.
Storm Sewer	Municipality – Region of Peel	Not present on-site.
Water	Municipality – Region of Peel	Not present on-site.
Electricity	Hydro-one	Not present on-site.
Telecommunications	Bell Canada, Rogers	Not present on-site.

3. Physical Setting

3.1 Stratigraphy

The site is located in the physiographic region known as the South Slope, characterized by sandy tills in the east and clayey tills in the west (Physiography of Southern Ontario, Chapman and Putnam, 1984). Overburden at the site is anticipated to consist of clay to silt-textured till (Sharpe, 1980).

According to the Geological Survey of Canada map of the area (Southern Ontario, 1:1,000,000 Scale, Sheet SSS, Map 2544), the underlying geology comprises the Queenston Formation. Bedrock at the site consists of shale, limestone, siltstone, and dolostone (Bedrock Geology of Ontario – Southern Sheet, Map 2544, Ministry of Northern Development and Mines).

The topography in the vicinity of the subject property is relatively flat. Regionally, the land slopes to the southeast, towards the Etobicoke Creek. Drilling investigations have shown that the subsurface soil at the subject property consists of a thin layer of sand and gravel fill (generally less than 0.6 m in thickness) or reworked native clayey silt to silty clay to a maximum depth of 1.5 mbgs, underlain by native clayey silt to clayey silt till. Bedrock was not encountered during any of the investigations. However, based on MECP well records in the vicinity of the site, shale bedrock is present at approximately 38 mbgs. The soil at the site was wet from below approximately 2.0 mbgs.

Grain size analysis samples were obtained from the reworked clayey silt and clayey silt till material. Approximately 66.1% by mass of the samples consisted of a particle size smaller than 75 µm in diameter. As a result, soil is considered medium to fine textured.

The CSM cross-section aerial plan (Figure 5) and cross-sections of the subject property (Figures 6A to 6J) were developed showing the stratigraphy of the subject property.

3.2 Hydrogeological Characteristics and Approximate Depth to Water Table

Based on monitoring data, groundwater beneath the subject property is found in the overburden at a depth of 0.79 (BH303) to 3.27 (BH302) mbgs (254.13 (BH304) to 257.06 (BH303) metres above sea level (masl)).

Groundwater contours and groundwater flow directions in the overburden are shown on Figure 4 and indicate a localized groundwater flow to the southeast. The groundwater contour is based on measurements obtained on December 14, 2021. Although there are a minimum of three (3) wells on-site, to assist in groundwater triangulation, one off-site monitoring well (BH301) on the north adjacent parcel was also included to develop the groundwater contour plan. Taking into consideration surface water features in the surrounding area, regional groundwater flow direction is inferred to be southeast, towards Lake Ontario and Etobicoke Creek.

Results of groundwater monitoring activities indicate a localized on-site horizontal hydraulic gradient of 0.025 m/m to the southeast, in the clayey silt to silty clay till. The regional horizontal hydraulic gradient is estimated to be approximately 0.001 m/m towards the southeast based on topography and surface water features in the region.

The hydraulic conductivity has not been calculated on-site but is estimated to be 1.0×10^{-8} m/s based on the soil type and literature values provided by Freeze and Cherry (1979).

Based on the calculated hydraulic gradient of 0.025 m/m, a hydraulic conductivity of 1.0×10^{-6} cm/s and an effective porosity of 20% (McWhorter and Sunada, 1977), Darcy's Law was used to calculate a groundwater flow velocity through the native clayey silt to sandy silt, at a rate of approximately 0.039 metres (39 millimetre) per year.

3.3 Considerations with Respect to Section 41 or 43.1 of the Regulation and Applicable Site Condition Standards

Section 41 of O. Reg. 153/04 dictates certain restrictions in application of Site Condition Standards (SCS) for environmentally sensitive areas. The site is not identified as an environmentally sensitive area and, therefore, the restrictions identified in Section 41 do not apply.

Information available on the Ministry of Natural Resources and Forestry (MNRF) website indicated that the site is not located on or within 30 m of any Areas of Natural and Scientific Interest (ANSIs) such as provincial parks, conservation reserves, wilderness areas, or wetlands.

The site is not located within a "natural heritage system", the "Greenbelt Plan Area", "Niagara Escarpment Plan Area", or "Oak Ridges Moraine Conservation Plan Area" according to Schedules A1 and S, of the Town of Caledon Official Plan (2018).

The site is not located within 30 metres of an "environmentally sensitive/significant area", "provincially significant wetland", "special policy area", "provincial greenbelt/protected countryside", "areas of natural and scientific interest – life science and earth science" according to "Schedule D" of the City of Brampton Official Plan (2015).

Three (3) surface soil samples including one field duplicate sample and one (1) subsurface soil sample were analyzed for soil pH. Soil pH ranged from 6.71 to 6.90. As such, soil pH is in the range of 5 to 9 for surface soil (less than 1.5 m below soil surface) and 5 to 11 for subsurface soil (greater than 1.5 m below soil surface) such the site is not considered an environmentally sensitive site per Section 41 of O. Reg. 153/04.

Section 43.1 of O. Reg. 153/04 defines the restrictions when using the SCS for a shallow soil property or a site located near a water body. As discussed, bedrock was not encountered during the Phase Two investigations (EXP, 2019; EXP, 2020b; EXP, 2021b), where the boreholes were advanced to a maximum depth of 18.3 mbgs. As bedrock is not found at a depth of less than 2 mbgs on-site, the site is not considered to be a shallow soil property. The site is not located within 30 metres of a water body. The nearest water body to the site is a tributary of Etobicoke Creek, located approximately 180 metres to the east, based on the closest point and 610 metres to the southeast on the downgradient site of the Site based on the local groundwater flow direction.

Groundwater across the site was identified from a depth of 0.79 (BH303) to 3.27 (BH302) mbgs. Thus, shallow groundwater conditions, where water table depth is observed at less than 3.0 mbgs was identified at the site. This may have implications on pathways associated with volatile contaminants identified at the site, as discussed further, below.

Based on the information provided above, the generic Standards for the site and Phase Two CSM were determined to be the Table 2 SCS for residential/parkland/institutional land use with medium to fine textured soils (herein referred to as Table 4 SCS), as listed in the MECP technical document *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* referenced by O. Reg. 153/04.

Shallow Groundwater Considerations

As discussed in Section 3.2, the minimum depth to the groundwater table was noted to be 0.79 mbgs. This depth is not consistent with the assumptions applied by the MECP in the evaluation of the indoor air vapour intrusion pathway using the Johnson and Ettinger (J&E, 1991) approach under the Table 2 SCS. As a result, all volatile groundwater parameters were compared to the Table 6 SCS which are representative of a shallow groundwater scenario. As all volatile parameters met the Table 6 SCS, no further consideration of the shallow groundwater condition is required.

3.4 Areas Where Soil Has Been Brought from Another Property

During the Phase Two investigation, EXP identified fill in the southern and northern portions of the site, including the footprint of a former residential structure. The importation of fill material of unknown quality was considered a PCA beneath former building footprints, as indicated in Figure 3A.

3.5 Approximate Locations of Proposed Buildings and Other Structures, if Any

There are presently no buildings or structures located on-site. However, two buildings were formerly located on-site, as shown in Figure 2. The buildings were used for residential and commercial purposes, including garage operations. The intended redevelopment of the site includes a residential subdivision, however the designs have yet to be determined.

4. Areas of Contamination and Distribution of Contaminants

Subsurface investigations were completed to assess the impact of the PCAs in soil and groundwater within APECs on the site. The screening of contaminants of concern (COC) was done by comparing the concentrations of pCOCs in soil and groundwater with the Table 2 Standards.

Soil analytical results are presented on cross section Figures 6A to 6E and in plan view on Figures 7A to 7E. Groundwater analytical results are presented on cross-section Figures 6F to 6J and in plan view on Figures 8A to 8E.

A summary of the assessment of APECs is provided below.

APEC	Location of APEC	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Phase Two Assessments	Current Status (Exceedances of SCS)
A	Northern portion of the site	On-site	Soil: PAHs, metals (including hydride forming metals) and inorganics	One soil sample (BH108) was submitted for analysis of PAHs and one sample (S1-SS2) and one duplicate sample (S1-SS20) were submitted for metals (including hydride forming metals) and inorganics.	No exceedances of the MECP Table 2 Standards were identified in soil for the parameters analyzed.
B	Southeastern portion of the site	On-site	Soil and groundwater: PHCs, VOCs	Soil Three soil samples (BH S5 SS3, BH S5 SS4 and BH S6 SS6) were submitted for PHCs and VOCs. Groundwater One groundwater sample (BH-S6) was submitted for PHC and VOCs.	No exceedances of the MECP Table 2 Standards were identified in soil or groundwater for the parameters analyzed.
C	Northeastern portion of the site	On-site	Soil and groundwater: PHCs, VOCs, PAHs, metals (including hydride forming metals) and inorganics	Soil Three soil samples (BH S2 SS3, BH S3 SS4, and BH S4 SS3) were submitted for PHCs and VOCs. Three soil samples (S2 SS2, S3 SS3, and S4 SS2) were submitted for metals (including hydride forming metals) and inorganics. One soil sample (BH109) was submitted for PAHs. Groundwater One groundwater sample (S3-S) was submitted for PAHs, two groundwater samples (BH-S3-S and BH-S3-D) were submitted for PHCs and VOCs, and one groundwater sample (BH3-D, was submitted for metals and inorganics.	No exceedances of the MECP Table 2 Standards were identified in soil or groundwater for the parameters analyzed.

APEC	Location of APEC	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Phase Two Assessments	Current Status (Exceedances of SCS)
D	Northern portion of the site	Off-site	Groundwater: PHCs, VOCs	Three groundwater samples (BH301, BH302, and BH303) and one filed duplicate (BH303-D) were submitted for PHCs and VOCs.	No exceedances of the MECP Table 4 Standards were identified in groundwater for the parameters analyzed.

4.1 Soil

A total of eleven boreholes (S1 to S6, BH108, BH109, and BH301 to BH03) were advanced on-site during the Phase Two investigations (EXP, 2019; EXP, 2020b; EXP, 2021b).). Soil within the APECs was adequately assessed for the pCOCs, as summarized in Section 4. Based on the analytical results of the soil samples collected, no COCs were identified.

4.2 Groundwater COCs

Groundwater samples were collected from six monitors, BH-S3, BH-S3-D, BH-S6, BH301, BH302, and BH303 located across the site (EXP, 2019; EXP, 2020b; EXP, 2021b). Groundwater within the APECs was adequately assessed for the pCOCs, as summarized in Section 4. Based on the analytical results of the groundwater samples collected from the Phase Two Property, no COCs were identified.

Monitoring programs, including monitoring for the presence of non-aqueous phase liquid (NAPL), have been conducted at the site. NAPL has not been encountered at the site during any monitoring event.

4.3 Sediment COCs

Sediment was not present at the Phase Two property; therefore, no sediment samples were collected.

4.4 Areas Where Contaminants Are Present

No soil or groundwater exceedances of the Table 1 Standards are present at the site, as discussed in Sections 4.1 and 4.2

5. Receptors and Pathways

The human health conceptual site model (HHCSM) and ecological conceptual site model (ECSM) illustrate the sources of contaminants, release, and transport mechanisms; exposure routes; and receptors for each area where a contaminant is present. The CSMs identify the complete exposure pathways where receptors might make direct contact with potential COCs in soil and groundwater, or where they may indirectly be exposed to pCOCs in soil or groundwater via vapour transport or other pathways. Additionally, the CSM identifies pathways considered insignificant or negligible because the pathways may be incomplete or blocked.

As no contamination was identified at the site (see Sections 4.1 and 4.2), there is no potential for ecological and human receptors to be exposed to contaminants.

6. References

Chapman, L.J. and Putnam, D.F. Physiography of Southern Ontario, 3rd Edition, Ontario Ministry of Natural Resource, 1984.

City of Brampton, City of Brampton Official Plan, 2015.

EXP Services Inc., *Subsurface Environmental Investigation 12197 Hurontario Street, City of Brampton 12211, 12213, 12231, 12233 Hurontario Street, Town of Caledon*, June 11, 2019.

EXP Services Inc. 2020a. *Phase One Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, January 20, 2020.

EXP Services Inc. 2020b. *Phase Two Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, May 22, 2020.

EXP Services Inc. 2021a. *Phase One Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, January 5, 2022.

EXP Services Inc. 2021b. *Phase Two Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, January 14, 2022.

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall of Canada Ltd., 1979.

McWhorter, D.B. and D.K. Sunada, *Groundwater Hydrology and Hydraulics*, Water Resources Publications, 1977.

Ontario Regulation 153/04, made under the Environmental Protection Act, May 2004, amended.

Ontario Geological Survey (2010) Physiography of Southern Ontario (Scale 1:22,000).

Ontario Geological Survey, Bedrock Geology of Ontario, Southern Sheet, map 2544, scale 1:1,000,000, 1991.

Ontario Ministry of the Environment, Conservation and Parks, Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011.

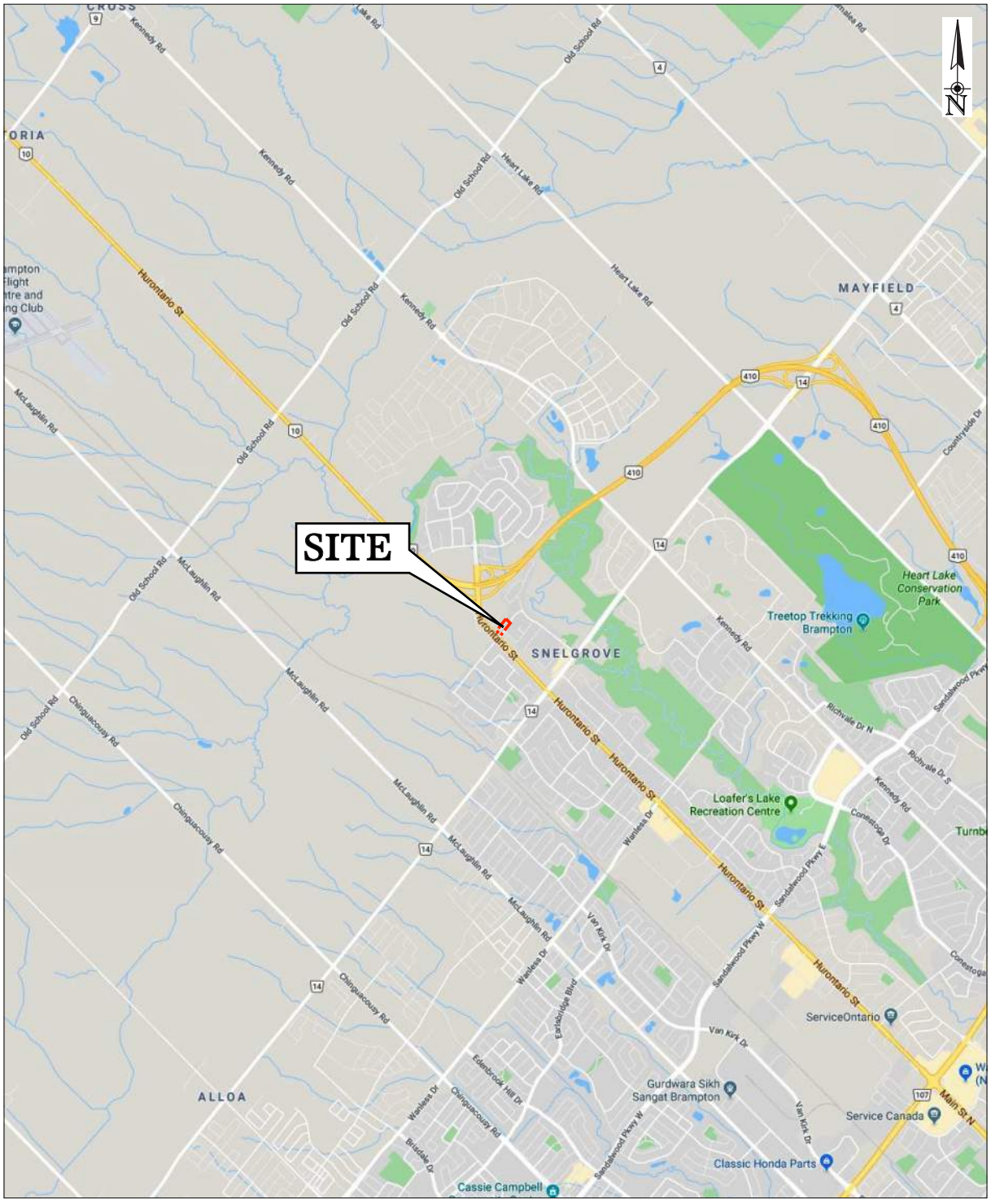
Ontario Ministry of Natural Resources and Forestry, Heritage Areas Map, (http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).

Ontario Regulation 153/04, Record of Site Condition, Part XV.1 of the Environmental Protection Act, July 1, 2011.

Sharpe, D.R., Quaternary Geology of Toronto and Surrounding Area, Ontario Geological Survey Preliminary Map P. 2204, Geological Series, scale 1:100,000, 1980.

Topographic Map available at the Natural Resources Canada (NRC) website http://atlas.nrcan.gc.ca/site/english/maps/topo/map.

Town of Caledon, Town of Caledon Official Plan, 2018.



SCALE:	SOURCE:	LOCALITY PLAN	FIGURE 1
0 1000 2000m	GOOGLE MAPS	12197 HURONTARIO STREET, BRAMPTON, ONTARIO	
exp.	DRAWN BY: K.G. / CHECKED BY: A.C.		PROJECT NUMBER: 257876

257876-MGRA_BP LOCALITY

SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
  S SERIES(EXP, 2019)
  BH SERIES (EXP, 2021)
- TEST HOLE
  S SERIES(EXP, 2019)
  BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- GAS — GAS

SITE PLAN

FIGURE 2

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP SITE PLAN-JAN22:SITE PLAN

PCA Source Number	Potentially Contaminating Activity (PCA)
S11	(30) Importation of Fill Material of Unknown Quality
S12	(28) Gasoline and associated products storage in fixed tanks
S13	(other) garage operations
S3b	(other) fuel leak
S6	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
S7	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
S8	(other) garage operations
S14	(28) Gasoline and associated products storage in fixed tanks
S15	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
***De-minimis* PCAs**	
S1	(28) Gasoline and associated products storage in fixed tanks
S2	(28) Gasoline and associated products storage in fixed tanks
S3a	(28) Gasoline and associated products storage in fixed tanks
S4	(28) Gasoline and associated products storage in fixed tanks
S5	(Other) salt storage
S9	(30) Importation of Fill Material of Unknown Quality
S10	(30) Importation of Fill Material of Unknown Quality
S16	(30) Importation of Fill Material of Unknown Quality

SCALE:

0 100 200m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

LEGEND:

- PROPERTY BOUNDARY
- GROUNDWATER FLOW DIRECTION
- (28) INDICATES ITEM NUMBER OF O. REG. 153/04 SCHEDULE D, TABLE 2
- FORMER FEATURES
- LOCATION OF FORMER ABOVE GROUND STORAGE TANKS
- LOCATION OF FORMER UNDER GROUND STORAGE TANKS

PCA - POTENTIALLY CONTAMINATING ACTIVITY
APEC - AREA OF POTENTIAL ENVIRONMENTAL CONSERN
(52) INDICATES ITEM NUMBER OF O. REG. 153/04 SCHEDULE D, TABLE 2

DRAWN BY	CHECKED BY
K.G.	A.C.

CONCEPTUAL SITE MODEL POTENTIALLY CONTAMINATING ACTIVITIES

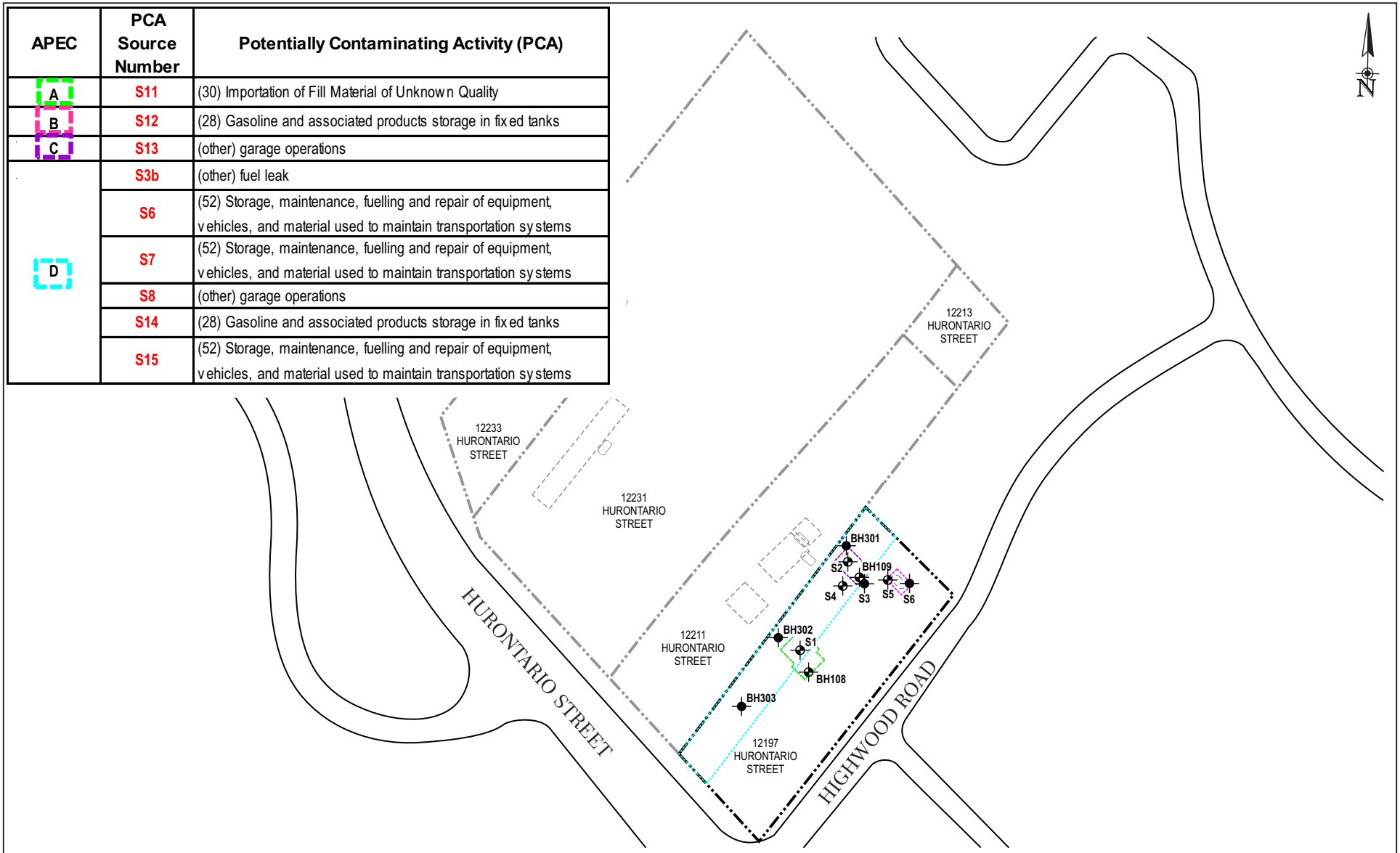
FIGURE 3A

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP PCA-JAN22

APEC	PCA Source Number	Potentially Contaminating Activity (PCA)
A	S11	(30) Importation of Fill Material of Unknown Quality
B	S12	(28) Gasoline and associated products storage in fixed tanks
C	S13	(other) garage operations
D	S3b	(other) fuel leak
	S6	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
	S7	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
	S8	(other) garage operations
	S14	(28) Gasoline and associated products storage in fixed tanks
	S15	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems



SCALE: 0 25 50m

SOURCE:
BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:
- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

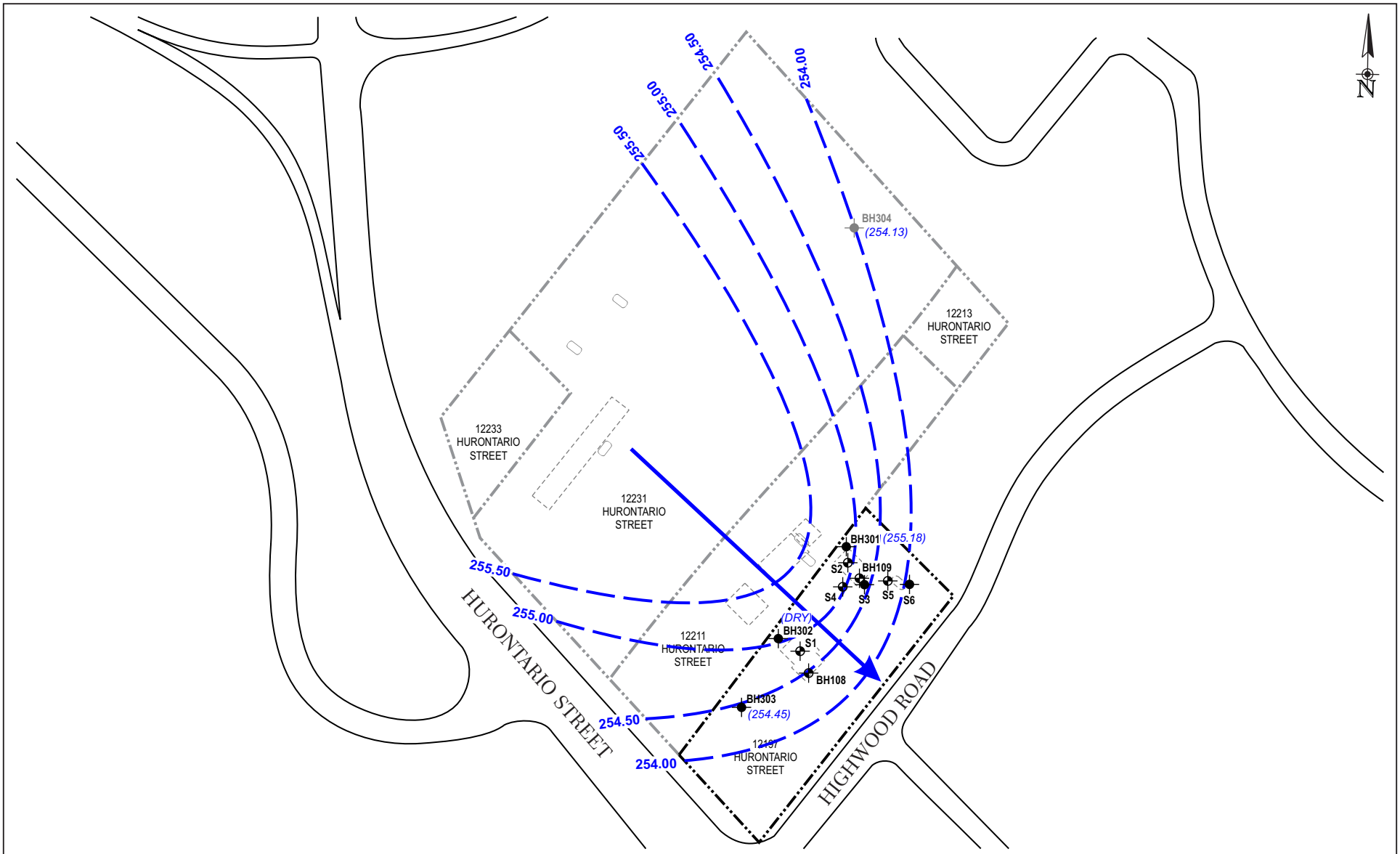
CONCEPTUAL SITE MODEL -APECs

FIGURE 3B

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP SITE PLAN-JAN22:APEC



SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER UNDER GROUND STORAGE TANK LOCATION
- (100.00) GROUND WATER ELEVATION (masl)
- 00.00 GROUND WATER ELEVATION CONTOUR (masl)
- GROUND WATER FLOW DIRECTION
- masl METRES ABOVE SEA LEVEL
- BH304 OFF-SITE TEST HOLE WITH MONITOR (EXP, 2020)

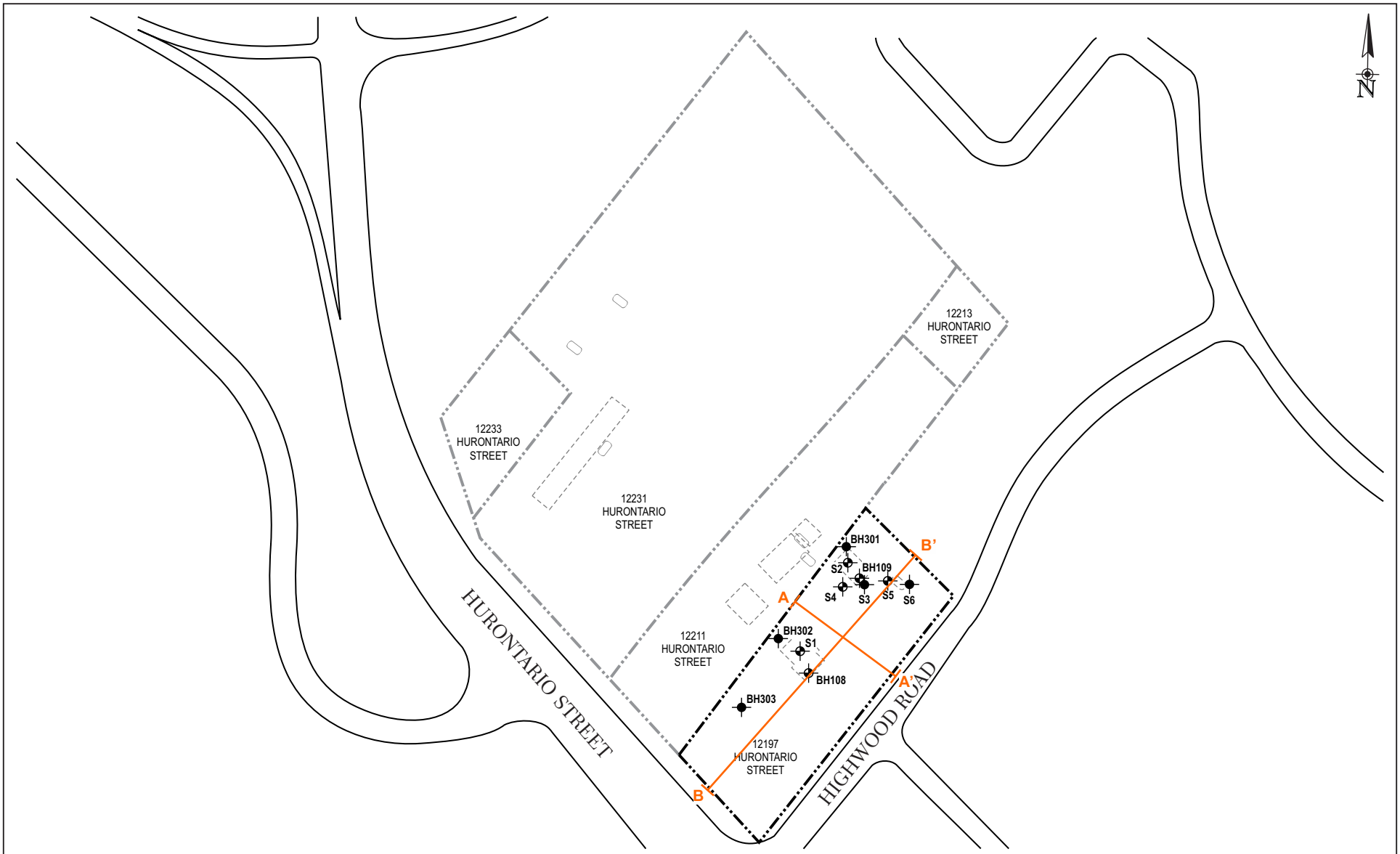
GROUND WATER CONTOUR PLAN (DECEMBER 14, 2021)

FIGURE 4

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP SITE PLAN-JAN22-GWC



SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

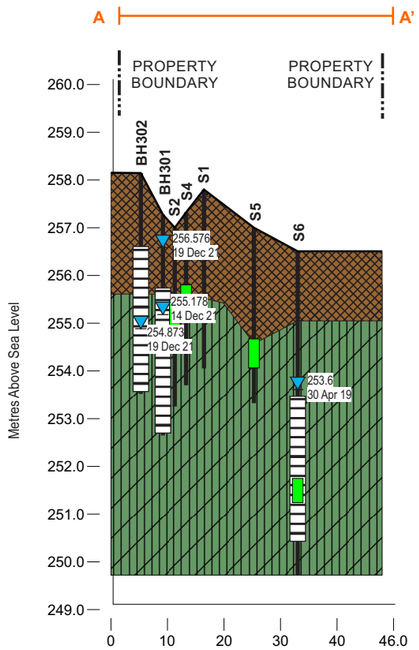
- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
  S SERIES(EXP, 2019)
  BH SERIES (EXP, 2021)
- TEST HOLE
  S SERIES(EXP, 2019)
  BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- CROSS SECTION LOCATION

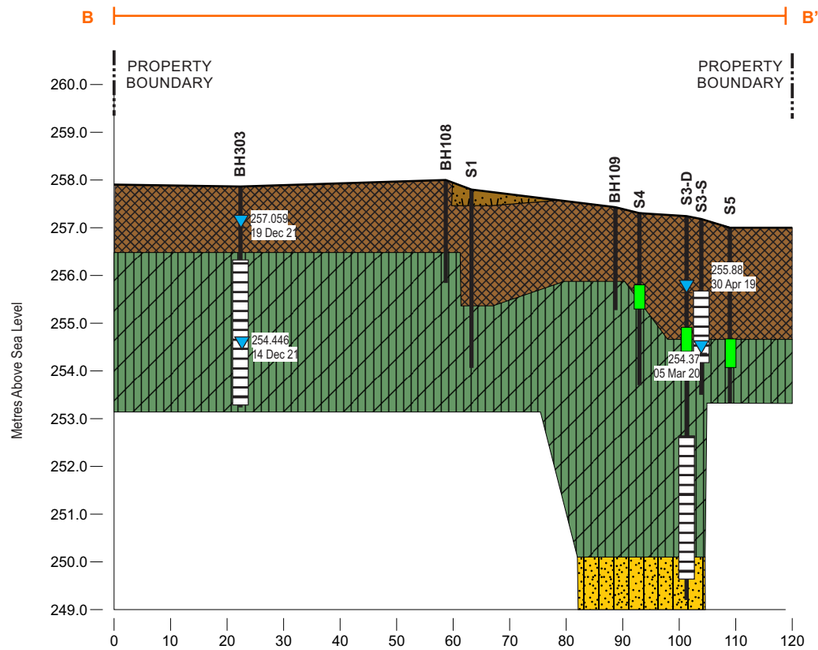
CROSS SECTION PLAN

FIGURE 5

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – SOIL ANALYTICAL RESULTS: PETROLEUM HYDROCARBONS

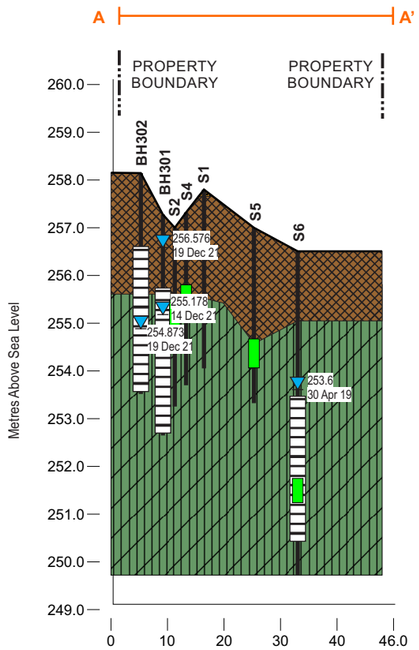
FIGURE 6A

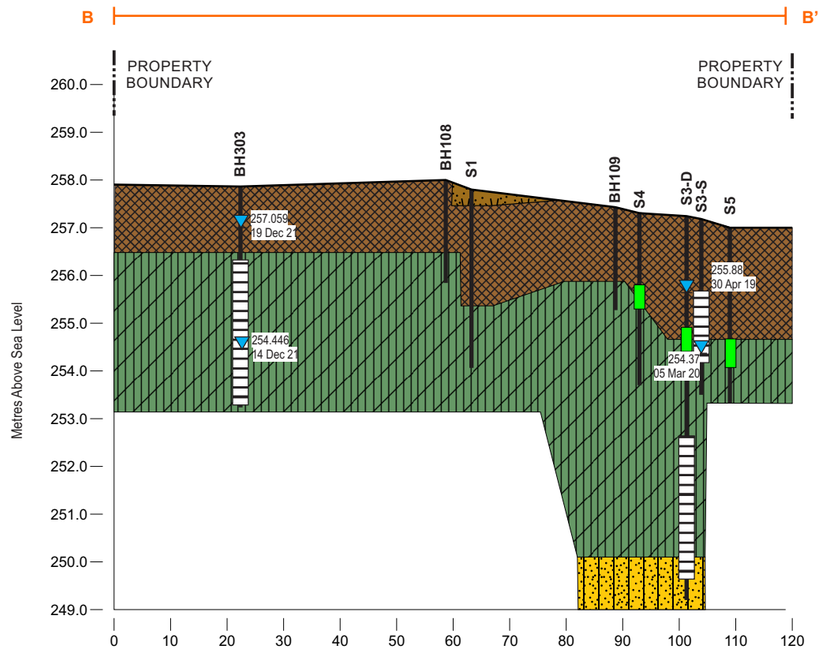
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: SOIL PET





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – SOIL ANALYTICAL RESULTS: VOLATILE ORGANIC COMPOUNDS

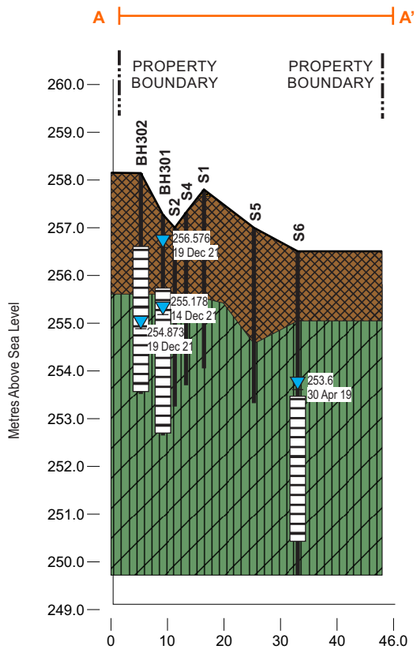
FIGURE 6B

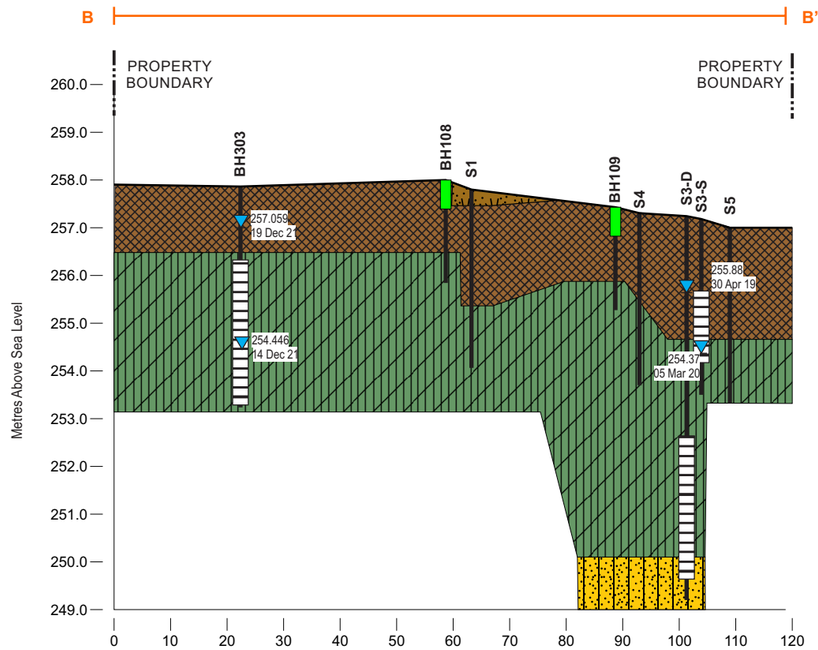
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-XSEC A-A'-MAR20: SOIL VOC





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – SOIL ANALYTICAL RESULTS: POLYCYCLIC AROMATIC HYDROCARBONS

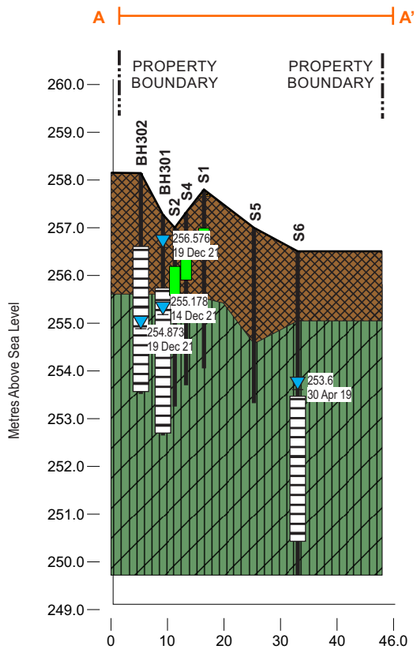
FIGURE 6C

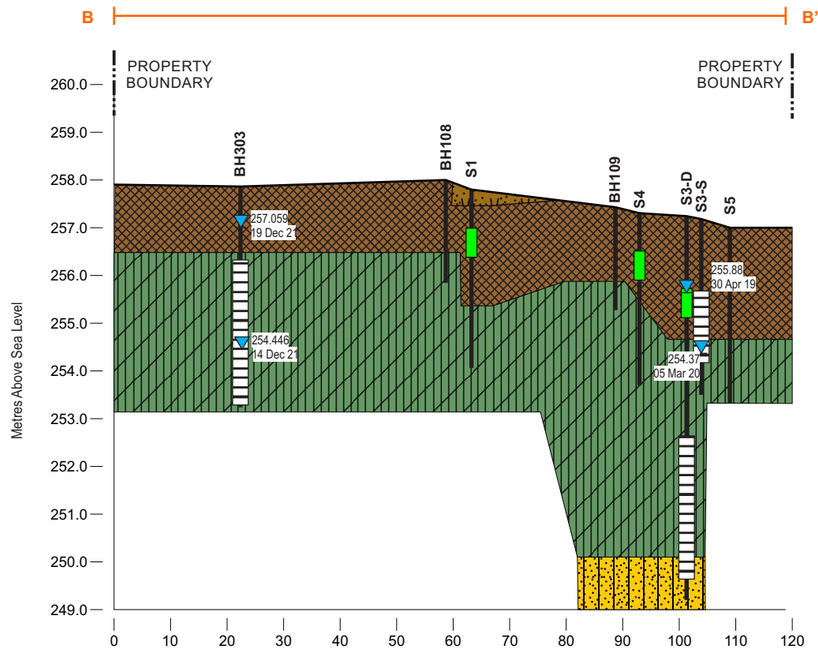
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-XSEC A-A'-MAR20: SOIL PAH





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – SOIL ANALYTICAL RESULTS: METALS (INCLUDING HYDRIDE-FORMING METALS)

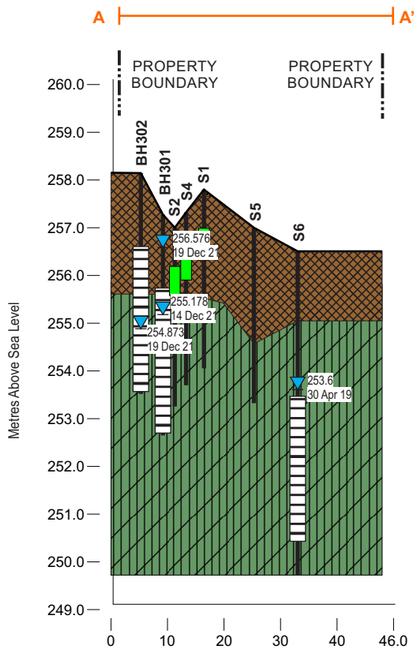
FIGURE 6D

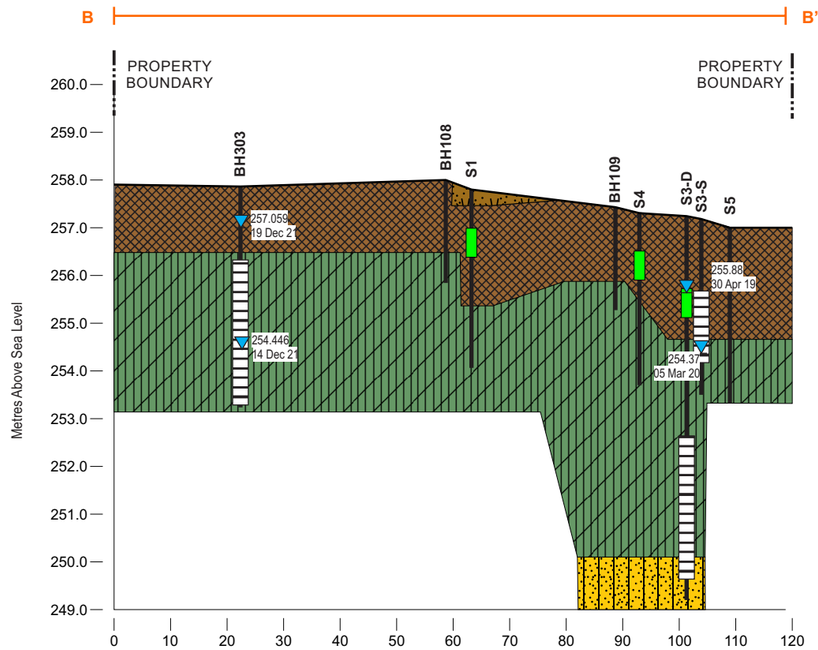
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: SOIL MET





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

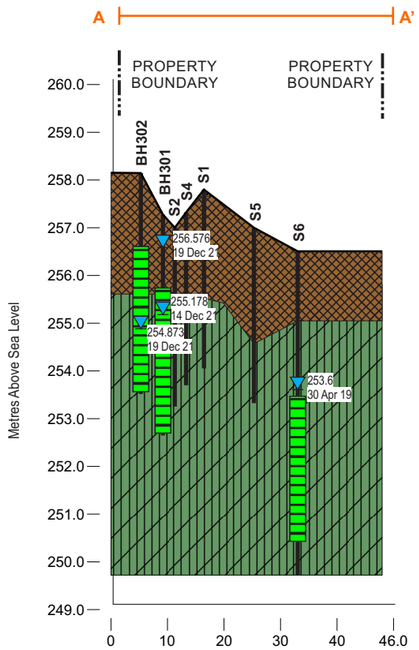
CROSS SECTIONS A-A' AND B-B' – SOIL ANALYTICAL RESULTS: OTHER REGULATED PARAMETERS (INCLUDING EC AND SAR)

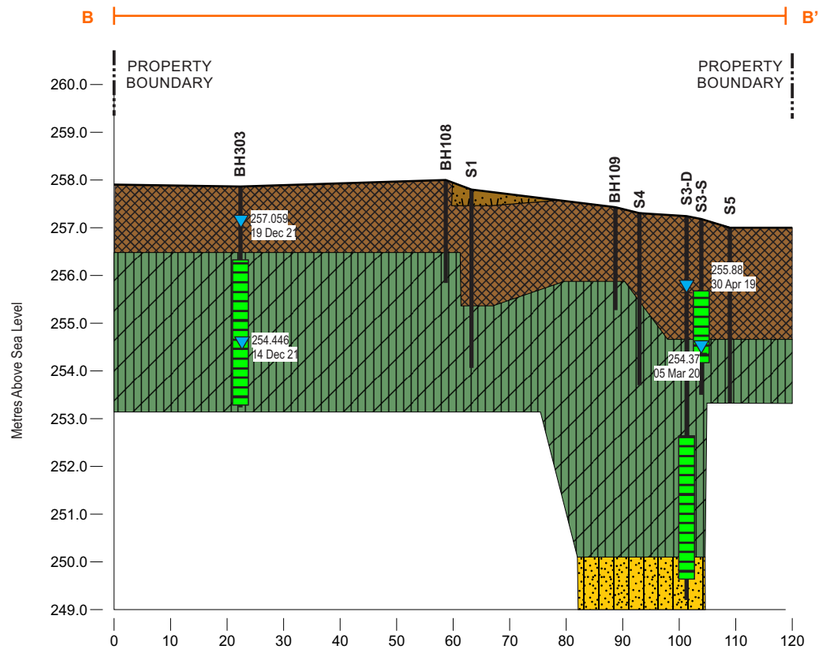
FIGURE 6E

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – GROUNDWATER ANALYTICAL RESULTS: PETROLEUM HYDROCARBONS

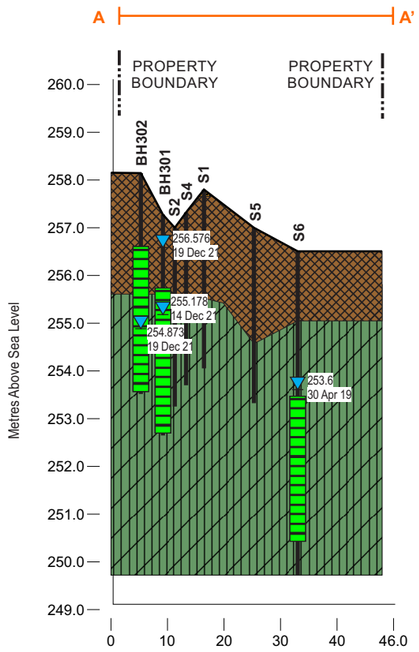
FIGURE 6F

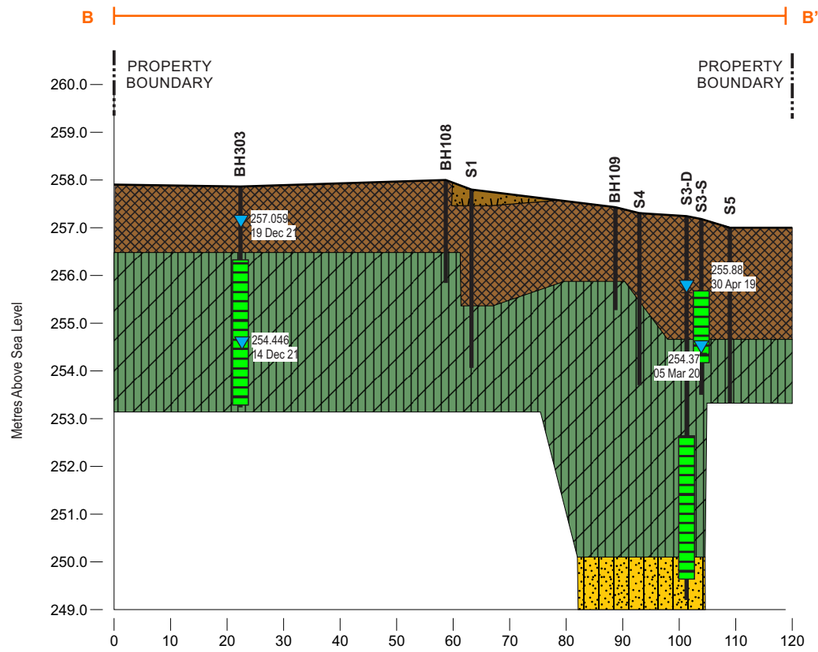
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: GW PET





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – GROUNDWATER ANALYTICAL RESULTS: VOLATILE ORGANIC COMPOUNDS

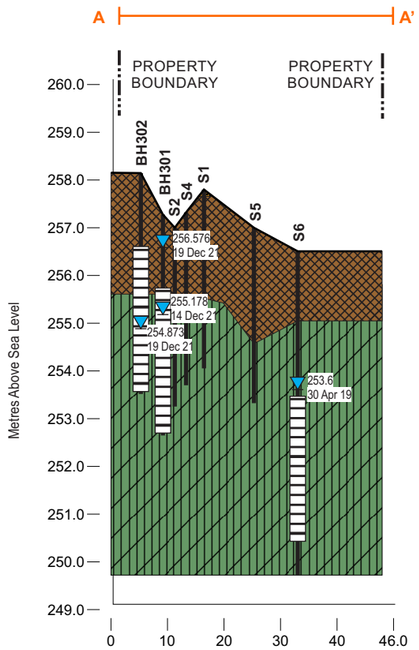
FIGURE 6G

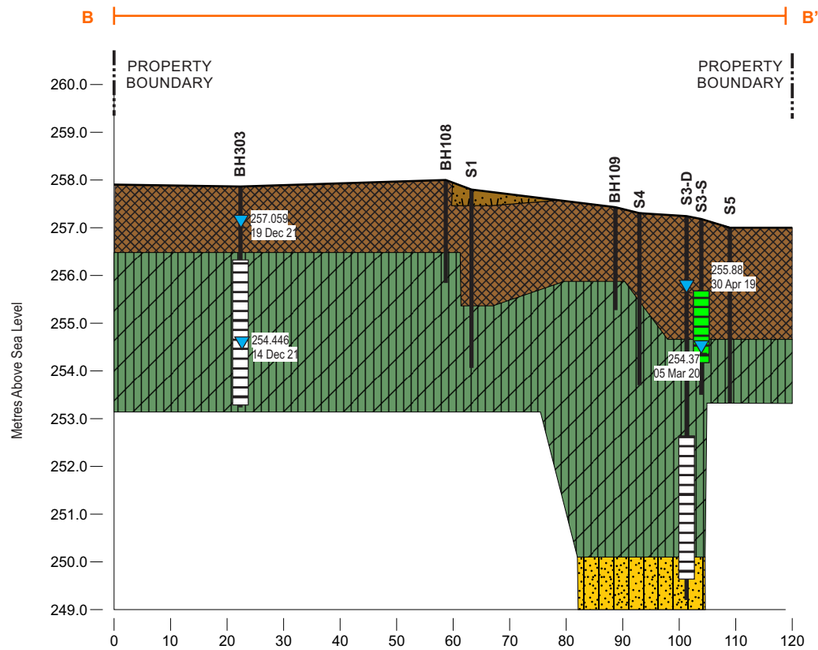
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: GW VOC





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – GROUNDWATER ANALYTICAL RESULTS: POLYCYCLIC AROMATIC HYDROCARBONS

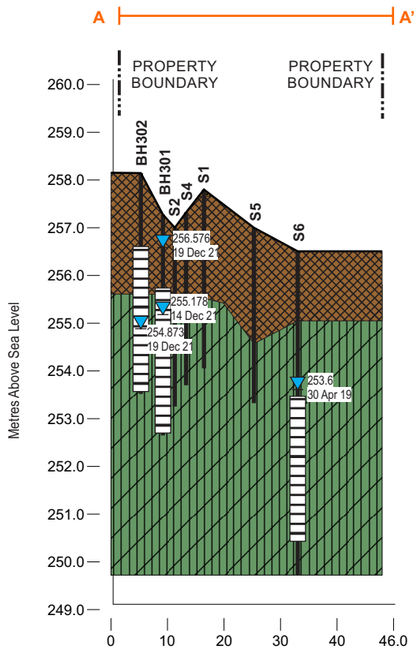
FIGURE 6H

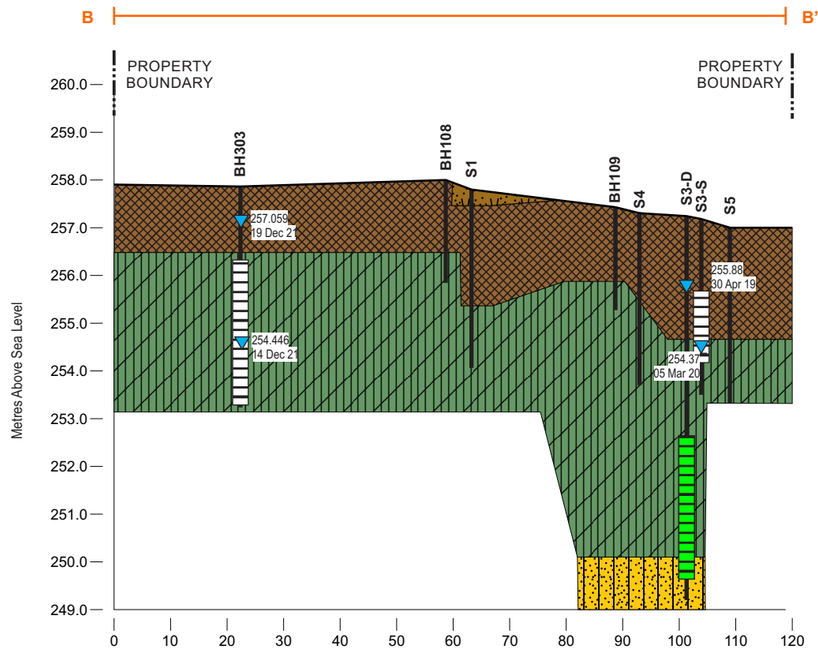
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: GW PAH





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – GROUNDWATER ANALYTICAL RESULTS: METALS (INCLUDING HYDRIDE-FORMING METALS)

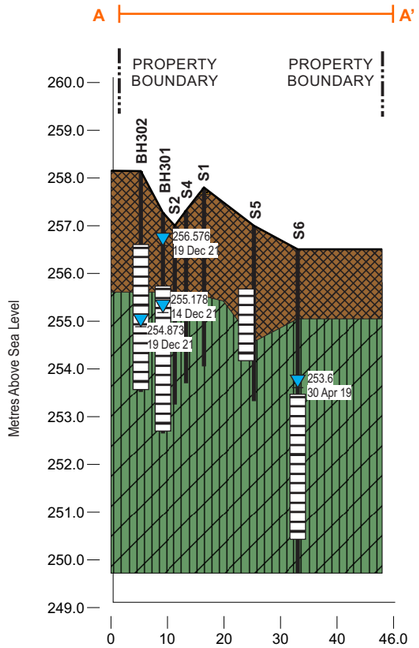
FIGURE 6I

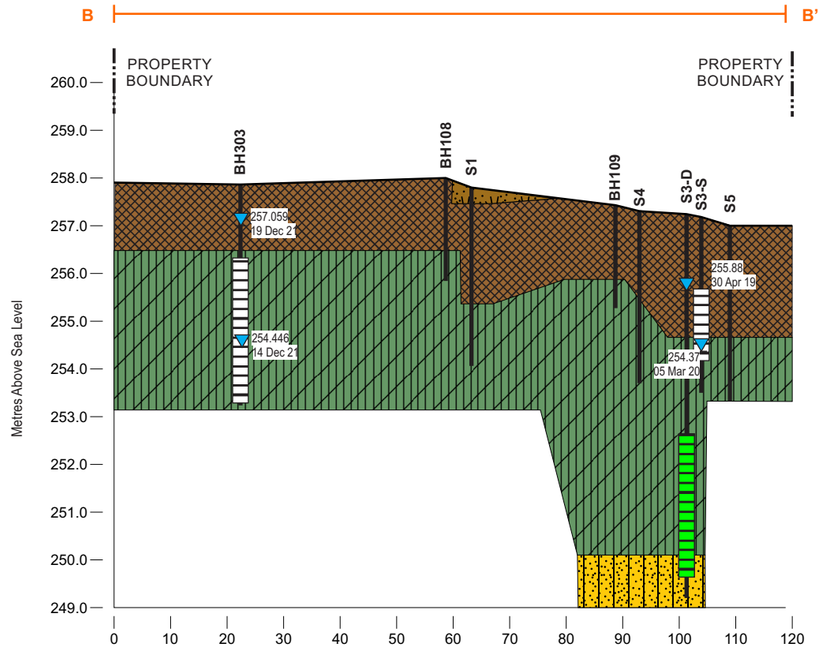
12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: GW MET





SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTIONS A-A' AND B-B' – GROUNDWATER ANALYTICAL RESULTS: OTHER REGULATED PARAMETERS (INCLUDING SODIUM AND CHLORIDE)

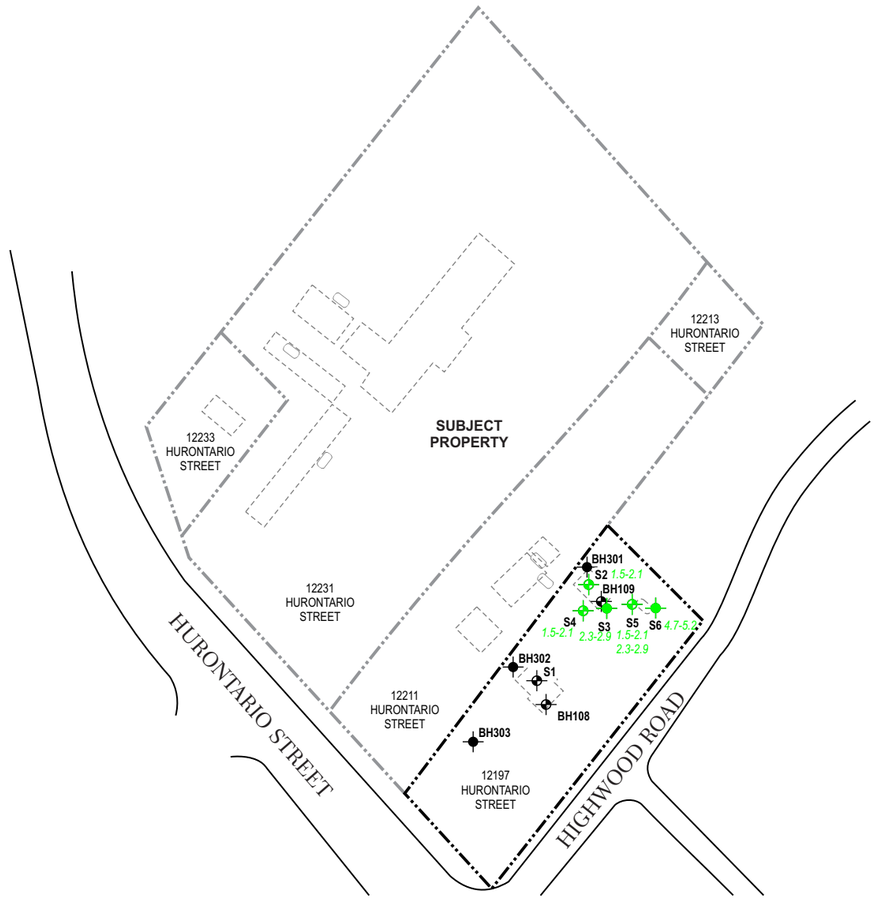
FIGURE 6J

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_BP SECA_B-JAN22: GW SOD



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

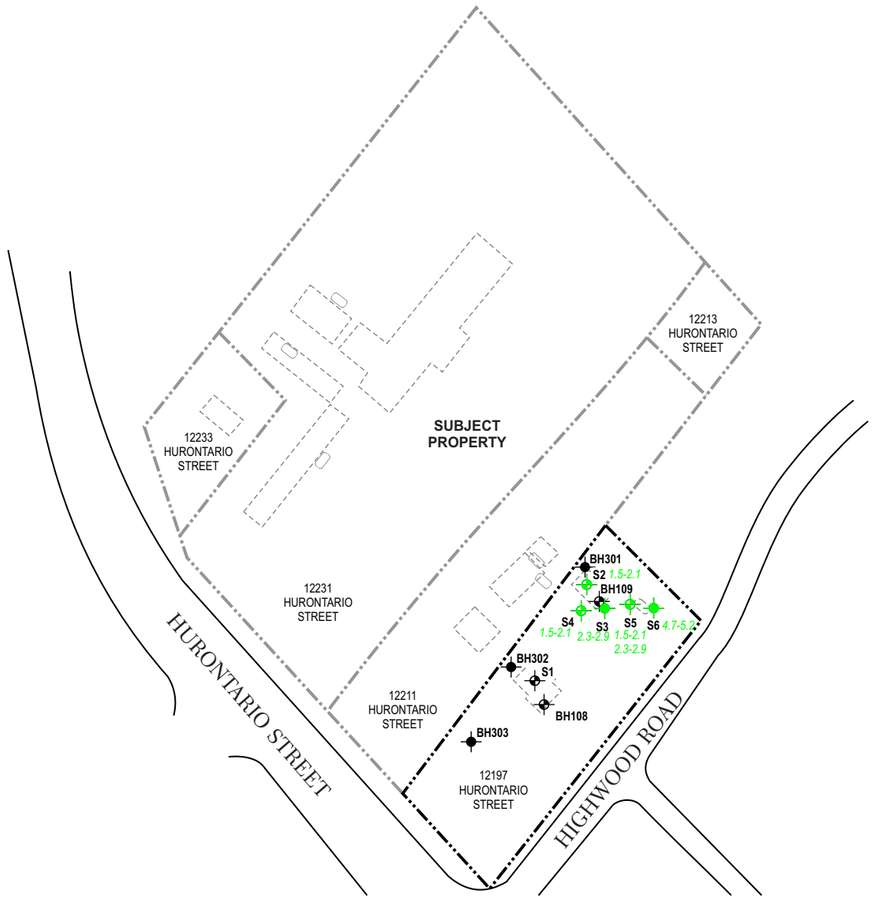
SOIL ANALYTICAL RESULTS – PETROLEUM HYDROCARBONS

FIGURE 7A

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:SOIL PET



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

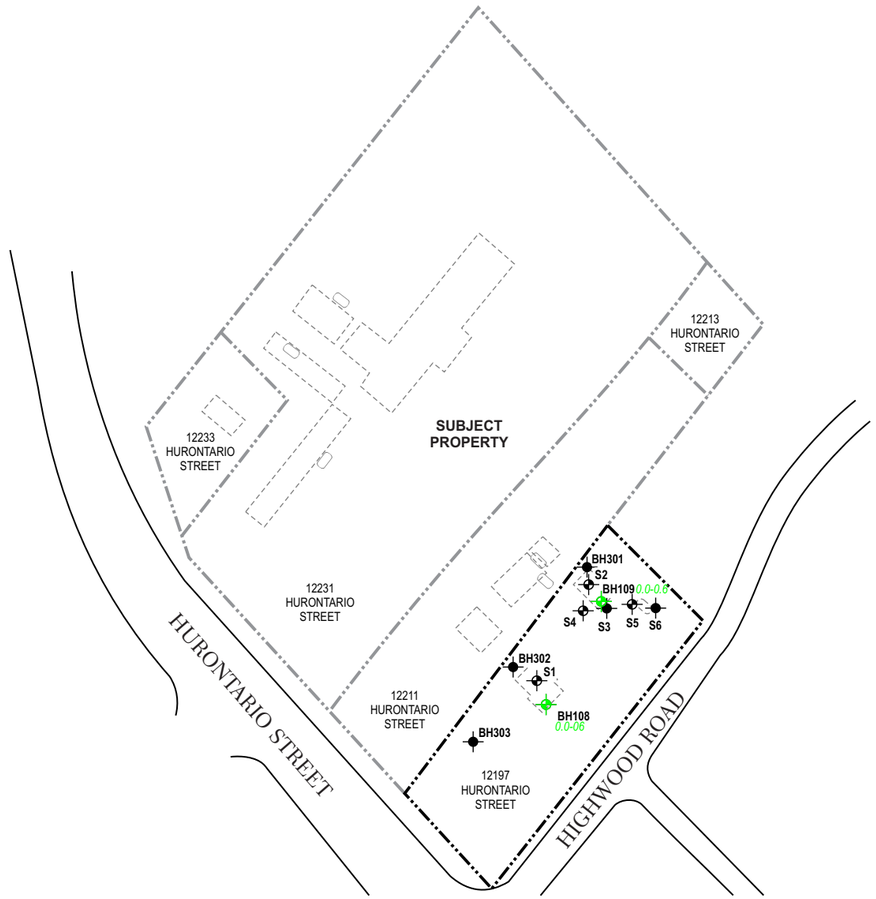
SOIL ANALYTICAL RESULTS – VOLATILE ORGANIC COMPOUNDS

FIGURE 7B

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-PH2 T4 RESULTS-JUL21:SOIL VOCs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

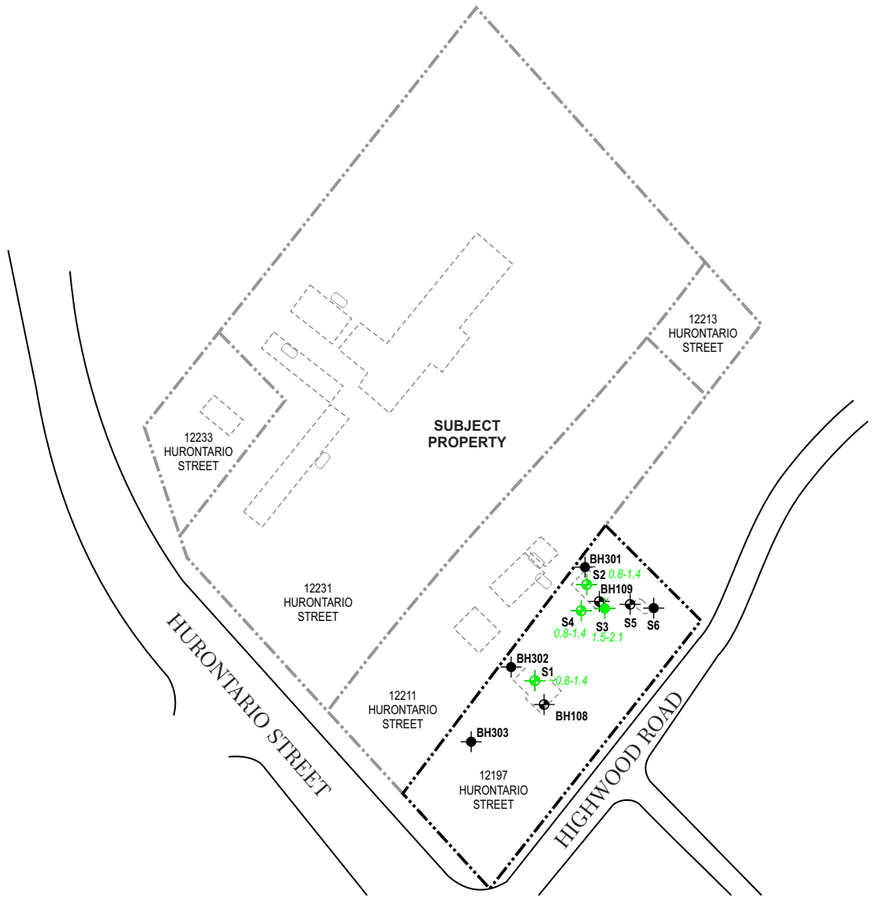
LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

SOIL ANALYTICAL RESULTS – POLYCYCLIC AROMATIC HYDROCARBONS

FIGURE 7C

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

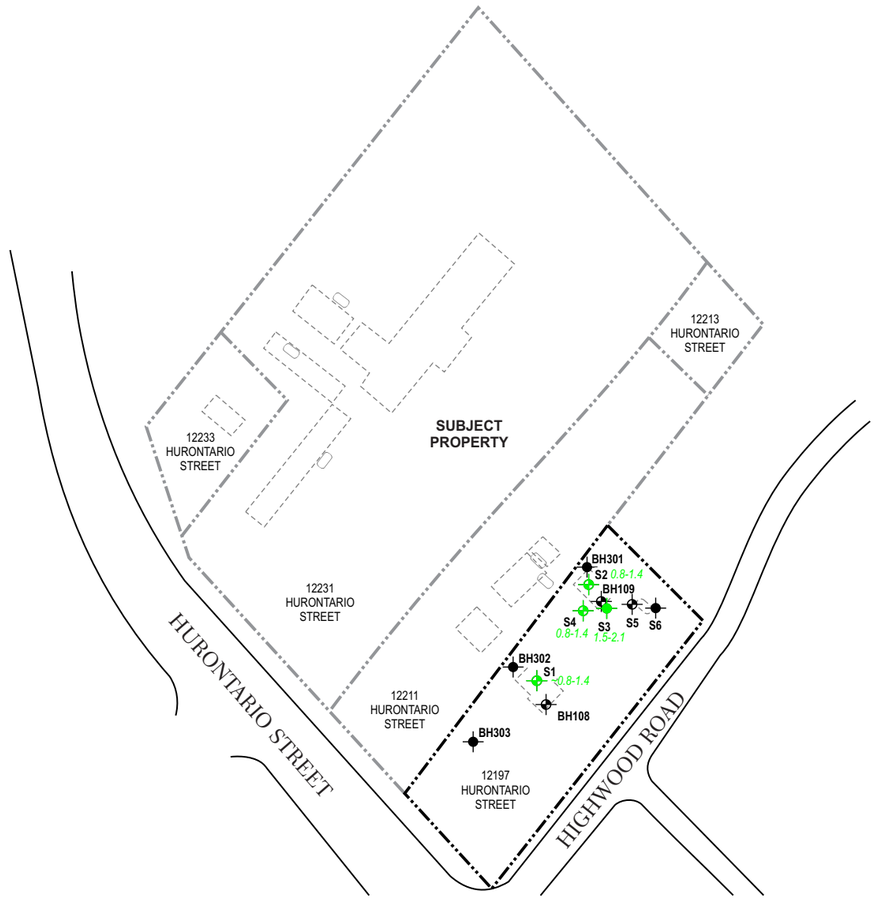
LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

SOIL ANALYTICAL RESULTS – METALS (INCLUDING HYRIDE-FORMING)

FIGURE 7D

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

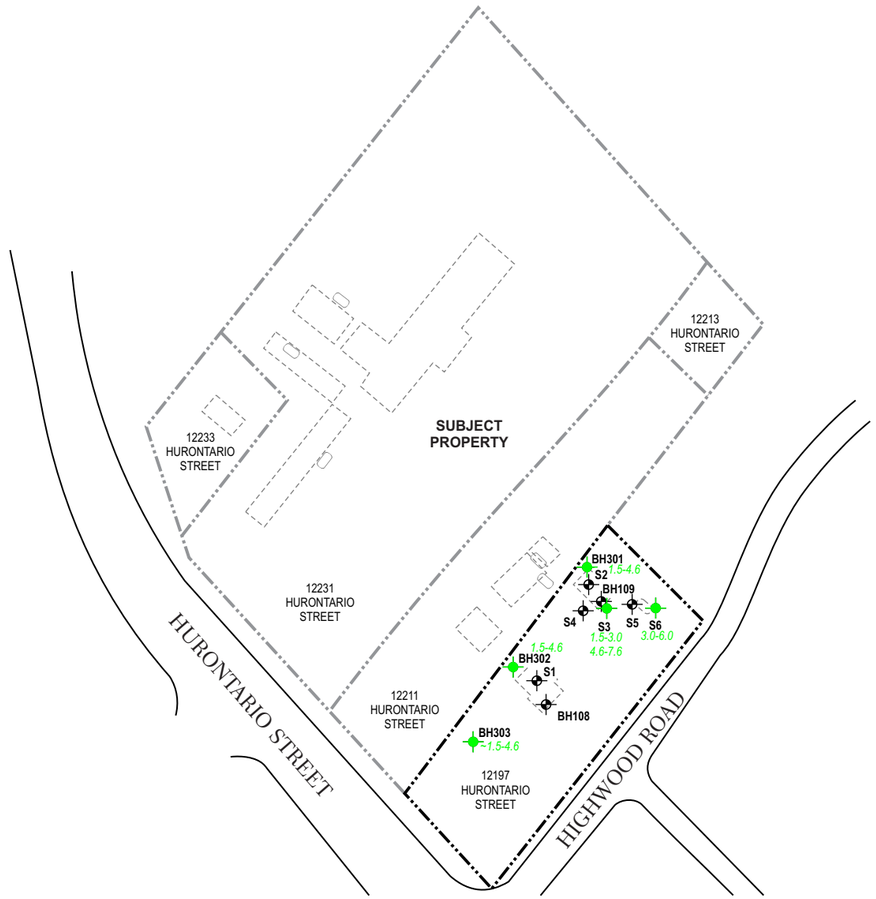
SOIL ANALYTICAL RESULTS – OTHER REGULATED PARAMETERS (INCLUDING EC AND SAR)

FIGURE 7E

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:SOIL EC & SAR



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

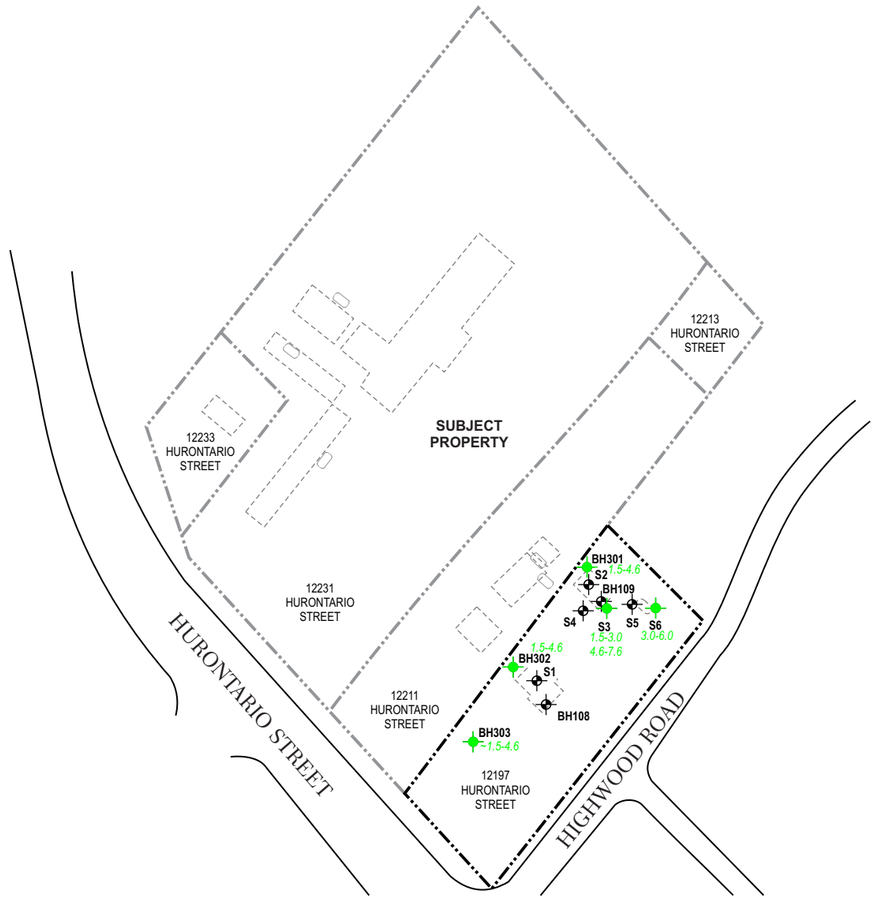
GROUND WATER ANALYTICAL RESULTS – PETROLEUM HYDROCARBONS

FIGURE 8A

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:GW PET



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
  S SERIES(EXP, 2019)
  BH SERIES (EXP, 2021)
- TEST HOLE
  S SERIES(EXP, 2019)
  BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

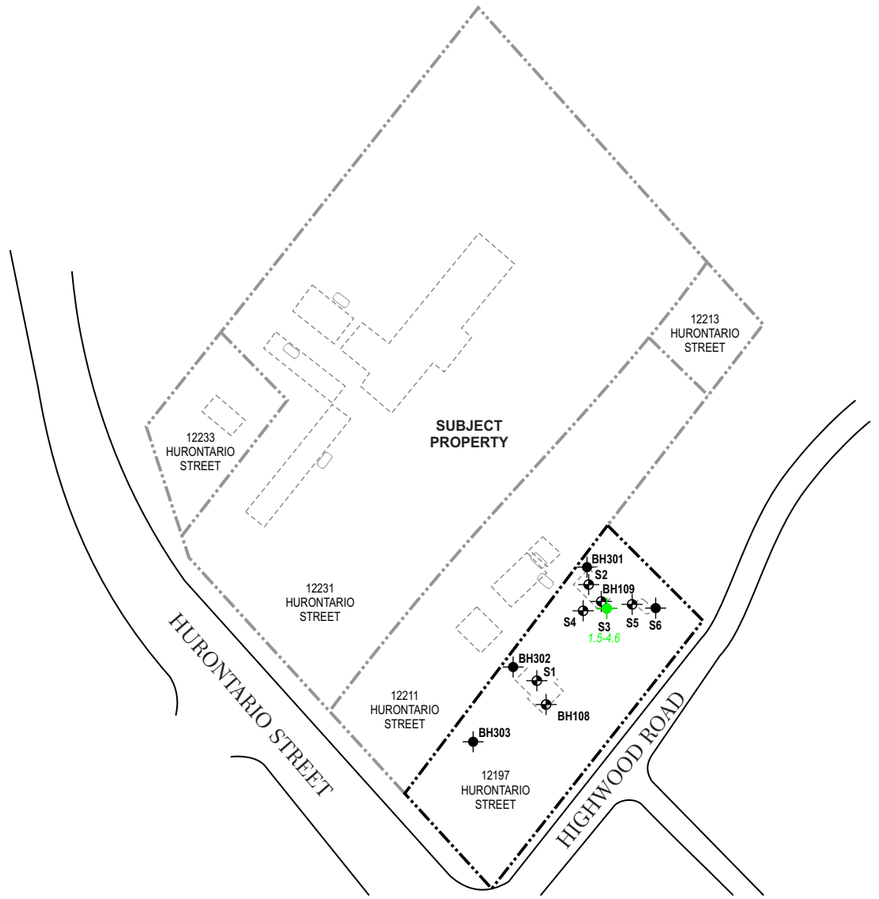
GROUND WATER ANALYTICAL RESULTS – VOLATILE ORGANIC COMPOUNDS

FIGURE 8B

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:GW VOCs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

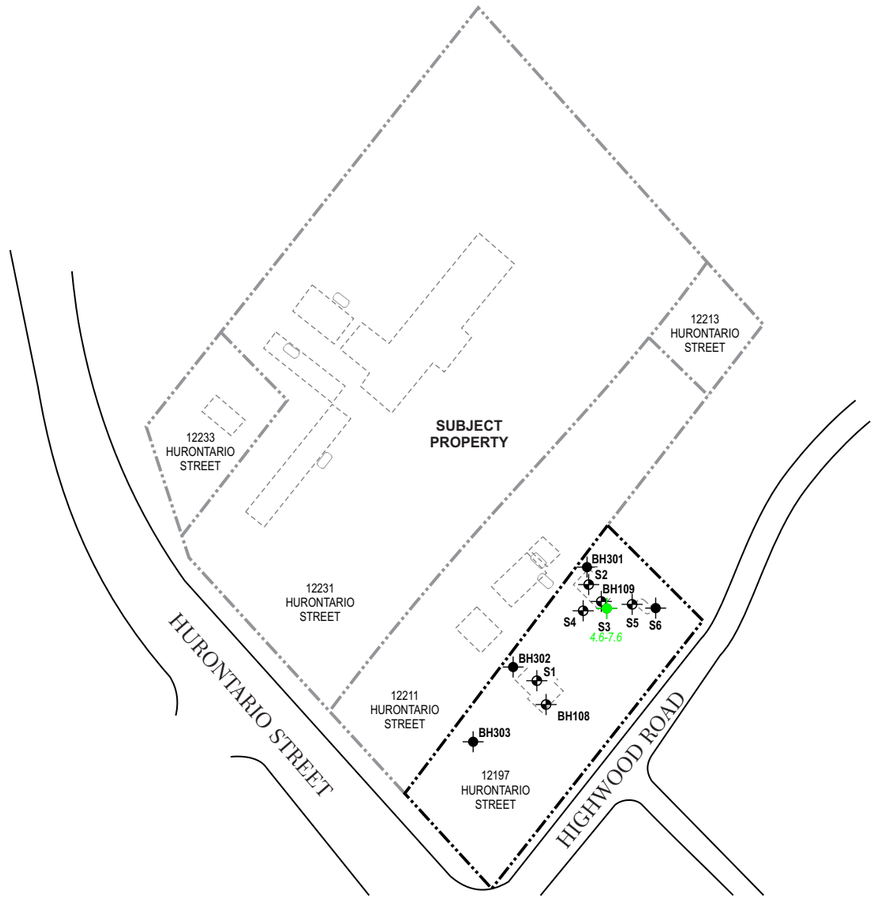
GROUND WATER ANALYTICAL RESULTS – POLYCYCLIC AROMATIC HYDROCARBONS

FIGURE 8C

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:GW PAHs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.	DRAWN BY	CHECKED BY
	K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

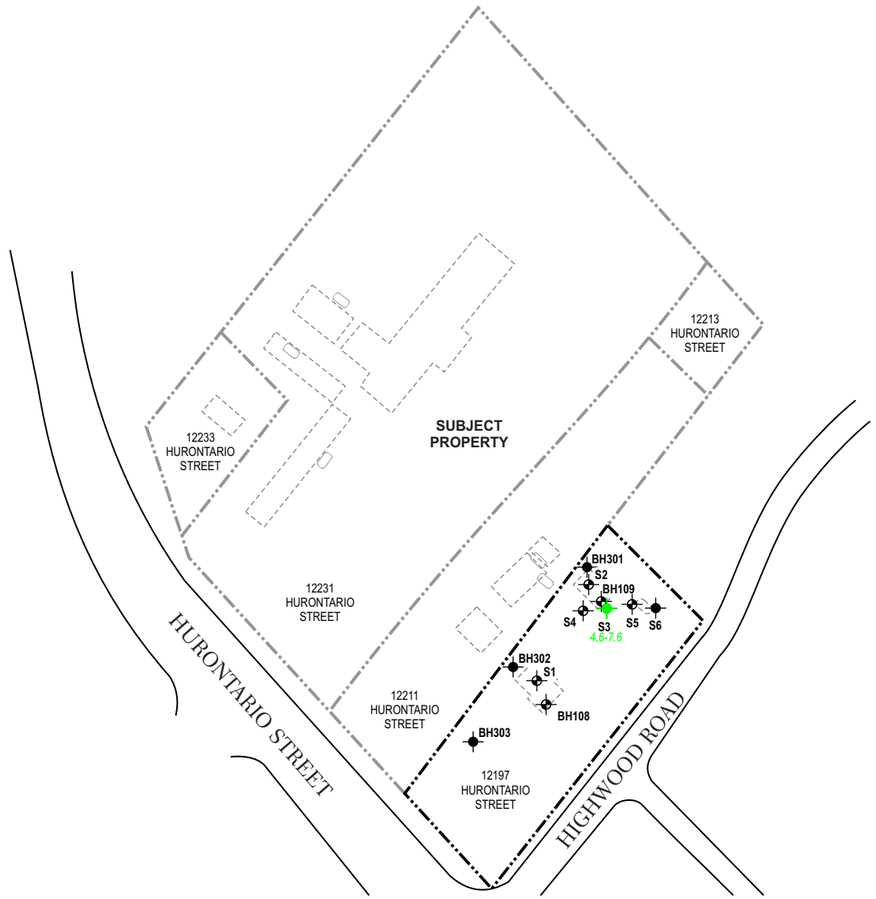
GROUND WATER ANALYTICAL RESULTS – METALS (INCLUDING HYDRIDE-FORMING)

FIGURE 8D

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:GW METAL



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	A.C.

LEGEND:

- SITE BOUNDARY EXTENT
- LARGER PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR S SERIES(EXP, 2019) BH SERIES (EXP, 2021)
- TEST HOLE S SERIES(EXP, 2019) BH SERIES (EXP, 2020)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 2 STANDARDSS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 2 STANDARDS SHOWN IN TEXT AS GREEN

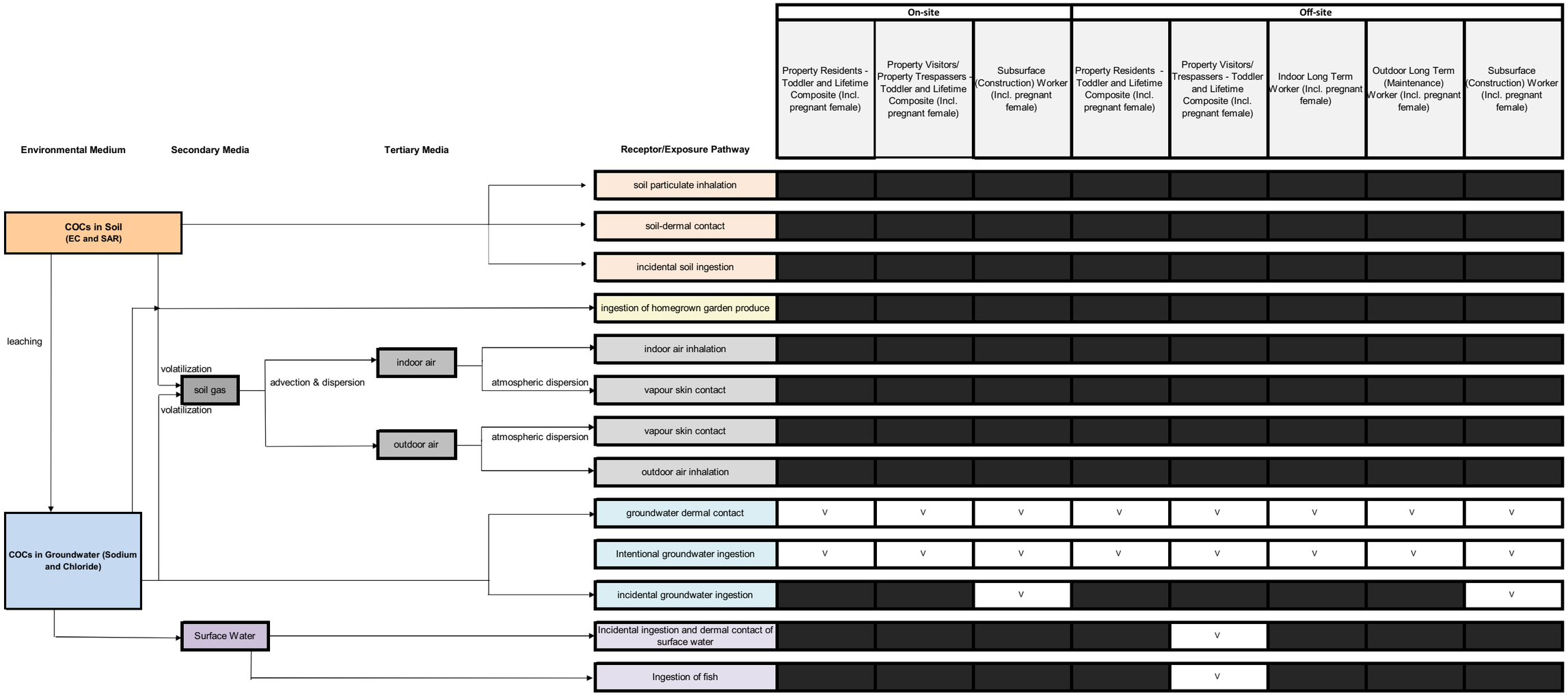
GROUND WATER ANALYTICAL RESULTS – OTHER REGULATED PARAMETERS (INCLUDING SODIUM AND CHLORIDE)

FIGURE 8E

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_BP RESULTS-JAN22:GW SODIUM & CHLORIDE



LEGEND:

	Pathway is incomplete
V	Pathway is complete

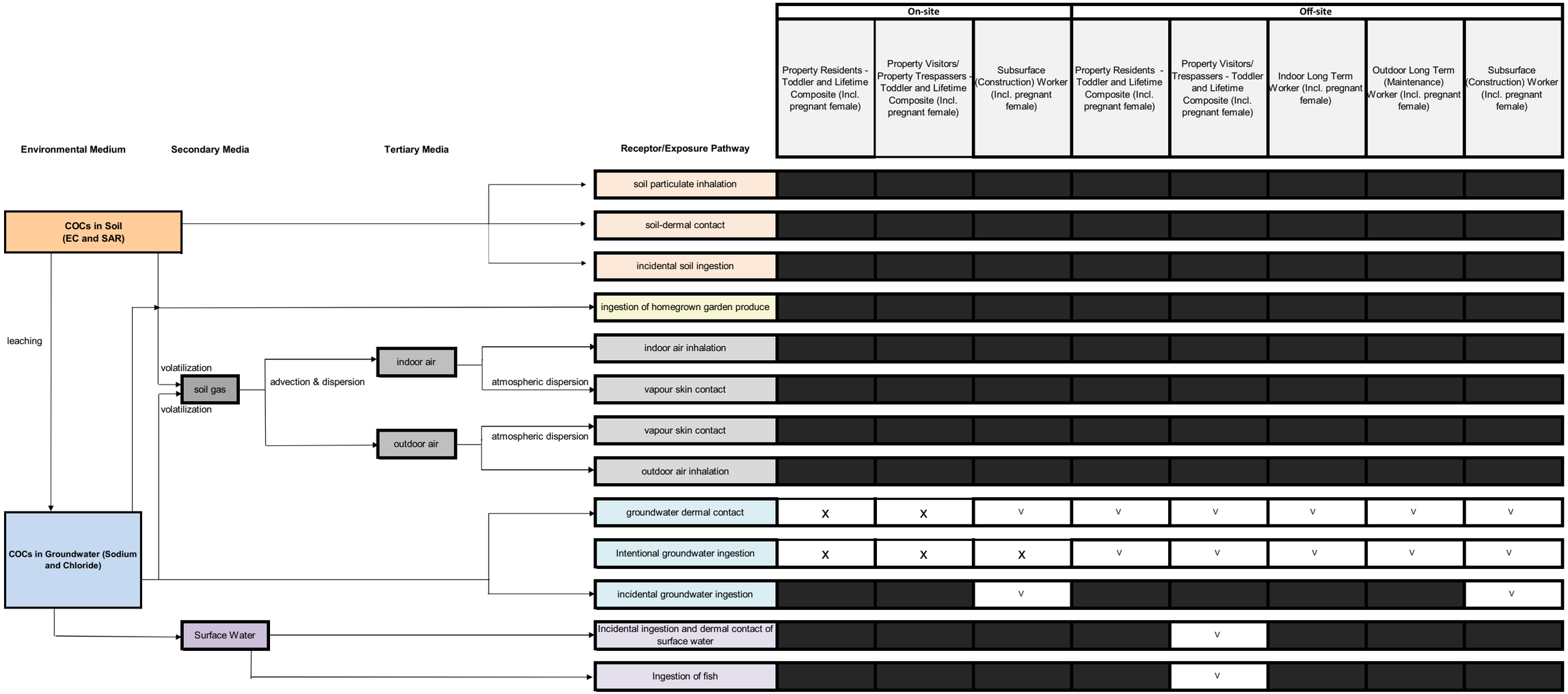
DRAWN BY	CHECKED BY
K.G.	A.C.

HUMAN HEALTH CONCEPTUAL SITE MODEL WITHOUT RMM

FIGURE 9A

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022



LEGEND:

	Pathway is incomplete
V	Pathway is complete
X	Pathway is mitigated by RMM

RMMS TO BE APPLIED AT THE SITE FOR HUMAN HEALTH PROTECTION INCLUDE A RESTRICTION OF THE CONSTRUCTION OF WELLS FOR POTABLE USE.

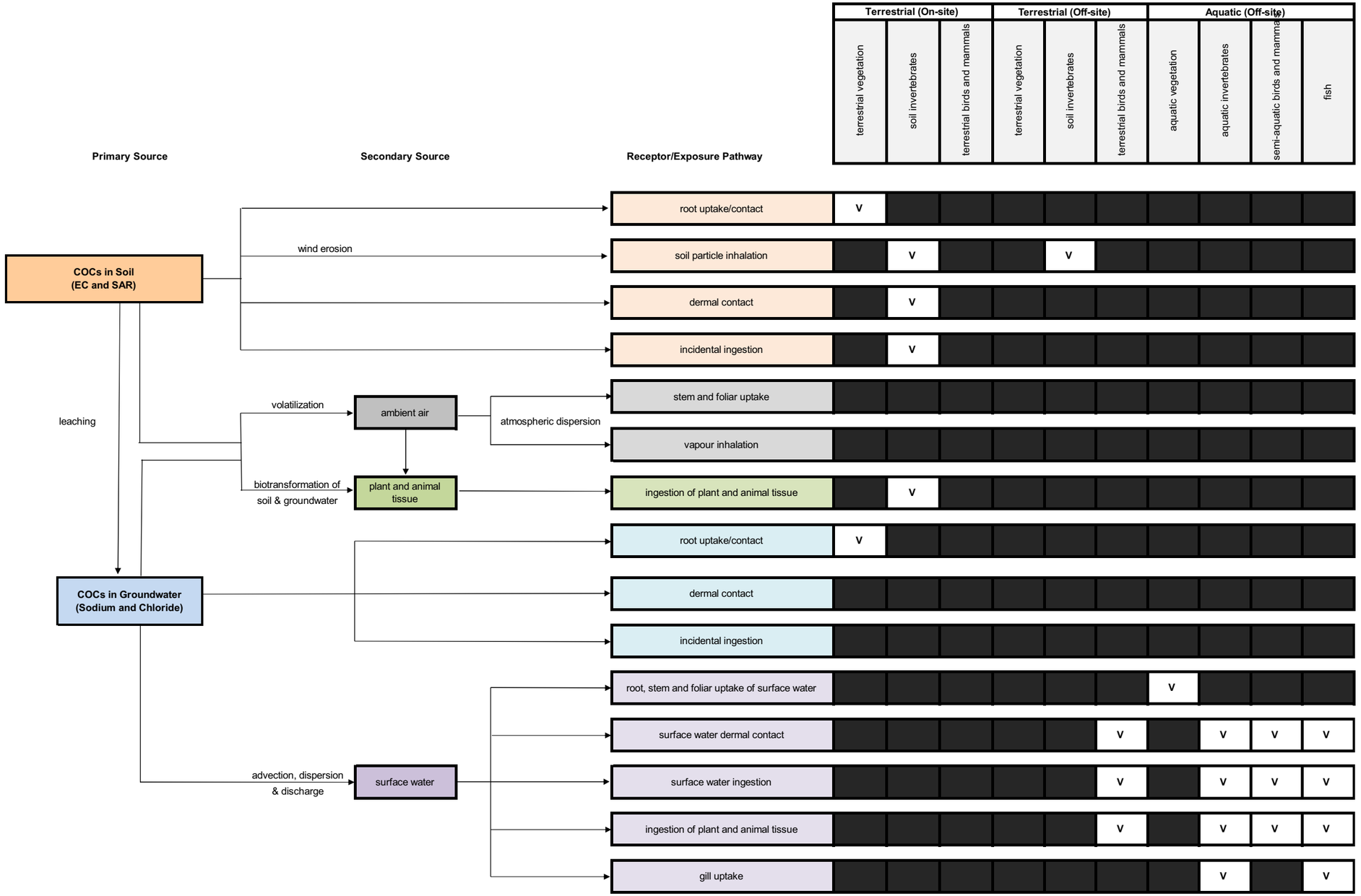
DRAWN BY	CHECKED BY
K.G.	A.C.

HUMAN HEALTH CONCEPTUAL SITE MODEL WITH RMM

FIGURE 9B

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022



LEGEND:

	Pathway is incomplete
V	Pathway is complete

exp.	DRAWN BY	CHECKED BY
	K.G.	A.C.

257876-MGRA_BP HHCSM_ECSM-JAN22:ECSM

ECOLOGICAL CONCEPTUAL SITE MODEL

FIGURE 10

12197 HURONTARIO STREET, BRAMPTON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

PHASE TWO CONCEPTUAL SITE MODEL

A Phase Two Conceptual Site Model (CSM) has been prepared for the site. The CSM make reference to the following figures:

Figure 1: Locality Plan

Figure 2: Site Plan

Figure 3A: Potentially Contaminating Activities

Figure 3B: Areas of Potential Environmental Concern

Figure 4: Cross Section Plan

Figure 5A: Cross Section A – Soil Analytical Results: Petroleum Hydrocarbons

Figure 5B: Cross Section A – Soil Analytical Results: Volatile Organic Compounds

Figure 5C: Cross Section A – Soil Analytical Results: Polycyclic Aromatic Hydrocarbons

Figure 5D: Cross Section A – Soil Analytical Results: Metals (including Hydride-forming Metals)

Figure 5E: Cross Section A – Soil Analytical Results: Other Regulated Parameters (including EC and SAR)

Figure 5F: Cross Section A – Groundwater Analytical Results: Petroleum Hydrocarbons

Figure 5G: Cross Section A – Groundwater Analytical Results: Volatile Organic Compounds

Figure 5H: Cross Section A – Groundwater Analytical Results: Polycyclic Aromatic Hydrocarbons

Figure 5I: Cross Section A – Groundwater Analytical Results: Metals (Including Hydride-Forming Metals)

Figure 5J: Cross Section A – Groundwater Analytical Results: Other Regulated Parameters (including Sodium and Chloride)

Figure 6A: Cross Section B – Soil Analytical Results: Petroleum Hydrocarbons

Figure 6B: Cross Section B – Soil Analytical Results: Volatile Organic Compounds

Figure 6C: Cross Section B – Soil Analytical Results: Polycyclic Aromatic Hydrocarbons

Figure 6D: Cross Section B – Soil Analytical Results: Metals (including Hydride-forming Metals)

Figure 6E: Cross Section B – Soil Analytical Results: Other Regulated Parameters (including EC and SAR)

Figure 6F: Cross Section B – Groundwater Analytical Results: Petroleum Hydrocarbons

Figure 6G: Cross Section B – Groundwater Analytical Results: Volatile Organic Compounds

Figure 6H: Cross Section B – Groundwater Analytical Results: Polycyclic Aromatic Hydrocarbons

Figure 6I: Cross Section B – Groundwater Analytical Results: Metals (Including Hydride-Forming Metals)

Figure 6J: Cross Section B – Groundwater Analytical Results: Other Regulated Parameters (including Sodium and Chloride)

Figure 7: Groundwater Contour Plan – April 30, 2019

Figure 8A: Soil Analytical Results – Petroleum Hydrocarbons

Figure 8B: Soil Analytical Results – Volatile Organic Compounds

Figure 8C: Soil Analytical Results – Polycyclic Aromatic Hydrocarbons

Figure 8D: Soil Analytical Results – Metals (including Hydride-forming)

Figure 8E: Soil Analytical Results – Other Regulated Parameters (including EC and SAR)

Figure 9A: Groundwater Analytical Results – Petroleum Hydrocarbons

Figure 9B: Groundwater Analytical Results – Volatile Organic Compounds

Figure 9C: Groundwater Analytical Results – Polycyclic Aromatic Hydrocarbons

Figure 9D: Groundwater Analytical Results – Metals (including Hydride-Forming)

Figure 9E: Groundwater Analytical Results – Other Regulated Parameters (including Sodium and Chloride)

Figure 10A: Human Health Conceptual Site Model Without RMM

Figure 10B: Human Health Conceptual Site Model With RMM

Figure 11: Ecological Conceptual Site Model

The Phase Two property or "site" consists of the contiguous properties with the municipal addresses 12211, 12213, 12231, and 12233 Hurontario Street, Caledon, Ontario and is located on the east side of Hurontario Street and the north side of Highwood Road, as shown on Figure 1. Surrounding properties include mixed vacant and community (Highway 410 and ramps) land to the northwest, mixed commercial and residential use to the southwest and residential use to the northeast and southeast. The site has an area of approximately 3.09 hectares (7.6 acres). A site plan is provided as Figure 2.

The legal description, Property Identification Number (PIN) and owner of the site are as follows:

- PART LOT 19 CON 1 EHS (CHINGUACOUSY) PARTS 3 & 4 PLAN 43R32579; S/T CH32238 TOWN OF CALEDON (PIN 14235-0025 (LT));
- PART LOT 19 CON 1 EHS (CHINGUACOUSY) DESIG. PART 5 PLAN 43R3579, TOWN OF CALEDON (PIN 14235-1665 (LT)); AND,
- PART LOT 19 CON 1 EHS (CHINGUACOUSY) DESIG. AS PARTS 1 & 2 PLAN 43R32579 S/T EASEMENT IN FAVOUR OF THE BELL TELEPHONE COMPANY OF CANADA OVER PARTS 6, 9, PL 43R27780, AS IN CH32238, SAVE AND EXCEPT PART 1, EXPROPROPRIATION PLAN PR1149441, TOWN OF CALEDON (PIN 14235-1693 (LT))

Based on a review of historical aerial photographs, chain of title information, historical maps, other historical documentation as well as interviews with the present and past property owners completed as part of the Phase One ESAs completed by EXP (2020a, 2021b), it was determined that the site was first developed for residential and commercial use (trailer sales and service, and livestock auctions) in the late 1950s. The on-site structures were demolished between 2013 and 2014. Prior to that time, the site was used for agricultural purposes or vacant; no orchards were present on, or in the vicinity of the site. At the time of EXP's latest site visit, the site was a vacant lot covered in grass, with small areas containing asphalt, gravel and concrete pads. Some construction debris from the demolition of the previous structures was present on-site.

A Phase Two conceptual site model (CSM) was developed for the site using information collected during the previous Phase One Environmental Site Assessment (ESA; EXP, 2020a) and Phase Two ESA investigations and remediation (2019, 2020b, 2021a and 2021c). The CSM is a simplification of reality, which aims to identify the potentially contaminating activities (PCA), areas of potential environmental concern (APEC), contaminant transport and exposure pathways, and receptors. The CSM is a compilation of narrative description, diagrams, cross-sections and figures illustrating the current condition of the Phase Two property as well as the intended future use.

1. Potentially Contaminating Activities and Areas of Potential Environmental Concern

Twelve (12) PCAs were identified on-site based on current and past operations at the Phase One property, that may contribute to an APEC.

Two (2) off-site PCAs, located north adjacent to the site were also considered to contribute to an APEC on-site.

APEC A – S1: (28) Gasoline and associated product storage in fixed tanks – According to previous environmental reports, an AST was present exterior to the rear building at 12231 Hurontario Street. The capacity, contents and condition of the tank were not provided. This tank was not present during EXP's investigation on-site.

APEC B – S2: (28) Gasoline and associated product storage in fixed tanks – According to previous environmental reports, an AST was present at the front building at 12231 Hurontario Street. The capacity, contents and condition of the tank were not provided but may be one (1) of the two (2) 909-litre capacity tanks containing fuel oil,

installed in 2004, as reported in the "All Risk Report" completed for Brampton Live Stock Exchange Inc. at 12231 Hurontario Street in 2007. This tank was not present during EXP's investigation on-site.

APECS C1 and C2 – S3a: (28) Gasoline and associated product storage in fixed tanks and (Other) – fuel leak – According to previous environmental reports, an AST was present at the front building at 12231 Hurontario Street. The capacity, contents and condition of the tank were not provided but may be one (1) of the two (2) 909-litre capacity tanks containing fuel oil, installed in 2004, as reported in the "All Risk Report" completed for Brampton Live Stock Exchange Inc. at 12231 Hurontario Street in 2007. A leak was reported on May 28, 2007. This tank was not present during EXP's investigation on-site.

APECs D1 and D2 – S4a and S4b: (28) Gasoline and associated product storage in fixed tanks – According to previous environmental reports, two (2) ASTs were present at 12211 Hurontario Street. The capacity, contents and condition of the tanks were not provided. This tank was not present during EXP's investigation on-site.

APEC E – (other) salt storage – According to previous reports, storage of salt was present on the northwestern portion of the site.

APEC F – S6: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems – According to previous reports and the 2007 "All Risk Report", trailer maintenance activities occurred at 12231 Hurontario Street. As the site was vacant during EXP's investigations on-site, additional details of these maintenance activities are unknown.

APEC G – S7: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems – According to previous reports and the 2007 "All Risk Report", trailer maintenance activities occurred at 12231 Hurontario Street. As the site was vacant during EXP's investigations on-site, additional details of these maintenance activities are unknown.

APEC H – S8: (other) garage operations – According to previous reports, historic garage operations were present at historically at 12211 Hurontario Street. As the site was vacant during EXP's investigations on-site, additional details of these maintenance activities are unknown.

APEC I – S9: (30) Importation of Fill Material of Unknown Quality – A former residential building with a basement was located at 12233 Hurontario Street. As this building has been demolished, it was conservatively assumed that fill is present within the building footprint. It is noted that based on the stratigraphy encountered at boreholes advanced within this APEC, it appears the fill in this area is reworked native material.

APEC J – S10: (30) Importation of Fill Material of Unknown Quality – A former residential building with a basement was located at 12211 Hurontario Street. As this building has been demolished, it was conservatively assumed that fill is present within the building footprint. It is noted that based on the stratigraphy encountered at boreholes advanced within this APEC, it appears the fill in this area is reworked native material.

APEC K – S14: (28) Gasoline and Associated Products Storage in Fixed Tanks. A UST was formerly present at 12267 Hurontario Street, north adjacent to the site, as provided in the Environmental Risk Information Services Ltd (ERIS) report. The tank was reported to have a capacity 68,190 litres. Based on previous reports, vent pipes were observed on the south side of the former building on this property. No other details were provided in the records reviewed.

S15: (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems – Former school bus maintenance activities occurred at 12267 Hurontario Street by Travelways School Transit Ltd/Laidlaw Transit Ltd. based on waste generator records provided in the ERIS report. Travelways School Transit Ltd/Laidlaw Transit Ltd. was listed as a waste generator of oil skimmings & sludges,

petroleum distillates, light fuels, aliphatic solvents, and waste oils & lubricants from 1986 to 1990 and 1992 to 2004.

Four additional off-site PCAs were identified within 250 metres of the Phase One property as follows:

- S11 and S16: (30) Importation of fill material of unknown quality - This PCA is associated with potential fill within the footprint of a former residential building on the south adjacent property (12197 Hurontario Street) and illegal dumping of contaminated soil at Hutchinson Farm Lane, located southwest of the site, across Hurontario Street. Given that this PCA is anticipated to impact soil only, any potential contamination is unlikely to migrate on to the site, given the location of these PCAs down-gradient and cross-gradient to the site, respectively. It is further noted that the quality of potential fill on the south adjacent property was evaluated by EXP (EXP, 2020b) and no soil impacts were identified. As such, this PCA these PCAs are considered to be of *de minimis* concern.
- S12: (28) Gasoline and associated products storage in fixed tanks – This PCA is associated with a former UST located at 12267 Hurontario Street, southeast adjacent to the site. This PCA is located downgradient of the site. Furthermore, this PCA was investigated at the source by EXP (2020b) and no impacts were identified. As such, this PCA is considered to be of *de minimis* concern.
- S13: (other) Garage operations – According to previous reports, garage operations were historically present at 12267 Hurontario Street, southeast adjacent to the site garage. This PCA is located downgradient of the site. Furthermore, this PCA was investigated at the source by EXP (2020b) and no impacts were identified. As such, this PCA is considered to be of *de minimis* concern.

Figure 3A illustrates all PCAs. Resulting APECs are shown on Figure 3B.. The APECs are summarized below:

APEC	Location of APEC on Phase One Property	PCA[1]	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
A	Northwestern portion of site	(28) Gasoline and associated product storage in fixed tanks	On-site (S1)	PHCs, VOCs	Soil
B	Northwestern portion of site	(28) Gasoline and associated product storage in fixed tanks	On-site (S2)	PHCs, VOCs	Soil
C1	Northwestern portion of site	(28) Gasoline and associated product storage in fixed tanks	On-site (S3a)	PHCs, VOCs	Soil
C2	Northwestern portion of site	(Other) – fuel leak	On-site (S3b)	PHCs, BTEX	Soil and groundwater
D1	Southeastern portion of site	(28) Gasoline and associated product storage in fixed tanks	On-site (S4a)	PHCs, VOCs	Soil
D2	Southeastern portion of the site	(28) Gasoline and associated product storage in fixed tanks	On-site (S4b)	PHCs, VOCs	Soil
E	Northern portion of site	(other) salt storage	On-site (S5)	EC, SAR Sodium, chloride	Soil Groundwater

APEC	Location of APEC on Phase One Property	PCA[1]	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
F	Northwestern portion of site	(52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	On-site (S6)	PHCs, VOCs, PAHs	Soil and groundwater
G	Northwestern portion of site	(52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	On-site (S7)	PHCs, VOCs, PAHs	Soil and groundwater
H	Southeastern portion of site	(other) garage operations	On-site (S8)	PHCs, VOCs, PAHs	Soil and groundwater
I	Northwestern portion of site	(30) Importation of Fill Material of Unknown Quality	On-site (S9)	PAHs, metals (including hydride forming metals)	Soil
J	Southeastern portion of the site	(30) Importation of Fill Material of Unknown Quality	On-site (S10)	PAHs, metals (including hydride forming metals)	Soil
K	Northern and northwestern portion of the site	(28) Gasoline and Associated Products Storage in Fixed Tanks (52) Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-site, north adjacent (S14 [PCA 28] and S15 [PCA 52])	PHCs, VOCs	Groundwater

[1] The number presented in brackets is the PCA number listed in Table 2, Schedule D of O. Reg. 153/04. Where the activity is not listed, it is identified as "Other".

PHCs – Petroleum hydrocarbons; BTEX – benzene, toluene, ethylbenzene, xylenes; VOC – volatile organic compounds;
PAH – polycyclic aromatic hydrocarbons; EC – Electrical Conductivity; and, SAR – Sodium Adsorption Ratio

2. Subsurface Structures and Utilities

The utilities and services were identified at the site based on information provided in environmental records, relevant utility infrastructure observed during the site reconnaissance, and public and private locates completed at the site. Given the depth of the unconfined groundwater table, ranging from 0.33 (N2) to 3.24 (N7) metres below ground surface (mbgs), it is possible that local groundwater flow conditions would be influenced by the underground gas lines at the western portion of the site along Hurontario Road. However, based on the distribution of groundwater impacts, the impacts do not extend to the present location of utilities. The site utilities are summarized in the table below (see Figure 2 for the location of the gas main).

Utility	Source	Location
Natural Gas	Enbridge	Utility enters the from Hurontario Street and is present at the western boundary of the site.
Sanitary Sewer	Municipality – Region of Peel	Not present on-site.
Storm Sewer	Municipality – Region of Peel	Not present on-site.
Water	Municipality – Region of Peel	Not present on-site.
Electricity	Hydro-one	Not present on-site.
Telecommunications	Bell Canada, Rogers	Not present on-site.

3. Physical Setting

3.1 Stratigraphy

The site is located in the physiographic region known as the South Slope, characterized by sandy tills in the east and clayey tills in the west (Physiography of Southern Ontario, Chapman and Putnam, 1984). Overburden at the site is anticipated to consist of clay to silt-textured till (Sharpe, 1980).

According to the Geological Survey of Canada map of the area (Southern Ontario, 1:1,000,000 Scale, Sheet SSS, Map 2544), the underlying geology comprises the Queenston Formation. Bedrock at the site consists of shale, limestone, siltstone, and dolostone (Bedrock Geology of Ontario – Southern Sheet, Map 2544, Ministry of Northern Development and Mines).

The topography in the vicinity of the subject property is relatively flat. Regionally, the land slopes to the southeast, towards the Etobicoke Creek. Drilling investigations have shown that the subsurface soil at the subject property consists of a thin layer of sand and gravel fill (generally less than 0.6 m in thickness) or reworked native clayey silt to silty clay to a maximum depth of 1.5 mbgs, underlain by native clayey silt to clayey silt till a maximum depth of 9.1 mbgs, underlain by sandy silt till to a depth greater than 18.3 mbgs. Bedrock was not encountered during any of the investigations. However, based on MECP well records in the vicinity of the site, shale bedrock is present at approximately 38 mbgs. The soil at the site was wet from below approximately 2.0 mbgs.

Grain size analysis was performed on three samples, BH101-SS3 (1.52 to 2.13 mbgs) within the clayey silt till, BH102-SS1 (grade to 0.61 mbgs) within the clayey silt fill and BH104-SS3 (1.52 to 2.13 mbgs) within the clayey silt till. Approximately 70.3, 63.7 and 70.0% by mass of the samples consisted of a particle size smaller than 75 µm in diameter. As a result, soil is considered medium to fine textured.

The CSM cross-section aerial plan (Figure 4) and cross-sections of the subject property (Figures 5A to 6J) were developed showing the stratigraphy of the subject property.

3.2 Hydrogeological Characteristics and Approximate Depth to Water Table

Based on monitoring data, groundwater beneath the subject property is found in the overburden at a depth of 0.33 (N2) to 3.24 (N6) mbgs (254.66 (N6) to 257.42 (N2) metres above sea level (masl)).

Groundwater contours and groundwater flow directions in the overburden are shown on Figure 7 and indicate a localized groundwater flow to the southeast. The groundwater contour is based on measurements obtained on April 30, 2019. Although there are a minimum of three (3) wells on-site, to assist in groundwater triangulation, one off-site monitoring well (S6) on the south adjacent parcel was also included to develop the groundwater contour plan. Taking into consideration surface water features in the surrounding area, regional groundwater flow direction is inferred to be southeast, towards Lake Ontario and Etobicoke Creek.

Results of groundwater monitoring activities indicate a localized on-site horizontal hydraulic gradient of 0.025 m/m to the southeast, in the clayey silt to silty clay till. The regional horizontal hydraulic gradient is estimated to be approximately 0.001 m/m towards the southeast based on topography and surface water features in the region.

The vertical hydraulic gradient was calculated on March 5, 2020 between the nested well pair N3/BH103 to be -7.81 m/m, in the downward direction.

The hydraulic conductivity has not been calculated on-site but is estimated to be 1.0×10^{-8} m/s based on the soil type and literature values provided by Freeze and Cherry (1979).

Based on the calculated hydraulic gradient of 0.025 m/m, a hydraulic conductivity of 1.0×10^{-6} cm/s and an effective porosity of 20% (McWhorter and Sunada, 1977), Darcy's Law was used to calculate a groundwater flow velocity through the native clayey silt to sandy silt, at a rate of approximately 0.039 metres (39 millimetre) per year.

3.3 Considerations with Respect to Section 41 or 43.1 of the Regulation and Applicable Site Condition Standards

Section 41 of O. Reg. 153/04 dictates certain restrictions in application of Site Condition Standards (SCS) for environmentally sensitive areas. The site is not identified as an environmentally sensitive area and, therefore, the restrictions identified in Section 41 do not apply.

Information available on the Ministry of Natural Resources and Forestry (MNRF) website indicated that the site is not located on or within 30 m of any Areas of Natural and Scientific Interest (ANSIs) such as provincial parks, conservation reserves, wilderness areas, or wetlands.

The site is not located within a "natural heritage system", the "Greenbelt Plan Area", "Niagara Escarpment Plan Area", or "Oak Ridges Moraine Conservation Plan Area" according to Schedules A1 and S, of the Town of Caledon Official Plan (2018).

The site is not located within 30 metres of an "environmentally sensitive/significant area", "provincially significant wetland", "special policy area", "provincial greenbelt/protected countryside", "areas of natural and scientific interest – life science and earth science" according to "Schedule D" of the City of Brampton Official Plan (2015).

Three (3) surface soil samples including one field duplicate sample and one (1) subsurface soil sample were analyzed for soil pH. Soil pH ranged from 6.62 to 7.25. As such, soil pH is in the range of 5 to 9 for surface soil (less

than 1.5 m below soil surface) and 5 to 11 for subsurface soil (greater than 1.5 m below soil surface) such the site is not considered an environmentally sensitive site per Section 41 of O. Reg. 153/04.

Section 43.1 of O. Reg. 153/04 defines the restrictions when using the SCS for a shallow soil property or a site located near a water body. As discussed, bedrock was not encountered during the Phase Two investigations (EXP, 2019; EXP, 2020b; EXP, 2021b), where the boreholes were advanced to a maximum depth of 18.3 mbgs. As bedrock is not found at a depth of less than 2 mbgs on-site, the site is not considered to be a shallow soil property. The site is not located within 30 metres of a water body. The nearest water body to the site is a tributary of Etobicoke Creek, located approximately 180 metres to the east, based on the closest point and 610 metres to the southeast on the downgradient site of the Site based on the local groundwater flow direction.

Groundwater across the site was identified from a depth of 0.33 (N2) to 3.24 (N6) mbgs. Thus, shallow groundwater conditions, where water table depth is observed at less than 3.0 mbgs was identified at the site. This may have implications on pathways associated with volatile contaminants identified at the site, as discussed further, below.

Based on the information provided above, the generic Standards for the site and Phase Two CSM were determined to be the Table 4 Stratified SCS for residential/parkland/institutional land use with medium to fine textured soils (herein referred to as Table 4 SCS), as listed in the MECP technical document *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* referenced by O. Reg. 153/04.

Shallow Groundwater Considerations

As discussed in Section 3.2, the minimum depth to the groundwater table was noted to be 0.33 mbgs. This depth is not consistent with the assumptions applied by the MECP in the evaluation of the indoor air vapour intrusion pathway using the Johnson and Ettinger (J&E, 1991) approach under the Table 4 SCS. As a result, all volatile groundwater parameters were compared to the Table 6 SCS which are representative of a shallow groundwater scenario. As all volatile parameters met the Table 6 SCS, no further consideration of the shallow groundwater condition is required.

3.4 Areas Where Soil Has Been Brought from Another Property

During the Phase Two investigation, EXP identified fill in the southern and north eastern portions of the site, including the footprints of the two (2)former residential structures. The importation of fill material of unknown quality was considered a PCA beneath former building footprints, as indicated in Figure 3A.

As part of the remediation completed at the site (see Section 4.1.1), the remedial excavation was backfilled with Granular A material; no soil was imported to the site as part of the Phase Two ESAs or remediation.

3.5 Approximate Locations of Proposed Buildings and Other Structures, if Any

There are presently no buildings or structures located on-site. However, several buildings were formerly located on-site, as shown in Figure 2. The buildings were used for residential, commercial and light industrial purposes, including trailer repair and garage operations. The intended redevelopment of the site includes a residential subdivision, however the designs have yet to be determined.

4. Areas of Contamination and Distribution of Contaminants

Subsurface investigations were completed to assess the impact of the PCAs in soil and groundwater within APECs on the site. The screening of contaminants of concern (COC) was done by comparing the concentrations of pCOCs in soil and groundwater with the Table 4 Standards.

Soil analytical results are presented on cross section Figures 5A to 5E and 6A to 6E and in plan view on Figures 8A to 8E. Groundwater analytical results are presented on cross-section Figures 5F to 5J and 6E to 6J and in plan view on Figures 9A to 9E.

A summary of the assessment of APECs is provided below.

APEC	Location of APEC	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Phase Two Assessments	Current Status (Exceedances of SCS)
A	Northwestern portion of site	On-site	Soil: PHCs, VOCs	One soil sample was submitted for analysis of PHC fractions F1 to F4 and VOCs from N4.	No exceedances of the MECP Table 4 Standards were identified in soil for the parameters analyzed.
B	Northwestern portion of site	On-site	Soil: PHCs, VOCs	One soil sample was submitted for analysis of PHC fractions F1 to F4 and VOCs from N8.	No exceedances of the MECP Table 4 Standards were identified in soil for the parameters analyzed.
C1	Northwestern portion of site	On-site	Soil: PHCs, VOCs	Seven soil samples were analyzed for PHC fractions F1 to F4 from N7, N7-N, N7-E, N7-W and N7-S. Three soil sample was analyzed for BTEX and/or VOCs from N7.	An exceedances of PHC fraction F2 was identified at N7. This exceedance was vertically delineated to a depth of 2.3 mbgs and horizontally delineated by boreholes N7-N, N7-E, N7-W, and N7-S. The PHC – impacted soil was remediated, and confirmatory soil sampling completed between September 2020 and May 2021. Therefore, following remediation, no exceedances of the MECP Table 4 Standards remain in soil associated with this APEC.

APEC	Location of APEC	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Phase Two Assessments	Current Status (Exceedances of SCS)
C2	Northwestern portion of site	On-site	Soil and Groundwater: PHCs, BTEX	<u>Soil</u> Seven soil samples were analyzed for PHC fractions F1 to F4 from N7, N7-N, N7-E, N&-W and N7-S. Three soil sample was analyzed for BTEX and/or VOCs from N7. <u>Groundwater</u> One groundwater sample and one QA/QC duplicate sample was collected from N7 and analyzed for PHC fractions F1 to F4 and VOCs.	<u>Soil</u> An exceedance of PHC fraction F2 was identified at N7. This exceedance was vertically delineated to a depth of 2.3 mbgs and horizontally delineated by boreholes N7-N, N7-E, N7-W, and N7-S. The PHC – impacted soil was remediated, and confirmatory soil sampling completed between September 2020 and May 2021. Therefore, following remediation, no exceedances of the MECP Table 4 Standards remain in soil associated with this APEC. <u>Groundwater</u> No exceedances of the MECP Table 4 Standards were identified in groundwater for the parameters analyzed.
D1 and D2	Southeastern portion of site	On-site	Soil: PHCs, VOCs	Two soil samples were analyzed for PHC fractions F1 to F4 and VOCs from N11.	No exceedances of the MECP Table 4 Standards were identified in soil for the parameters analyzed.
E	Northern portion of site	On-site	Soil: EC, SAR Groundwater: Sodium, chloride	<u>Soil</u> Fifteen soil samples and three QA/QC duplicates were analyzed for EC and SAR from N3, N3-N, N3-E, N3-S and N3-W. As part of delineation activities of exceedances within this APEC, additional soil samples were collected from the north/northwest portion of the site and analyzed for EC and SAR. Samples were collected from at depths ranging from grade to 3.7 mbgs. <u>Groundwater</u> Groundwater samples and two QA/QC duplicate samples were collected	<u>Soil</u> Exceedances of EC and/or SAR in soil was identified at various locations on the northeast and northern portion of the site. The EC and SAR impacted soil was remediated to the property-specific standards (PSS) and confirmatory soil sampling completed between September 2020 and May 2021. Therefore, although some exceedances of the Table 4 surface soil SCS remain, concentrations are within remedial targets. <u>Groundwater</u> Exceedances of sodium and chloride in groundwater was identified at several locations

APEC	Location of APEC	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Phase Two Assessments	Current Status (Exceedances of SCS)
				from N3, BH103 and BH203 analyzed for sodium and chloride. As part of delineation activities, additional groundwater samples were collected from the north/northwest portion of the site and analyzed for sodium and chloride.	on the northeast and northern portion of the site. Vertical delineation at the area of maximum impact has been achieved at BH203.
F	Northwestern portion of site	On-site	Soil and Groundwater: PHCs, VOCs, PAHs	<u>Soil</u> Three soil samples were analyzed for PHC fractions F1 to F4 and VOCs from N4 through N6. One soil sample was analyzed for PAHs at BH104. <u>Groundwater</u> One groundwater sample was analyzed for PHC fractions F1 to F4, VOCs, and PAHs at N6.	<u>Soil</u> No exceedances of the MECP Table 4 Standards were identified in soil for the parameters analyzed. <u>Groundwater</u> No exceedances of the MECP Table 4 Standards were identified in groundwater for the parameters analyzed.
G	Northwestern portion of site	On-site	Soil and Groundwater: PHCs, VOCs, PAHs	<u>Soil</u> Eight soil samples were analyzed for PHC fractions F1 to F4 from N8, N7, N7-N, N7-E, N&-W and N7-S. Four soil sample was analyzed for BTEX and/or VOCs from N7. One soil sample was analyzed for PAHs at BH105. <u>Groundwater</u> One groundwater sample and one QA/QC duplicate was collected from N7 and analyzed for PHC fractions F1 to F4, VOCs and PAHs.	<u>Soil</u> An exceedance of PHC fraction F2 was identified at N7. This exceedance was vertically delineated to a depth of 2.3 mbgs and horizontally delineated by boreholes N7-N, N7-E, N7-W, and N7-S. The PHC – impacted soil was remediated, and confirmatory soil sampling completed between September 2020 and May 2021. Therefore, following remediation, no exceedances of the MECP Table 4 Standards remain in soil associated with this APEC. <u>Groundwater</u> No exceedances of the MECP Table 4 Standards were identified in groundwater for the parameters analyzed.
H	Southeastern portion of site	On-site	Soil and Groundwater: PHCs, VOCs, PAHs	<u>Soil</u> Three soil samples were analyzed for PHC fractions	<u>Soil</u> No exceedances of the MECP Table 4 Standards were

APEC	Location of APEC	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Phase Two Assessments	Current Status (Exceedances of SCS)
				F1 to F4 and VOCs from N10 and N11. One soil sample was analyzed for PAHs at BH107. <u>Groundwater</u> One groundwater sample was analyzed for PHC fractions F1 to F4, VOCs and PAHs at N11.	identified in soil for the parameters analyzed. <u>Groundwater</u> No exceedances of the MECP Table 4 Standards were identified in groundwater for the parameters analyzed.
I	Northwestern portion of site	On-site	Soil: PAHs, metals (including hydride forming metals) and ORPs: B-HWS, CN^-, Hg, EC and SAR	One soil sample was analyzed for PAHs at N1. One soil sample and one QA/QC duplicate were analyzed for metals (including hydride-forming metals), ORPs: B-HWS, CN^-, HG, EC, and SAR at BH101.	No exceedances of the MECP Table 4 Standards were identified in soil for the parameters analyzed.
J	Southeastern portion of the site	On-site	Soil: PAHs, metals (including hydride forming metals) and ORPs: B-HWS, CN^-, Hg, EC and SAR	One soil sample was collected from BH106 analyzed for PAHs. One soil sample was collected from N1 and analyzed for metals (including hydride-forming metals), ORPs: B-HWS, CN^-, HG, EC, and SAR at N9.	No exceedances of the MECP Table 4 Standards were identified in soil for the parameters analyzed.
K	Northern and northwestern portion of the site	Off-site	Groundwater: PHCs, VOCs	Two groundwater samples and one QA/QC duplicate were collected from N2 and BH102 and analyzed for PHC fractions F1 to F4 and BTEX.	No exceedances of the MECP Table 4 Standards were identified in groundwater for the parameters analyzed.

4.1 Soil

Soil exceedances of the Table 4 SCS were identified for PHC fraction F2 and EC/SAR.

Only one exceedance of PHC fraction F2 was identified at N7 and was horizontally delineated by N7-N, Ny-E, N7-S and N7-W, as shown in Figure 8A. Vertical delineation was achieved at this location at a depth of 2.3 mbgs as shown in Figure 6A. It is noted that these impacts were remediated, and confirmatory soil sampling completed between September 2020 and May 2021as discussed in Section 4.1.1.

EC and SAR exceedances were identified in the vicinity of the historic salt storage area and are present on the north and northeast portion of the site as shown in Figure 8E. The extent of EC/SAR impacts extended to 1.5 mbgs; it is noted that below 1.5 mbgs EC and SAR have no applicable Table 4 SCS as these parameters are of concern to ecological health (plants) only and it is not anticipated plants will come in contact with soil at depths below 1.5 mbgs. The vertical extent of EC and SAR is shown on Figures 5E and 6E. It is noted that EC and SAR were remediated between September 2020 and May 2021 to within target PSS as derived in the modified generic risk assessment (MGRA) currently underway for the site.

Based on the remedial activities completed to date, the only COCs in soil remaining at the site are EC and SAR.

4.1.1 Remedial Excavation and Confirmatory Sampling

The objective of the remedial program was to remove soil impacted with PHC fraction F2 on the central portion of the Site to within the Table 4 SCS and remove soil impacted with EC and SAR on northern portion of the Site to within PSS, derived through the MGRA (EXP, 2021a). The excavation activities were divided into two areas: Area 1 (PHC remediation) and Area 2 (EC/SAR Remediation). A total of 7,820 tonnes (approximately 3,910 m^3) of PHC, EC, and SAR impacted soil was removed from the Site as part of the remedial excavation. The remedial excavation was completed between August 28 to September 3, 2020 and May 17 to May 28, 2021.

The excavations were backfilled with granular A material.

Confirmatory soil sampling was conducted at a frequency indicated by O. Reg. 153/04 Schedule E, Table 3, *Minimum Confirmation Sampling Requirements for Excavation*. Details of each Remedial Area and the confirmatory sampling is provided below.

Area 1 Excavation

The objective of remedial excavation at Area 1 was to remove the PHC impacted soil near N7. The final size of the Area 1 Excavation was square in shape and measured approximately 6 metres at its maximum length and 6 metres at its maximum width, with a total area of approximately 36 m^2. The depth of excavation within Area 1 was 2.3 metres in depth.

A total of three (3) floor samples, two (2) wall samples, and one field duplicate sample were obtained to verify the extent of the soil PHCs and BTEX in Area 1. The soil samples were chosen at worst-case locations, based on field observations and where historical exceedances were identified. It is to be noted that the floor samples were collected from the bottom of the excavation at 2.3 mbgs. All six (6) confirmatory floor samples for PHCs within Area 1 Excavation met MECP Table 4 SCS.

Area 2 Excavation

The objective of Area 2 was to remove the EC and SAR impacted soil in the northern portion of the Site to within remedial targets (i.e. PSS). The final size of the Area 2 Excavation was rectangular in shape and measured approximately 98 metres at its maximum length and 37 metres at its maximum width, with a total area of approximately 2,550 m^2. The depth of excavation within Area 2 ranged from approximately 1.5 to 2.0 metres in depth.

A total of seventeen (17) floor samples, thirty-four (34) wall samples, and six (6) field duplicate samples were collected as part of the remedial activities. In the case where a sample was found to be in exceedance of the PSS, the excavation was further extended until a 'clean' boundary was found. The Area 2 excavation was advanced to the northern site boundary and as such, the wall samples from this portion of the Site were subsequently

removed. A total of fourteen (14) floor samples and twenty-one (21) wall samples were collected from the final extent of the excavation along floor and the east, south and west walls to verify the extent of the remediation.

All confirmatory soil samples collected from the final extents of the Area 1 Excavation and Area 2 Excavation had concentrations within the MECP Table 4 SCS (PHCs) or the PSS (EC and SAR). Therefore, the PHCs, EC and SAR impacts in soil were remediated to within Table 4 and/or PSS Standards.

Upon completion of the remedial excavation and confirmatory sampling activities (EXP, 2021a), remaining soil at the site was determined to be within the MECP Table 4 SCS for PHC fraction F2 and within the PSS for EC and SAR.

4.2 Groundwater COCs

Groundwater exceedances of sodium and chloride in the vicinity of historic salt storage have been identified at the site. These impacts are present on the north and northeast portion of the site as shown in Figure 9E. Vertical delineation was achieved at BH203, as shown on cross-section Figure 6J.

Monitoring programs, including monitoring for the presence of non-aqueous phase liquid (NAPL), have been conducted at the site. NAPL has not been encountered at the site during any monitoring event.

4.3 Areas Where Contaminants Are Present

The areas each soil and groundwater COC group is present at concentrations above the Table 4 SCS are shown on plan view in Figures 8A, 8E and 9E. The table below summarizes each area of contamination (AOC), prior to remedial activities.

AOC	Location	COCs in Excess of Table 4 SCS	Medium	Discharge of Contaminants into the Natural Environment	Migration of Contaminants	Influence of Climatic or Meteorological Conditions	Vapour Intrusion Pathway Considerations
A**	Northwest corner of site	Petroleum related parameters (PHC fraction F2)	Soil	The PHC fraction F2 exceedance is likely associated with the former AST in this area.	Given that soil is immobile, no significant migration of the soil contamination is anticipated. Migration of contaminants in soil via leaching of contamination to groundwater is a possible migration pathway. However, as no groundwater exceedances were identified in this area of the site, this migration pathway is not anticipated to be significant for this AOC. Furthermore, this AOC has been remediated as summarized in Section 4.1.1.	Historic monitoring data from previous investigations indicates there is little variation in measured groundwater levels and inferred groundwater flow directions in the silty clay to clayey silt till aquifer. Therefore, temporal variability in groundwater flow direction due to climatic and meteorological conditions is not expected to have a significant influence on distribution and migration of contaminants. However, there may have been increased leaching during heavy rainfall or snowmelt prior to remediation.	Currently there are no buildings present on-site. However, PHC fraction F2 may be present under future buildings constructed on-site and may present a risk to receptors via vapour intrusion, however this parameter was remediation as summarized in Section 4.1.1.
B	North/Northeast portion of site; in the vicinity of the former salt storage area	ORPs (EC, SAR, sodium, and chloride)	Soil and Groundwater	The exceedances of EC and SAR in soil and sodium and chloride in groundwater are attributed to the salt storage and associated salting on the north/northeast portion of the site and may also be due to salting on surrounding major roadways.	Given that soil is immobile, no significant migration of the soil contamination is anticipated. Migration of contaminants in soil via leaching of contamination to groundwater is a possible migration pathway and may be occurring given the presence of sodium and chloride in groundwater. Groundwater impacts are expected to migrate southeast with groundwater flow. Given the minimum depth to groundwater, potential future underground utility conduits may act as a preferential pathway for the migration of the groundwater impacts.	Historic monitoring data from previous investigations indicates there is little variation in measured groundwater levels and inferred groundwater flow directions in the silty clay to clayey silt till aquifer. Therefore, temporal variability in groundwater flow direction due to climatic and meteorological conditions is not expected to have a significant influence on distribution and migration of contaminants. However, there may be increased leaching during heavy rainfall or snowmelt.	As the COCs within this AOC are not volatile, no vapour intrusion pathway exists.

** As PHC fraction F2 in soi has been remediated (see Section 4.1.1) this AOC is no longer present on-site.

5. Receptors and Pathways

Human and ecological CSMs, in the absence of risk management measures (RMM) are provided in Figures 10A and 11, and summarize the human and ecological receptors located on, in, under, and off the subject property; receptor exposure points; and routes of exposure, respectively. It is noted that PHC fraction F2 has been remediated. Furthermore, EC and SAR have been remediated to within target property-specific standards (PSS) as derived in the MGRA for the site. As such, these considerations were included in the development of the human and ecological CSMs (Figures 10 and 11).

The selection of human receptors is based on the intended residential land use. Therefore, relevant on-site human receptors, as illustrated in the human health CSM (Figure 10A), include property residents and visitors or trespassers. Subsurface workers (e.g., construction/utility workers may also be present during redevelopment of the site and as such, are also considered. Relevant off-site receptors for the mixed commercial and residential land uses of the neighbouring properties include property residents, property visitors or trespassers, indoor workers, construction/utility workers and outdoor maintenance workers.

Exposure routes for humans include soil particulate inhalation, direct contact with soil, intentional and incidental ingestion and inhalation of vapours. However, as EC and SAR are parameters of ecological significance only, all human exposure pathways for soil COCs are considered incomplete. As the site is located in a potable groundwater condition, intentional ingestion and dermal contact with sodium and chloride-impacted groundwater is considered a complete exposure pathway. Incidental ingestion and dermal contact with groundwater by construction workers is also considered a complete pathway. Given that sodium and chloride are not volatile, all air pathways are considered incomplete. As RMM are intended for protection of the potable water pathway, the human health CSM in the presence of RMM is presented in Figure 10B.

The selection of ecological receptors takes into consideration the location of the site in a relatively urban area, and the absence of any nearby surface water bodies. Relevant on-site receptors, as illustrated in the ecological CSM (Figure 11) consist of terrestrial valued ecological components (VECs) such as plants, soil invertebrates, mammals and birds. On-site exposure routes include direct contact with soil and uptake of soil COCs by inhalation, ingestion and dermal contact, in addition to plant root uptake. As EC and SAR in soil are only applicable to terrestrial plants and soil invertebrates and are affected by parameters that will not bioaccumulate, all other soil exposure routes are considered incomplete. Groundwater on-site is found at the depth at which plant root uptake is considered to be likely and therefore this pathway is considered to be complete. Off-Site ecological receptors consist of the same terrestrial receptors found on-site, in addition to aquatic species within the nearest surface water body.

6. References

Chapman, L.J. and Putnam, D.F. Physiography of Southern Ontario, 3rd Edition, Ontario Ministry of Natural Resource, 1984.

City of Brampton, City of Brampton Official Plan, 2015.

EXP Services Inc., *Subsurface Environmental Investigation 12197 Hurontario Street, City of Brampton 12211, 12213, 12231, 12233 Hurontario Street, Town of Caledon*, June 11, 2019.

EXP Services Inc. 2020a. *Phase One Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, January 20, 2020.

EXP Services Inc. 2020b. *Phase Two Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, May 22, 2020.

EXP Services Inc. 2021a. Remediation Report, *12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, July 29, 2021.

EXP Services Inc. 2021b. *Phase One Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, January 20, 2020.

EXP Services Inc. 2020c. *Phase Two Environmental Site Assessment, 12197 Hurontario Street, Brampton, Ontario and 12211, 12213, 12231, and 12233 Hurontario Street, Caledon,* Ontario, May 22, 2020.

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall of Canada Ltd., 1979.

McWhorter, D.B. and D.K. Sunada, *Groundwater Hydrology and Hydraulics*, Water Resources Publications, 1977.

Ontario Regulation 153/04, made under the Environmental Protection Act, May 2004, amended.

Ontario Geological Survey (2010) Physiography of Southern Ontario (Scale 1:22,000).

Ontario Geological Survey, Bedrock Geology of Ontario, Southern Sheet, map 2544, scale 1:1,000,000, 1991.

Ontario Ministry of the Environment, Conservation and Parks, Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, April 15, 2011.

Ontario Ministry of Natural Resources and Forestry, Heritage Areas Map, (http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).

Ontario Regulation 153/04, Record of Site Condition, Part XV.1 of the Environmental Protection Act, July 1, 2011.

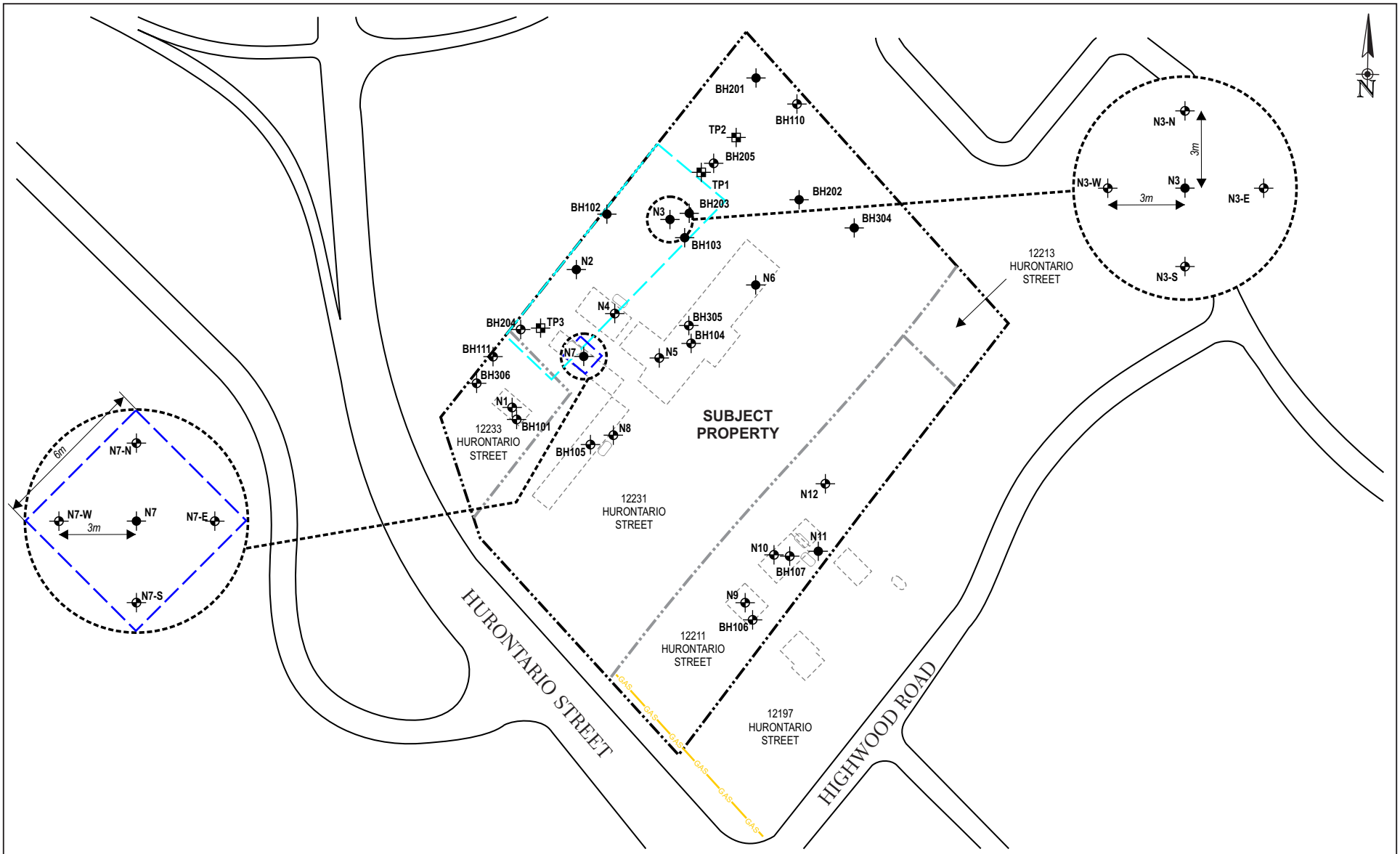
Sharpe, D.R., Quaternary Geology of Toronto and Surrounding Area, Ontario Geological Survey Preliminary Map P. 2204, Geological Series, scale 1:100,000, 1980.

Topographic Map available at the Natural Resources Canada (NRC) website http://atlas.nrcan.gc.ca/site/english/maps/topo/map.

Town of Caledon, Town of Caledon Official Plan, 2018.

SCALE: 0 1000 2000m	**SOURCE:** GOOGLE MAPS	LOCALITY PLAN	FIGURE 1
exp.	DRAWN BY: K.G.	CHECKED BY: T.N.T.	12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO
			PROJECT NUMBER: 257876

257876-MGRA_CP LOCALITY



SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- GAS

SITE PLAN

2

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP SITE PLAN-JAN22:SITE PLAN

N

PCA Source Number	Potentially Contaminating Activity (PCA)
S1	(28) Gasoline and associated products storage in fixed tanks
S2	(28) Gasoline and associated products storage in fixed tanks
S3a	(28) Gasoline and associated products storage in fixed tanks
S3b	(other) fuel leak
S4a	(28) Gasoline and associated products storage in fixed tanks
S4b	(28) Gasoline and associated products storage in fixed tanks
S5	(Other) salt storage
S6	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
S7	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
S8	(other) garage operations
S9	(30) Importation of Fill Material of Unknown Quality
S10	(30) Importation of Fill Material of Unknown Quality
S14	(28) Gasoline and associated products storage in fixed tanks
S15	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
***De-minimis* PCAs**	
S11	(30) Importation of Fill Material of Unknown Quality
S12	(28) Gasoline and associated products storage in fixed tanks
S13	(other) garage operations
S16	(30) Importation of Fill Material of Unknown Quality

SCALE:

0 100 200m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

LEGEND:

- PROPERTY BOUNDARY
- GROUNDWATER FLOW DIRECTION
- (28) INDICATES ITEM NUMBER OF O. REG. 153/04 SCHEDULE D, TABLE 2
- FORMER FEATURES
- LOCATION OF FORMER ABOVE GROUND STORAGE TANKS
- LOCATION OF FORMER UNDER GROUND STORAGE TANKS

PCA - POTENTIALLY CONTAMINATING ACTIVITY
APEC - AREA OF POTENTIAL ENVIRONMENTAL CONSERN
(52) INDICATES ITEM NUMBER OF O. REG. 153/04 SCHEDULE D, TABLE 2

DRAWN BY	CHECKED BY
K.G.	T.N.T.

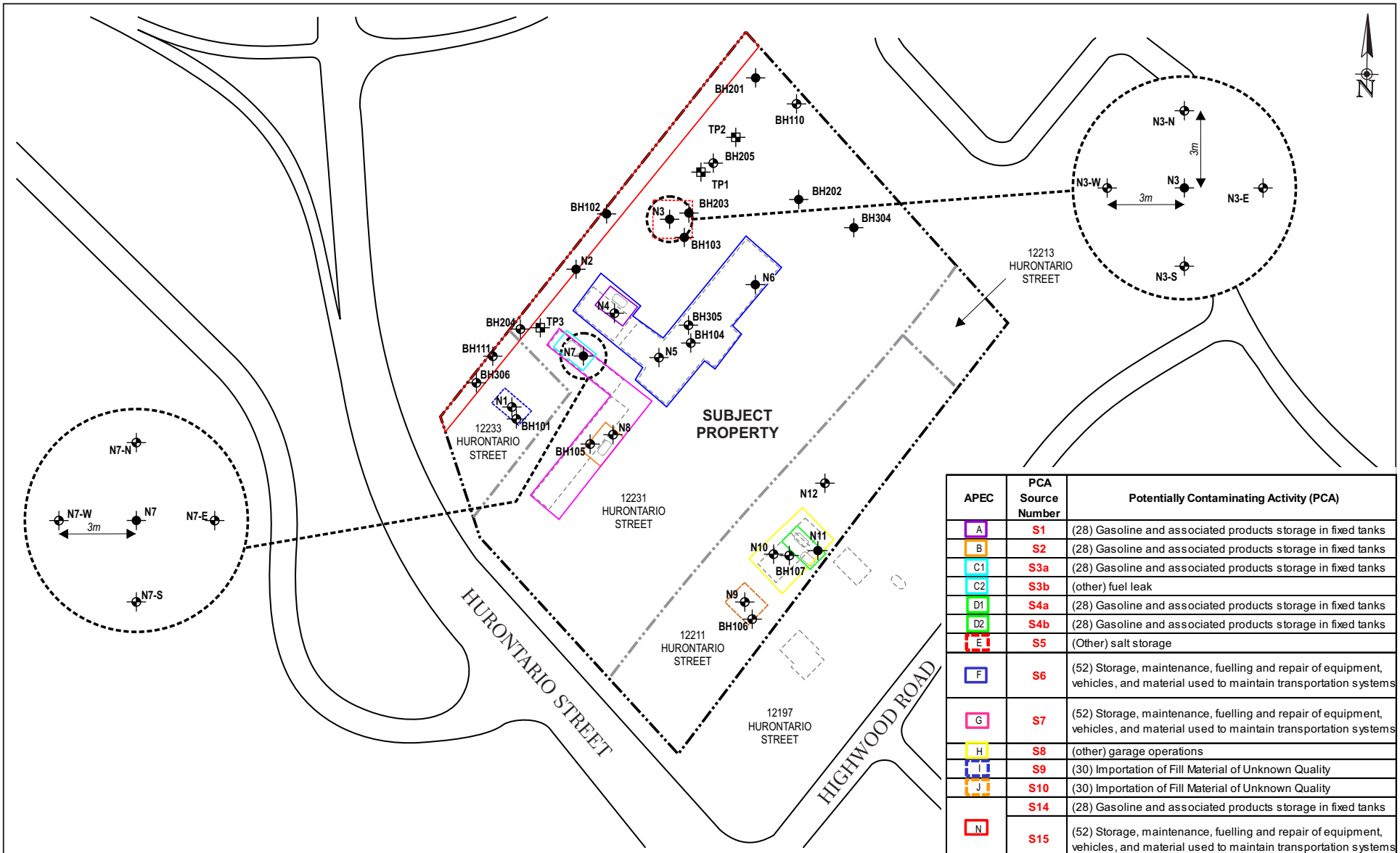
CONCEPTUAL SITE MODEL POTENTIALLY CONTAMINATING ACTIVITIES

FIGURE 3A

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP PCA-JAN22



APEC	PCA Source Number	Potentially Contaminating Activity (PCA)
A	S1	(28) Gasoline and associated products storage in fixed tanks
B	S2	(28) Gasoline and associated products storage in fixed tanks
C1	S3a	(28) Gasoline and associated products storage in fixed tanks
C2	S3b	(other) fuel leak
D1	S4a	(28) Gasoline and associated products storage in fixed tanks
D2	S4b	(28) Gasoline and associated products storage in fixed tanks
E	S5	(Other) salt storage
F	S6	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
G	S7	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems
H	S8	(other) garage operations
I	S9	(30) Importation of Fill Material of Unknown Quality
J	S10	(30) Importation of Fill Material of Unknown Quality
N	S14	(28) Gasoline and associated products storage in fixed tanks
	S15	(52) Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems

SCALE: 0 25 50m

SOURCE:
BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:
- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION

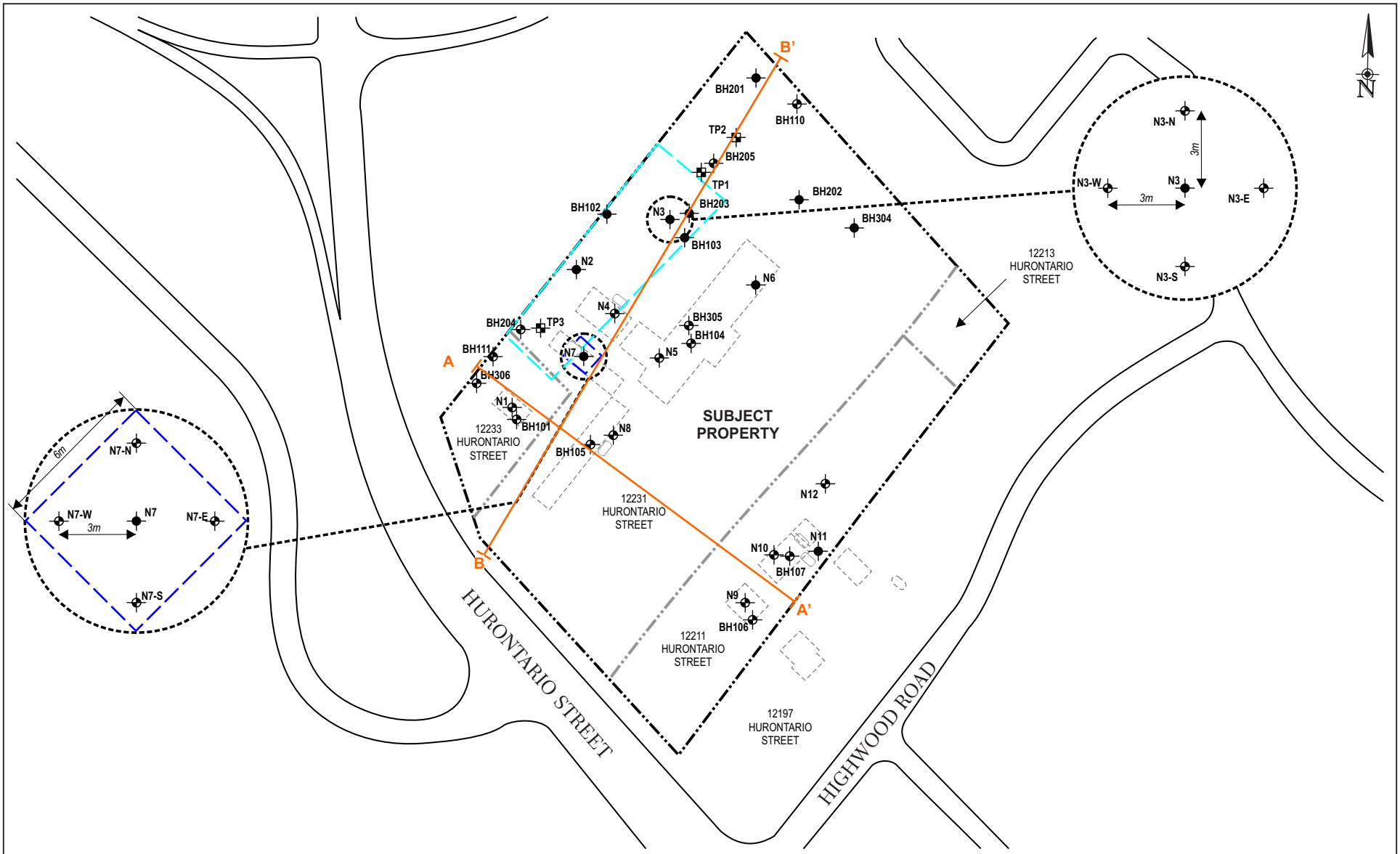
CONCEPTUAL SITE MODEL -APECs

3B

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP SITE PLAN-JAN22:APEC



SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- CROSS SECTION LOCATION

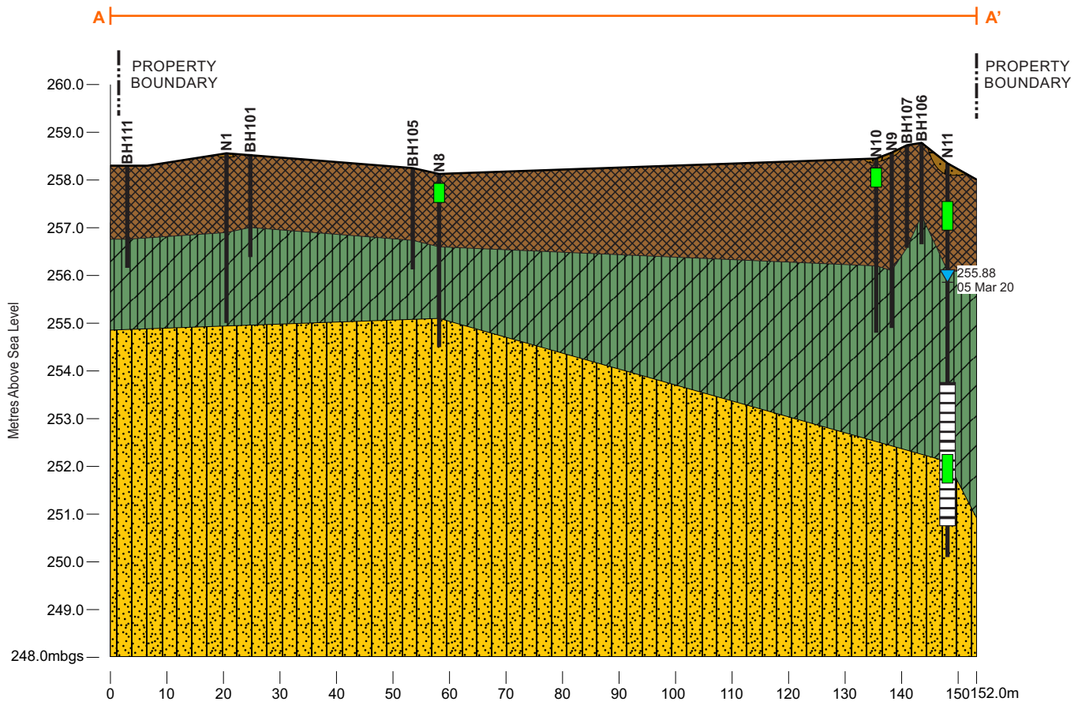
CROSS SECTION PLAN

4

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP SITE PLAN-JAN22-SEC



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: PETROLEUM HYDROCARBONS

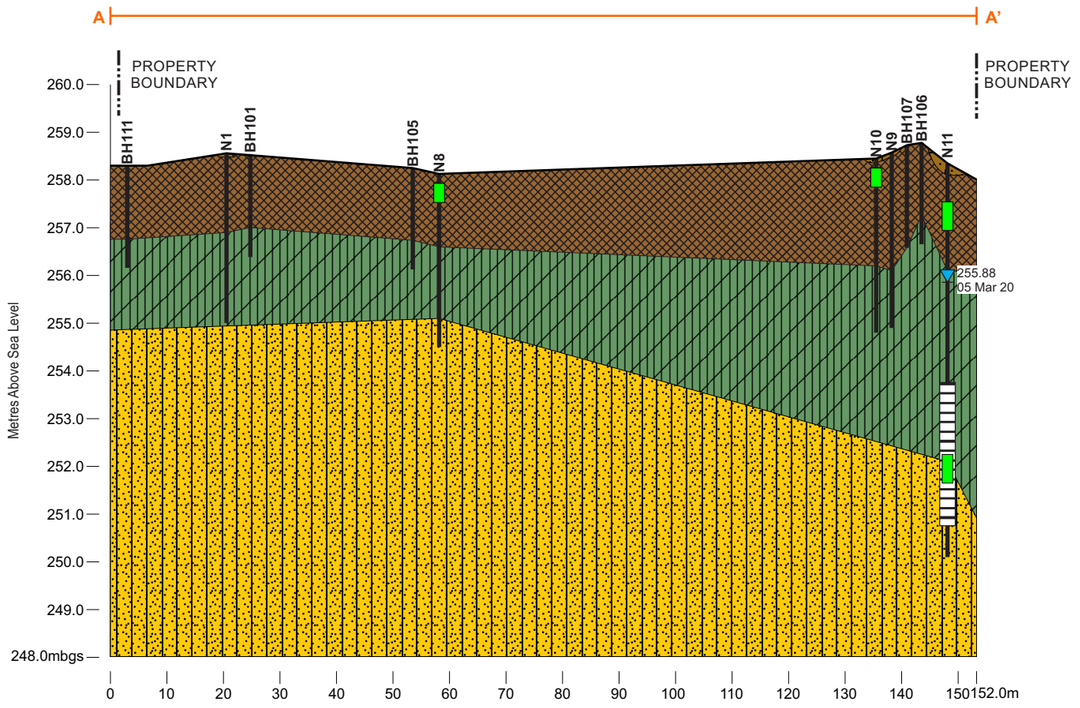
FIGURE 5A

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECA-JAN22: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: VOLATILE ORGANIC COMPOUNDS

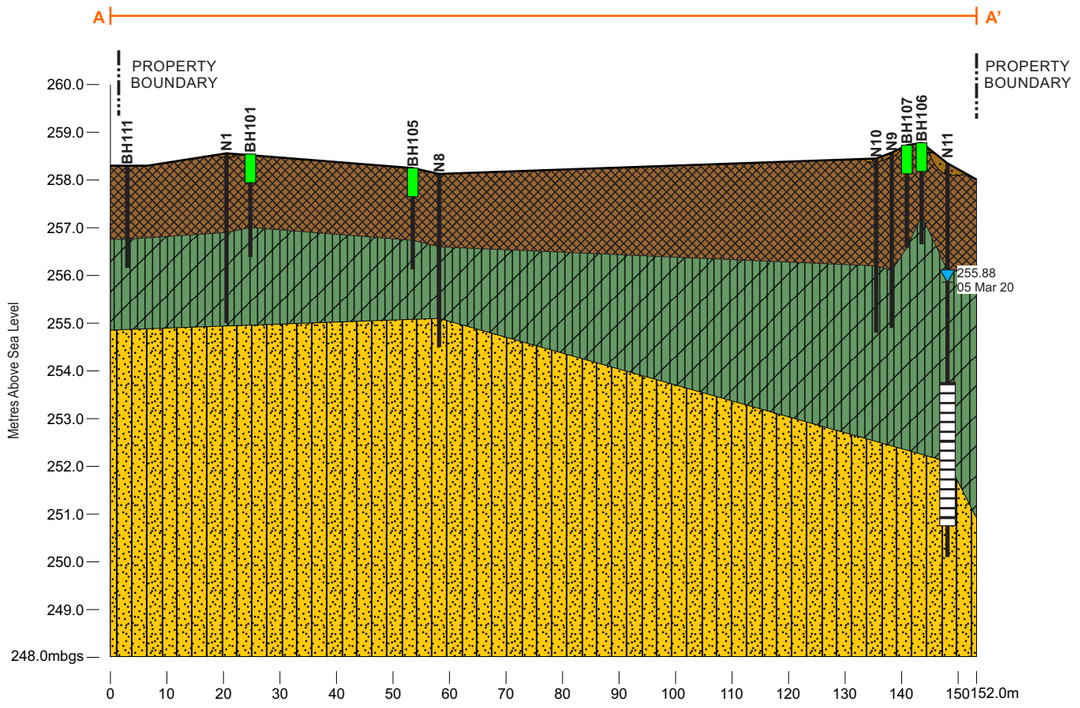
FIGURE 5B

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-XSEC A-A'-MAR20: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: POLYCYCLIC AROMATIC HYDROCARBONS

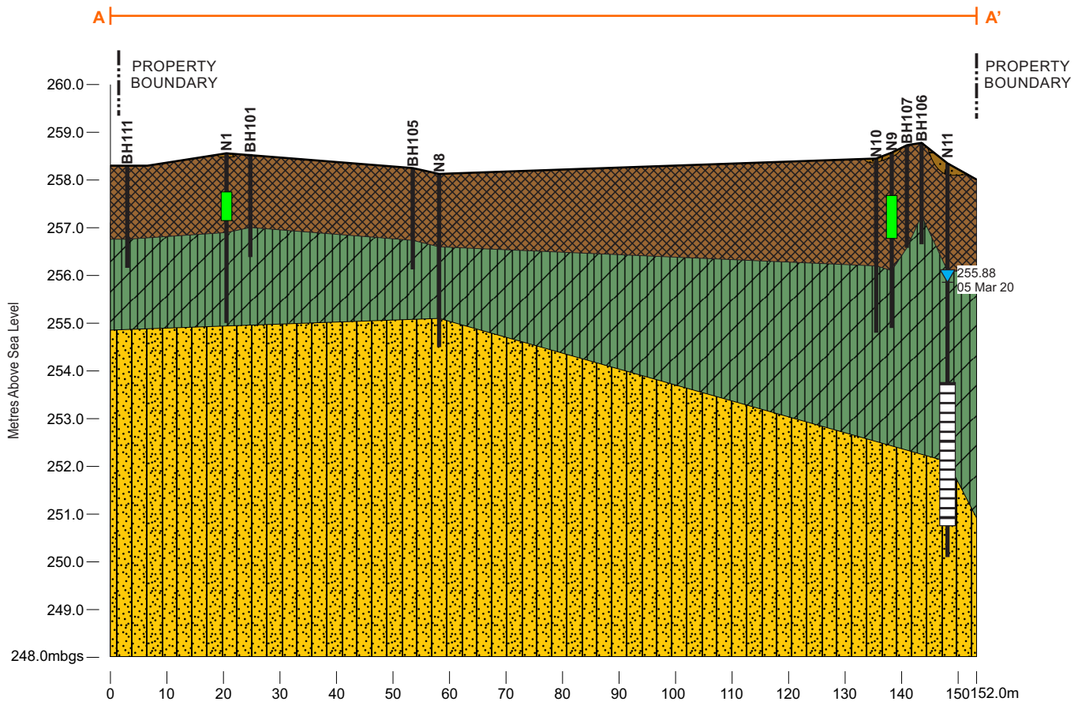
FIGURE 5C

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-XSEC A-A'-MAR20: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL

- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: METALS (INCLUDING HYDRIDE-FORMING METALS)

FIGURE 5D

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

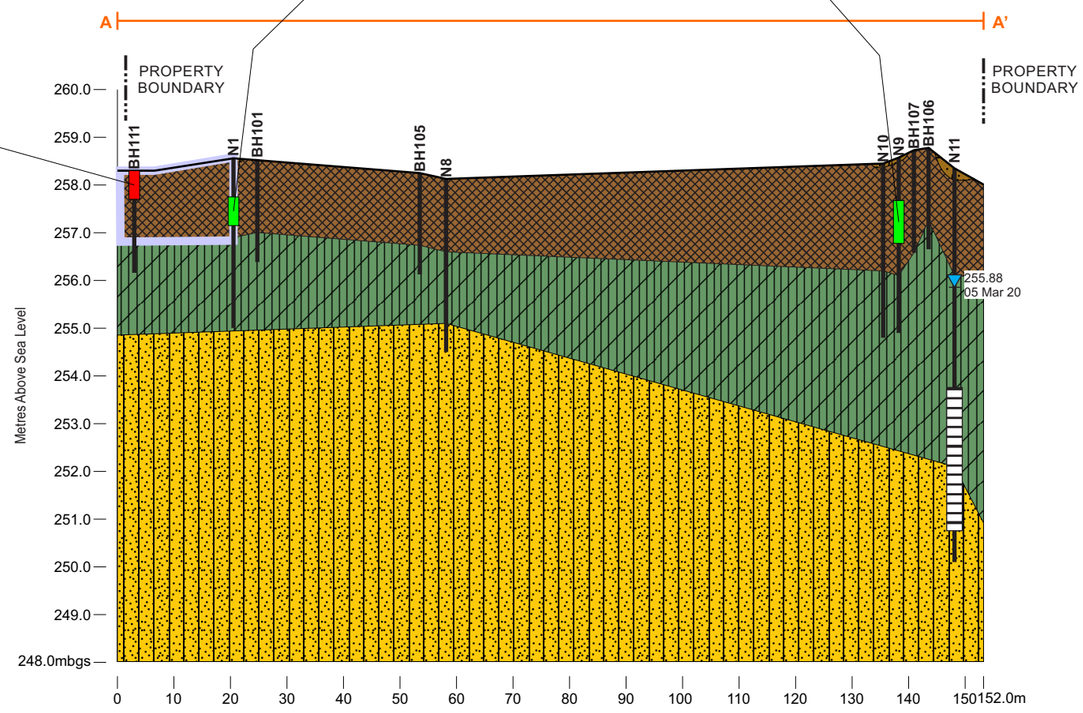
PROJECT NUMBER: 257876

DATE: JANUARY 2022

BH111	
Sample	BH111
Depth (mbgs)	0.3 - 0.61
Date	1-May-2020
EC	0.794
SAR	7.5

N1	
Sample	N1 SS2
Depth (mbgs)	0.8 - 1.4
Date	8-Apr-2019
EC	0.33
SAR	1.03

N9	
Sample	N9 (SS2 + SS3)
Depth (mbgs)	0.9 - 1.8
Date	9-Apr-2019
EC	0.58
SAR	1.49



Parameter	Abbreviation	TABLE 4 Soil Standards*	Units
Conductivity (ms/cm)	EC	0.7	mS/cm
Sodium Adsorption Ratio	SAR	5	µg/g

SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL
- SOIL REMOVED DURING REMEDIATION ACTIVITIES. NOT CARRIED FORWARD IN PHASE TWO CSM
- AREA OF CONTAMINATION AOC B

*STANDARDS SHOWN ARE FOR AN INDUSTRIAL/COMMERCIAL/COMMUNITY PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

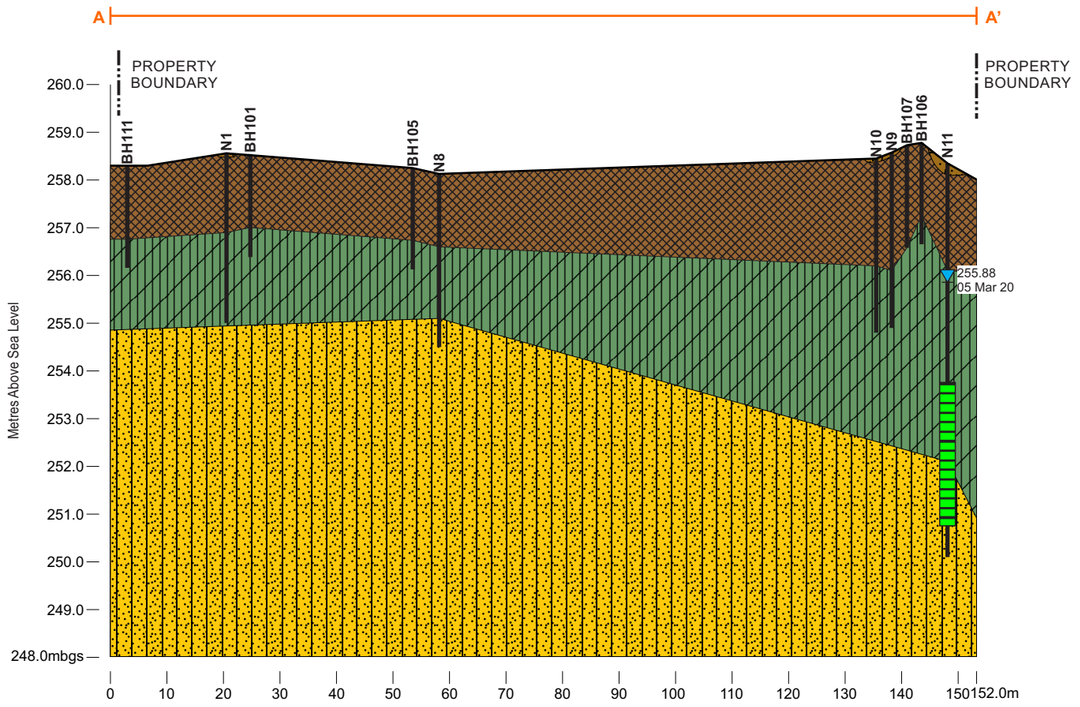
LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: OTHER REGULATED PARAMETERS (INCLUDING EC AND SAR)

FIGURE 5E

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – GROUNDWATER ANALYTICAL RESULTS: PETROLEUM HYDROCARBONS

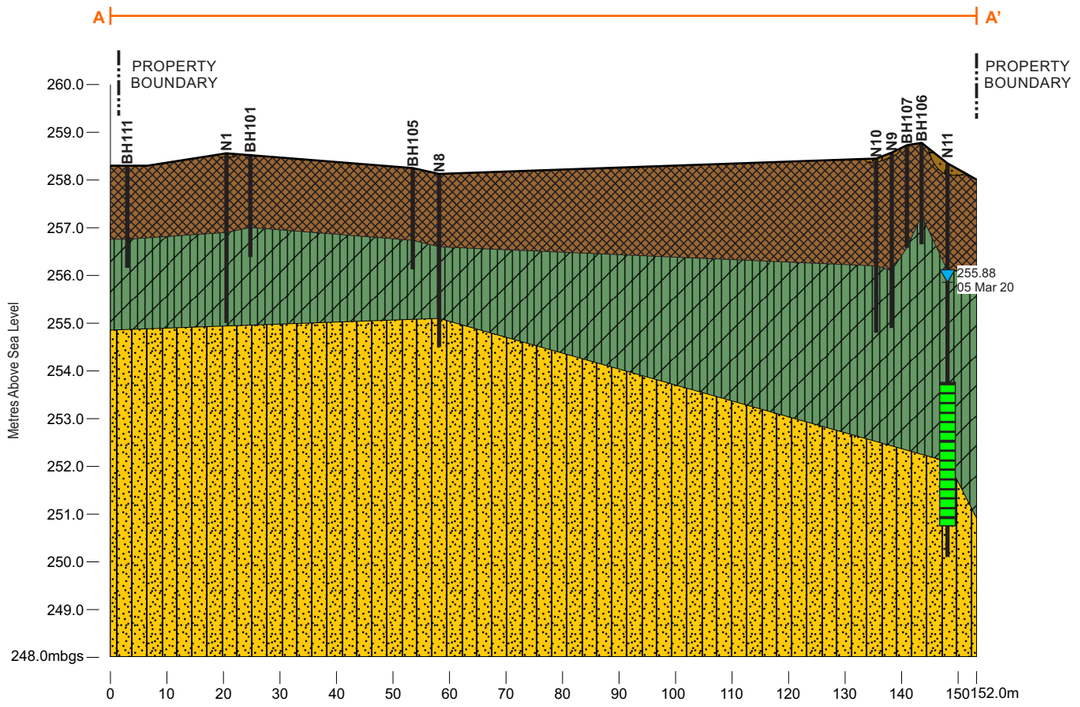
FIGURE 5F

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECA-JAN22: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – GROUNDWATER ANALYTICAL RESULTS: VOLATILE ORGANIC COMPOUNDS

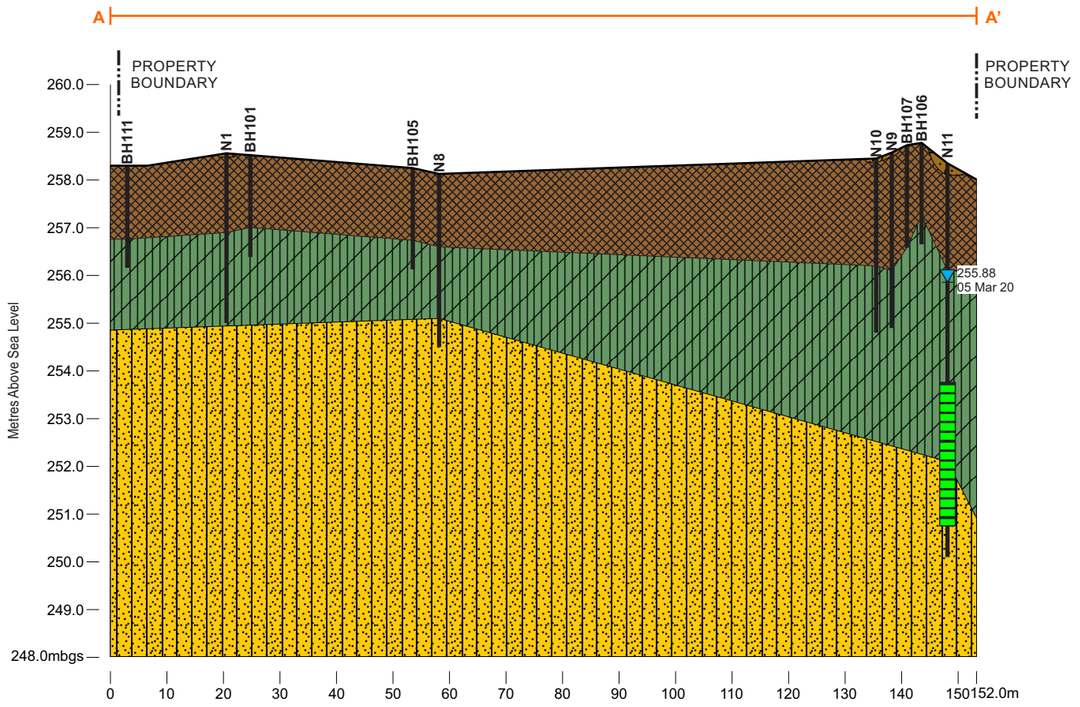
FIGURE 5G

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECA-JAN22: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – GROUNDWATER ANALYTICAL RESULTS: POLYCYCLIC AROMATIC HYDROCARBONS

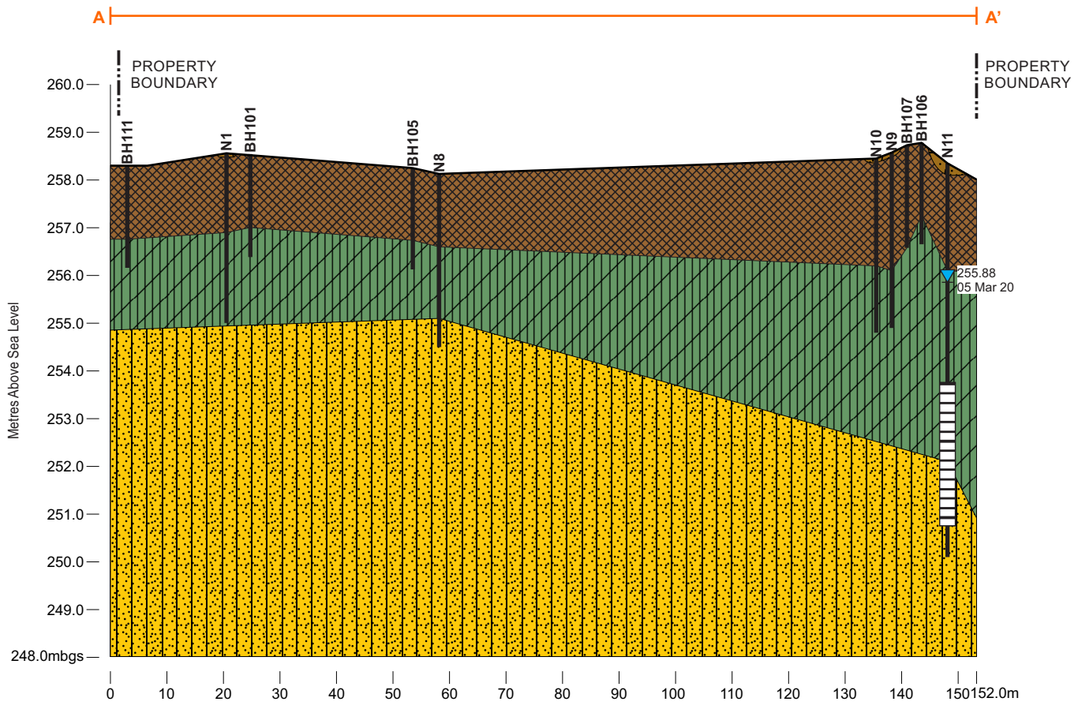
FIGURE 5H

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECA-JAN22: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – GROUNDWATER ANALYTICAL RESULTS: METALS (INCLUDING HYDRIDE-FORMING METALS)

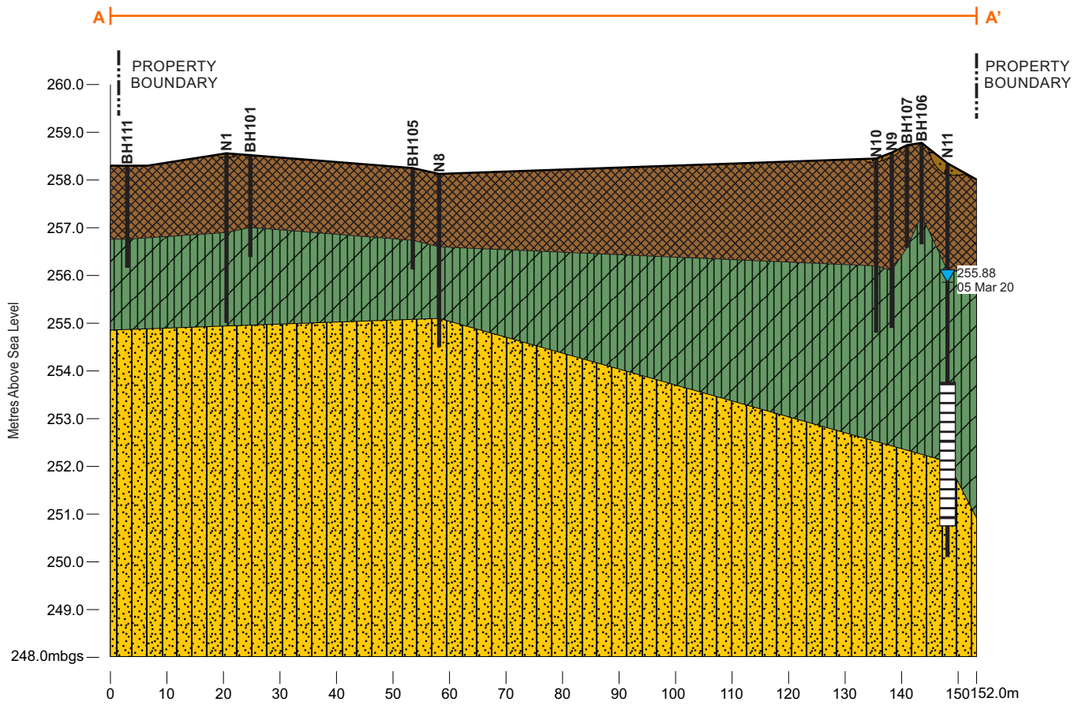
FIGURE 5I

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECA-JAN22: **SOIL PET**



SCALE:

6 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – GROUNDWATER ANALYTICAL RESULTS: OTHER REGULATED PARAMETERS (INCLUDING SODIUM AND CHLORIDE)

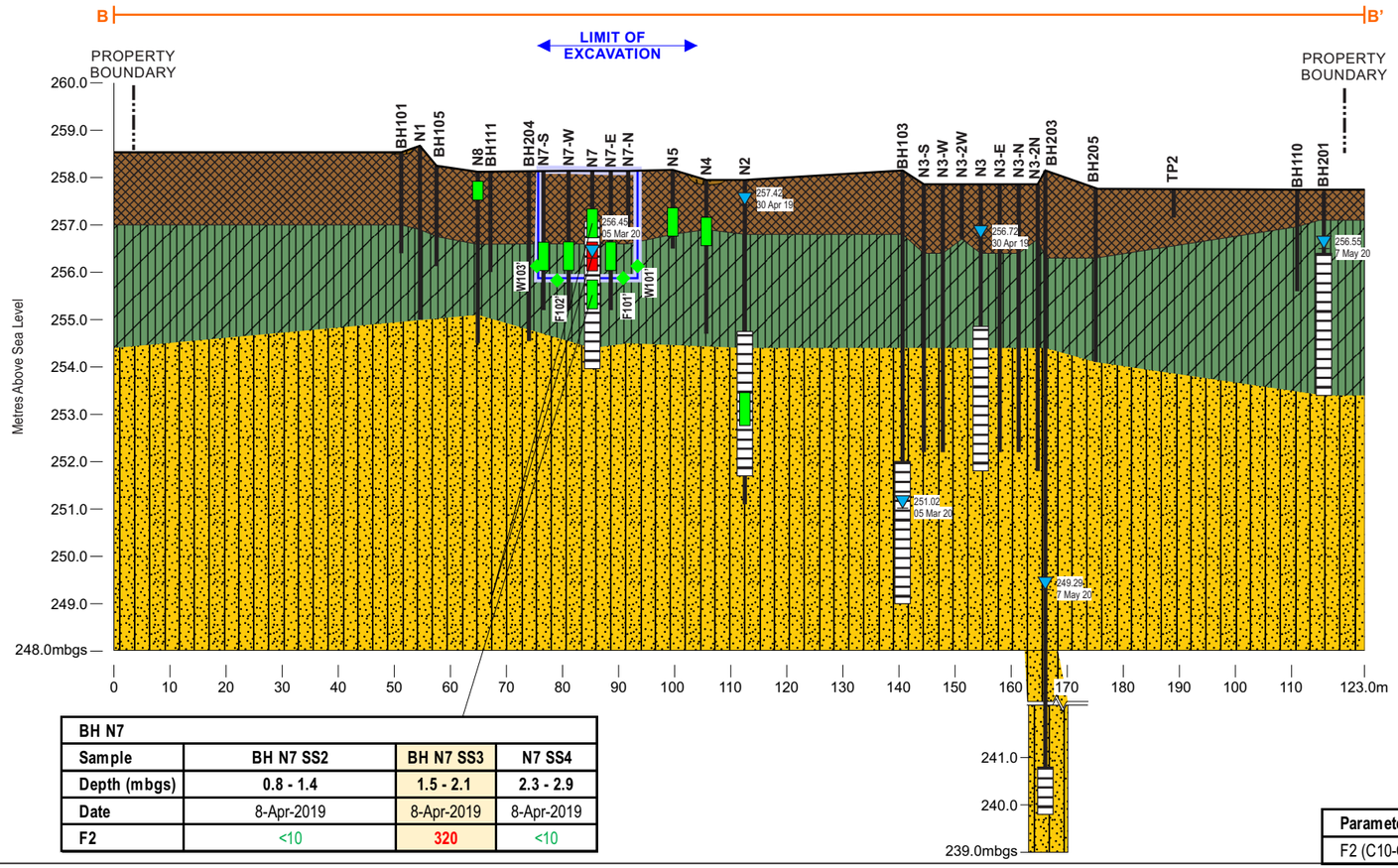
FIGURE 5J

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECA-JAN22: **SOIL PET**



BH N7			
Sample	BH N7 SS2	BH N7 SS3	N7 SS4
Depth (mbgs)	0.8 - 1.4	1.5 - 2.1	2.3 - 2.9
Date	8-Apr-2019	8-Apr-2019	8-Apr-2019
F2	<10	320	<10

Parameter	Abbreviation	TABLE 4 Soil Standards*	Units
F2 (C10-C16)	F2	150	µg/g

SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- CONFIRMATORY SOIL SAMPLES (EXP, 2020)
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL
- SOIL REMOVED DURING REMEDIATION ACTIVITIES. NOT CARRIED FORWARD IN PHASE TWO CSM
- AREA OF CONTAMINATION AOC A

*STANDARDS SHOWN ARE FOR A **RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY** USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

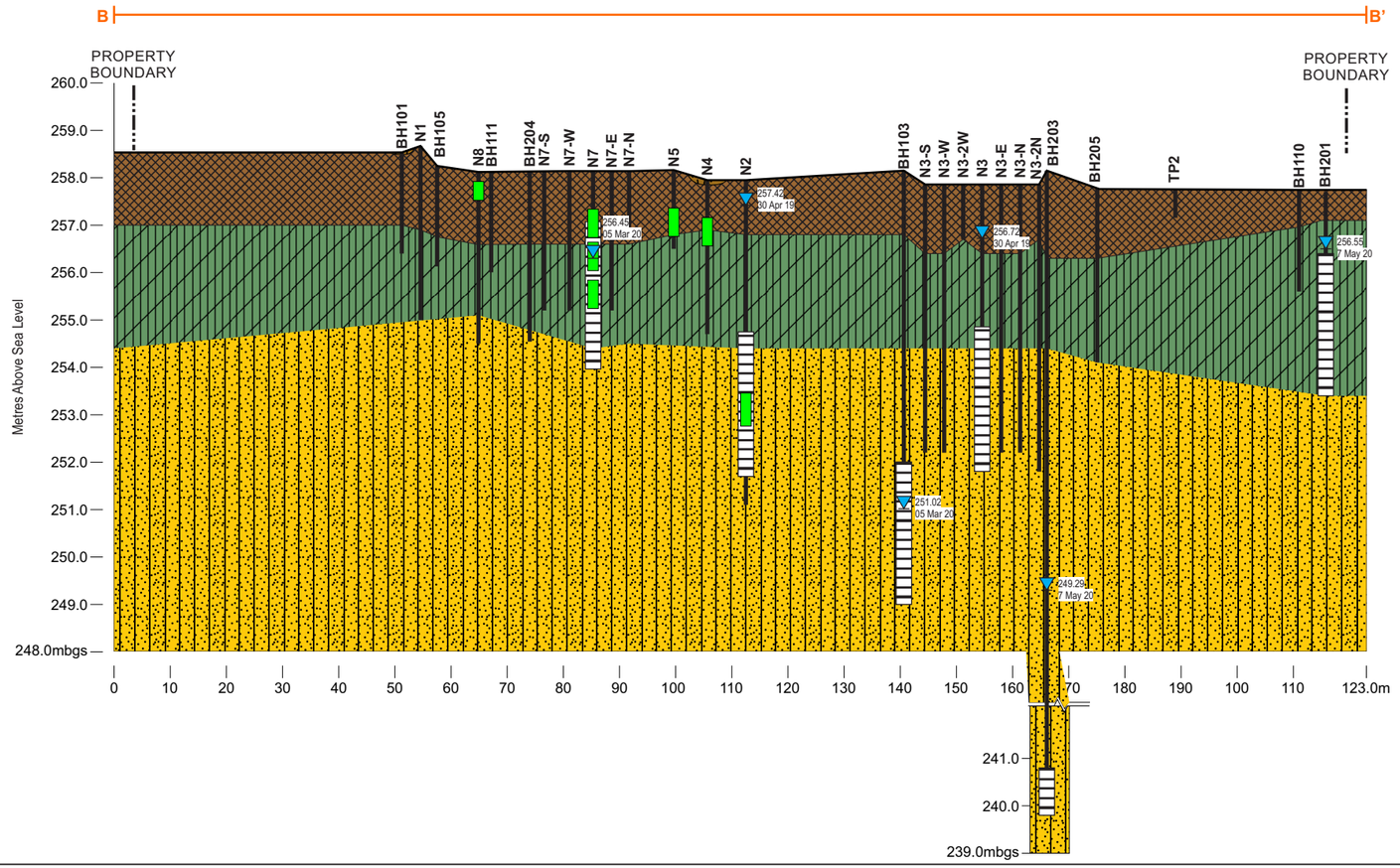
CROSS SECTION B-B' – SOIL ANALYTICAL RESULTS: PETROLEUM HYDROCARBONS

FIGURE 6A

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP XSECB-JAN22: **SOIL PET**



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: VOLATILE ORGANIC COMPOUNDS

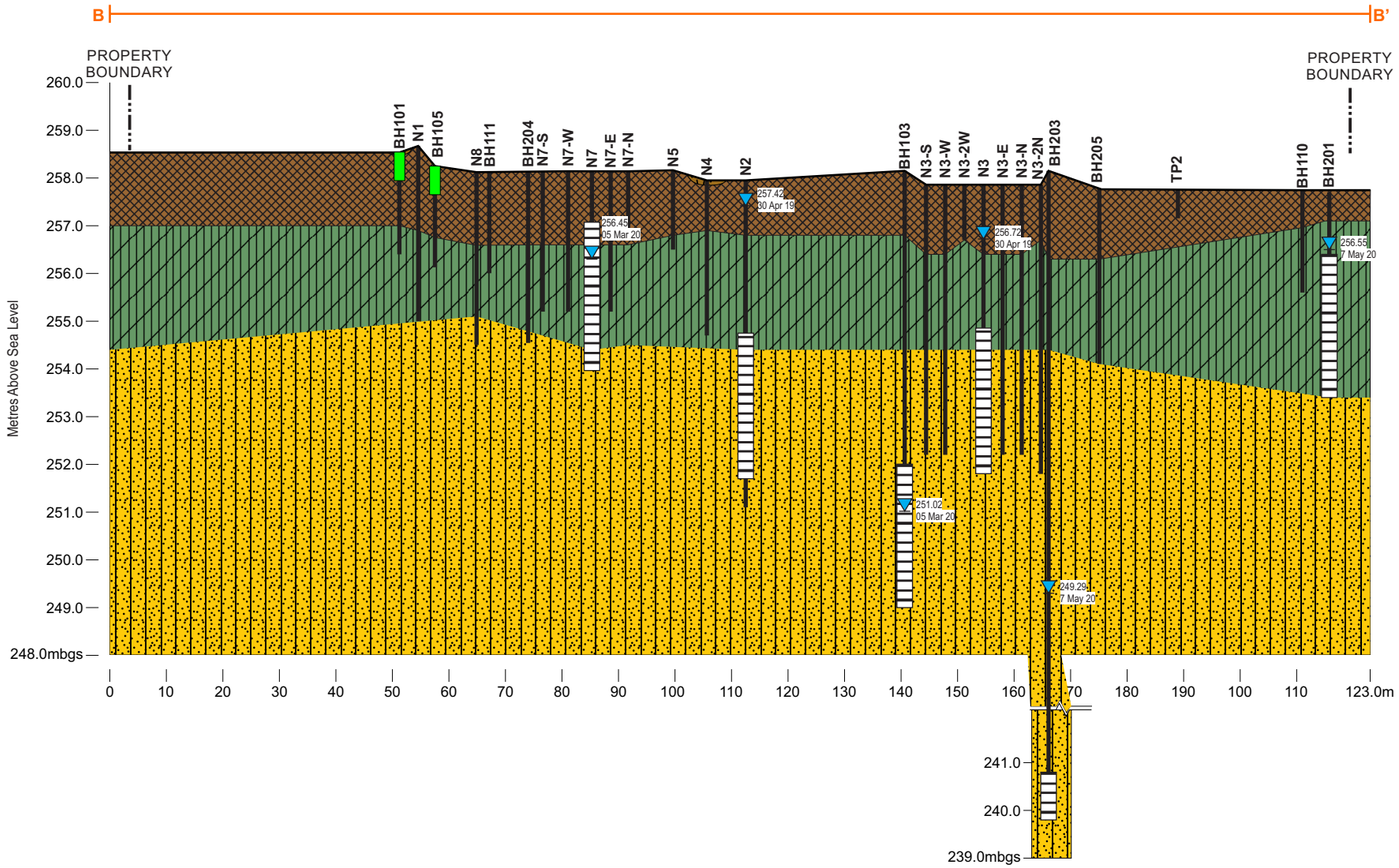
FIGURE 6B

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-XSEC A-A'-MAR20: **SOIL PET**



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

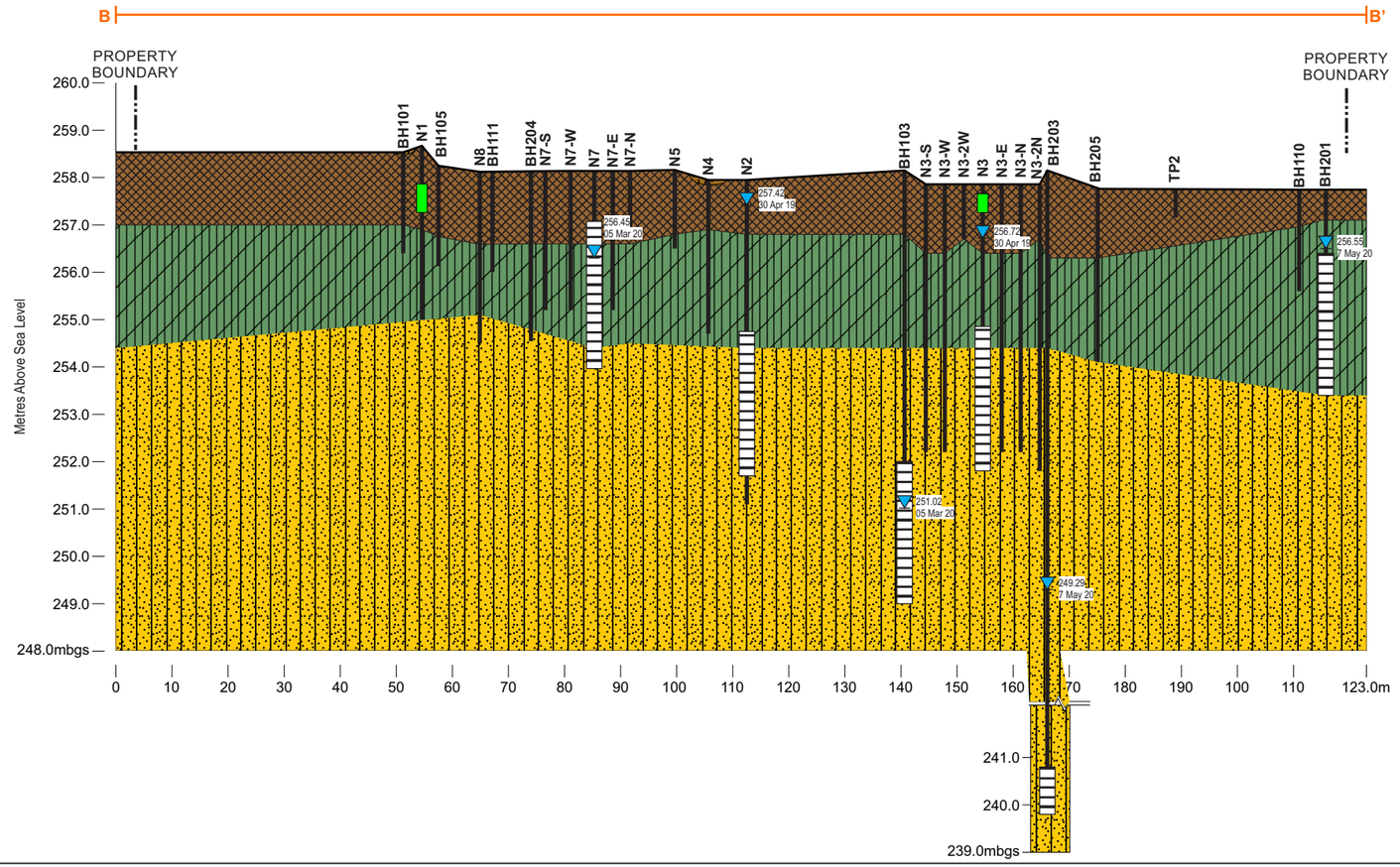
CROSS SECTION B-B' – SOIL ANALYTICAL RESULTS: POLYCYCLIC AROMATIC HYDROCARBONS

FIGURE 6C

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION A-A' – SOIL ANALYTICAL RESULTS: METALS (INCLUDING HYDRIDE-FORMING METALS)

FIGURE 6D

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-XSEC A-A'-MAR20: **SOIL PET**

CS-A-W140	
Sample	CS-A-W140
Depth (mbgs)	1
Date	27-May-2021
EC	0.815
SAR	2.45

CS-A-F109		
Sample	CS-A-F109	CS-A-F109-0
Depth (mbgs)	1.5	1.5
Date	18-May-2021	18-May-2021
EC	0.733	0.791
SAR	4.17	4.15

N3-2W		
Sample	N3-2W-S1	N3-2W-S2
Depth (mbgs)	0.2 - 0.6	0.6 - 1.2
Date	24-Apr-2019	24-Apr-2019
EC	3.29	2.35
SAR	30.1	6.56

N3					
Sample	N3 SS1	~N33 SS1	N3 SS3	N3 SS5	~N3 SS15
Depth (mbgs)	0.2 - 0.6	0.2 - 0.6	1.5-2.1	3.1 - 3.7	3.1 - 3.7
Date	8-Apr-2019	8-Apr-2019	8-Apr-2019	8-Apr-2019	8-Apr-2019
EC	3.11	1.75	1.42	0.4	0.39
SAR	60	30.5	2.28	0.58	0.59

CS-A-W114	
Sample	CS-A-W114
Depth (mbgs)	1
Date	18-May-2021
EC	0.898
SAR	3.97

N3-E		
Sample	N3-E-S1	N3-E-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	3.43	0.44
SAR	7.87	0.92

N3-N		
Sample	N3-N-S1	N3-N-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	2.1	0.21
SAR	21.1	0.53

N2	
Sample	N2 SS1
Depth (mbgs)	0.3 -0.6
Date	9-Apr-2019
EC	0.85
SAR	5.64

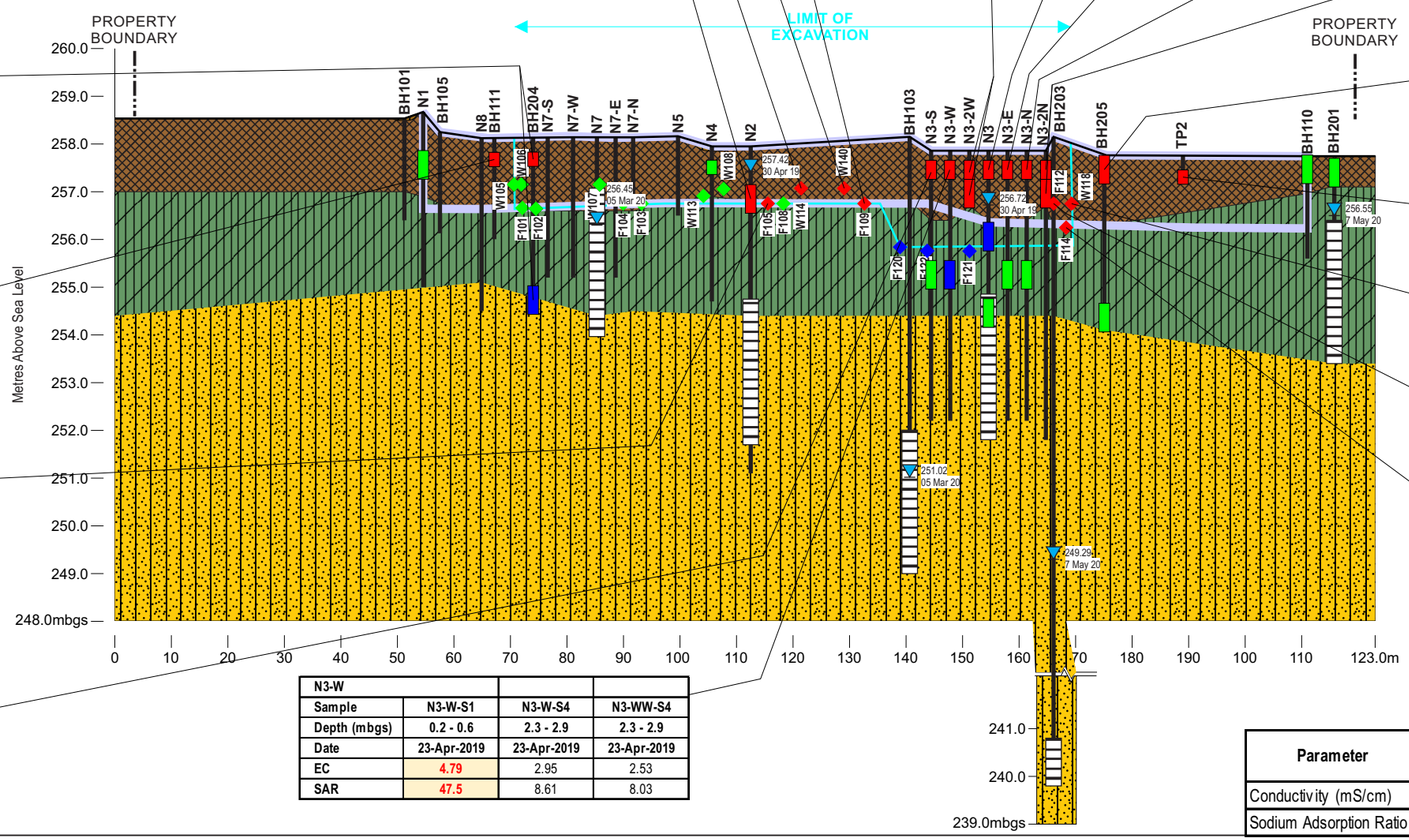
N3-2N		
Sample	N3-2N-S1	N3-2N-S2
Depth (mbgs)	0.2 - 0.6	0.6 - 1.2
Date	24-Apr-2019	24-Apr-2019
EC	1.91	0.87
SAR	20.6	45

B B'

PROPERTY BOUNDARY

LIMIT OF EXCAVATION

PROPERTY BOUNDARY



BH204		
Sample	BH204 SS1	BH204 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	4.08	2.99
SAR	68.1	9.4

BH205		
Sample	BH205 SS1	BH205 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	0.782	0.576
SAR	4.56	NA

TP2	
Sample	TP2
Depth (mbgs)	0.3 -0.6
Date	9-May-2019
EC	0.47
SAR	6.25

BH111	
Sample	BH111
Depth (mbgs)	0.3 - 0.61
Date	1-May-2020
EC	0.794
SAR	7.5

CS-A-W118	
Sample	CS-A-W118
Depth (mbgs)	1
Date	19-May-2021
EC	1.9
SAR	7.99

CS-A-F105	
Sample	CS-A-F105
Depth (mbgs)	1.5
Date	18-May-2021
EC	0.814
SAR	4.43

CS-A-F112	
Sample	CS-A-F112
Depth (mbgs)	1.5
Date	19-May-2021
EC	1.19
SAR	0.615

CS-A-F114	
Sample	CS-A-F114
Depth (mbgs)	1.5
Date	19-May-2021
EC	1.55
SAR	1.82

N3-S		
Sample	N3-S-S1	N3-S-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	8.67	1.23
SAR	86	8.5

N3-W			
Sample	N3-W-S1	N3-W-S4	N3-WW-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019	23-Apr-2019
EC	4.79	2.95	2.53
SAR	47.5	8.61	8.03

Parameter	Abbreviation	TABLE 4 Soil Standards - Surface*	TABLE 4 Soil Standards - Subsurface*	Units
Conductivity (mS/cm)	EC	0.7	NA	mS/cm
Sodium Adsorption Ratio	SAR	5	NA	µg/g

SCALE:
7 x VERTICAL EXAGGERATION

SOURCE:
BASED ON FIELD OBSERVATIONS BY EXP STAFF

exp.

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- masl — METRES ABOVE SEA LEVEL
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL
- AREA OF CONTAMINATION AOC B
- SOIL REMOVED DURING REMEDIATION ACTIVITIES. NOT CARRIED FORWARD IN PHASE TWO CSM

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
LOCATION WHERE SAMPLE COLLECTED BELOW 1.5 mbgs IS SHOWN IN DARK BLUE
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD (SUBSURFACE/COLLECTED BELOW 1.5 mbgs) SHOWN IN TEXT AS BLACK.

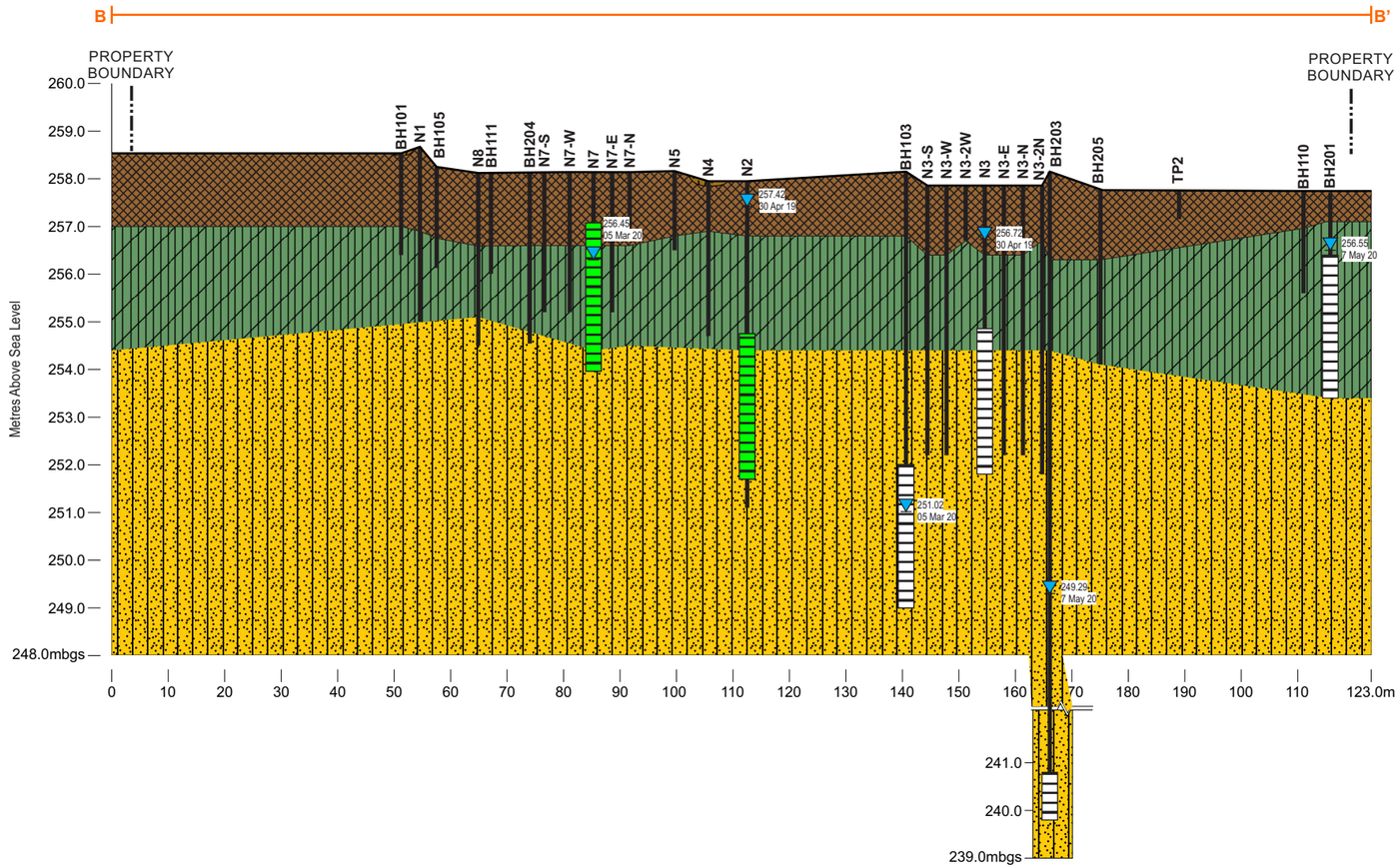
CROSS SECTION B-B' – SOIL ANALYTICAL RESULTS: OTHER REGULATED PARAMETERS (INCLUDING EC AND SAR)

FIGURE 6E

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP XSECB-JAN22: **SOIL PET**



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION B-B' – GROUNDWATER ANALYTICAL RESULTS: PETROLEUM HYDROCARBONS

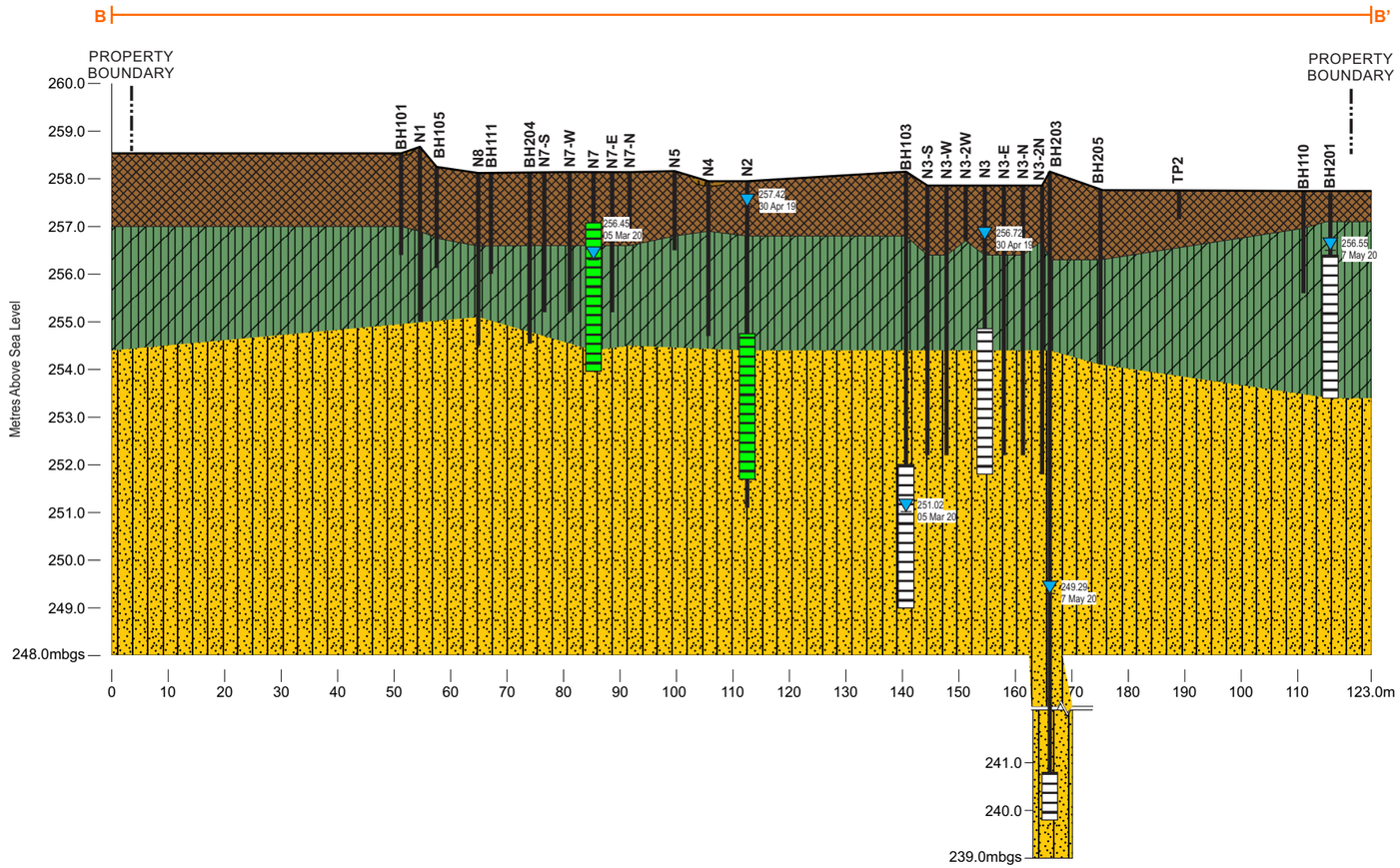
FIGURE 6F

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECB-JAN22: **SOIL PET**



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION B-B' – GROUNDWATER ANALYTICAL RESULTS: VOLATILE ORGANIC COMPOUNDS

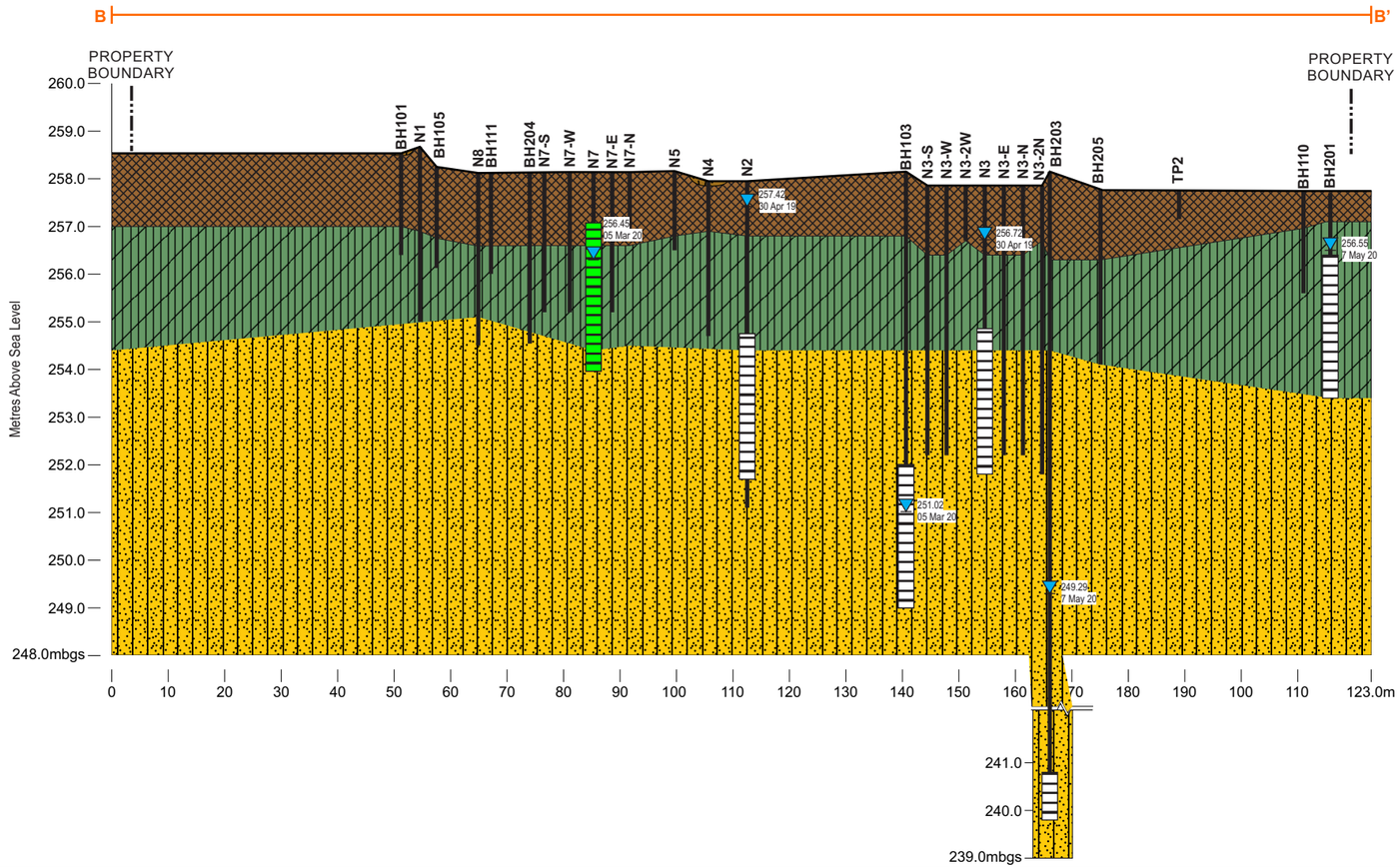
FIGURE 6G

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECB-JAN22: **SOIL PET**



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION B-B' – GROUNDWATER ANALYTICAL RESULTS: POLYCYCLIC AROMATIC HYDROCARBONS

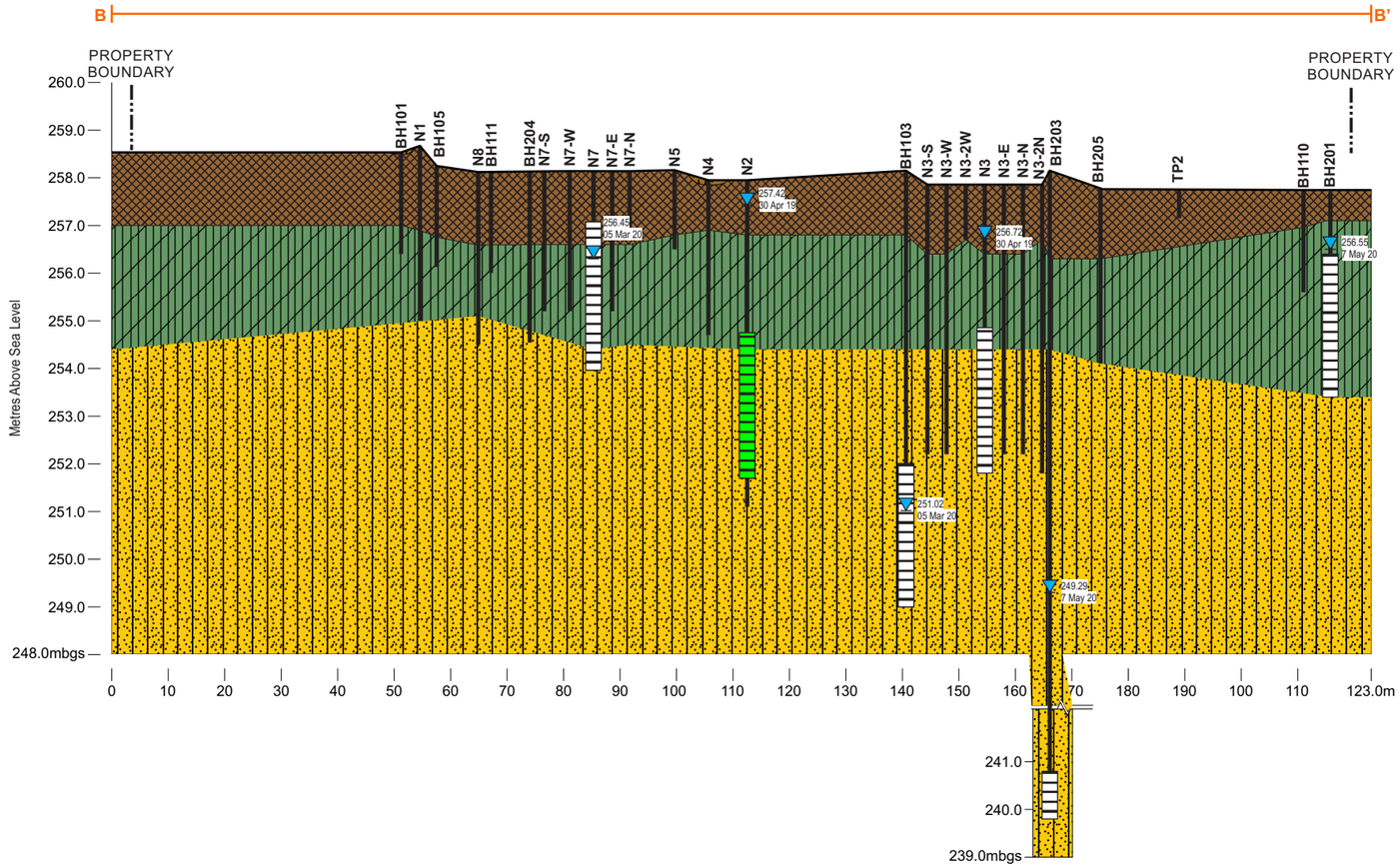
FIGURE 6H

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECB-JAN22: **SOIL PET**



SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOIL IS SHOWN IN GREEN

CROSS SECTION B-B' – GROUNDWATER ANALYTICAL RESULTS: METALS (INCLUDING HYDRIDE-FORMING METALS)

FIGURE 6I

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

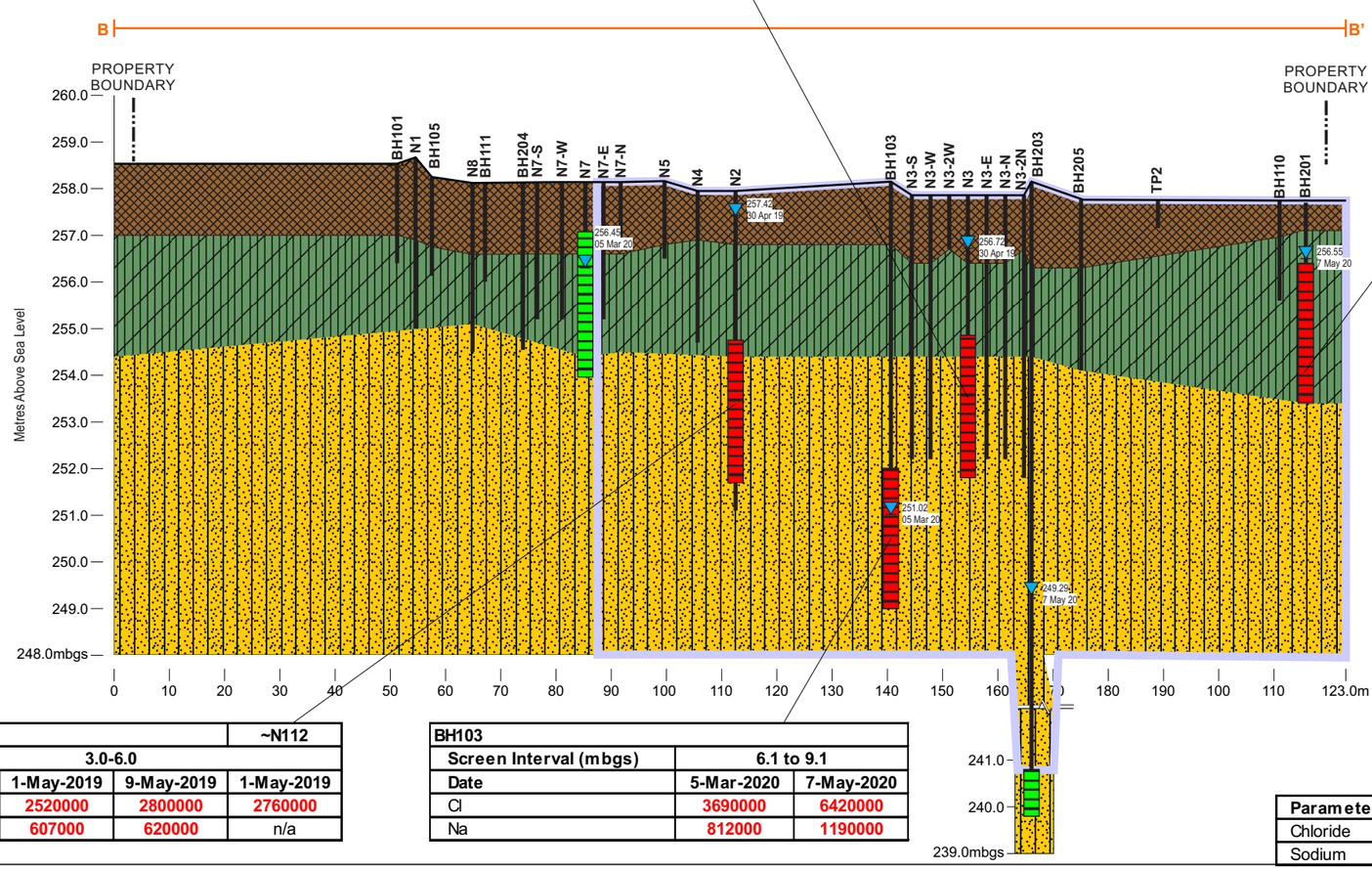
PROJECT NUMBER: 257876

DATE: JANUARY 2022

257876-MGRA_CP XSECB-JAN22: **SOIL PET**

BH-N3				~N113
Screen Interval (mbgs)	3.0-6.0			
Date	25-Apr-2019	1-May-2019	9-May-2019	9-May-2019
Cl	1580000	1430000	1120000	1260000
Na	159000	113000	78000	78000

BH201	
Screen Interval (mbgs)	1.3 to 4.3
Date	7-May-2020
Cl	2280000
Na	361000



BH-N2				~N112
Screen Interval (mbgs)	3.0-6.0			
Date	25-Apr-2019	1-May-2019	9-May-2019	1-May-2019
Cl	1240000	2520000	2800000	2760000
Na	485000	607000	620000	n/a

BH103		
Screen Interval (mbgs)	6.1 to 9.1	
Date	5-Mar-2020	7-May-2020
Cl	3690000	6420000
Na	812000	1190000

Parameter	Abbreviation	Table 4 Soil Standards*	Units
Chloride	Cl	790000	µg/L
Sodium	Na	490000	µg/L

SCALE:

7 x VERTICAL EXAGGERATION

SOURCE:

BASED ON FIELD OBSERVATIONS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- TEST HOLE
- SCREEN INTERVAL
- GROUND WATER ELEVATION (masl, DATE OF MONITORING)
- *masl* METRES ABOVE SEA LEVEL
- TOPSOIL
- FILL
- CLAYEY SILT TILL
- SANDY SILT TILL
- AREA OF CONTAMINATION AOC B

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

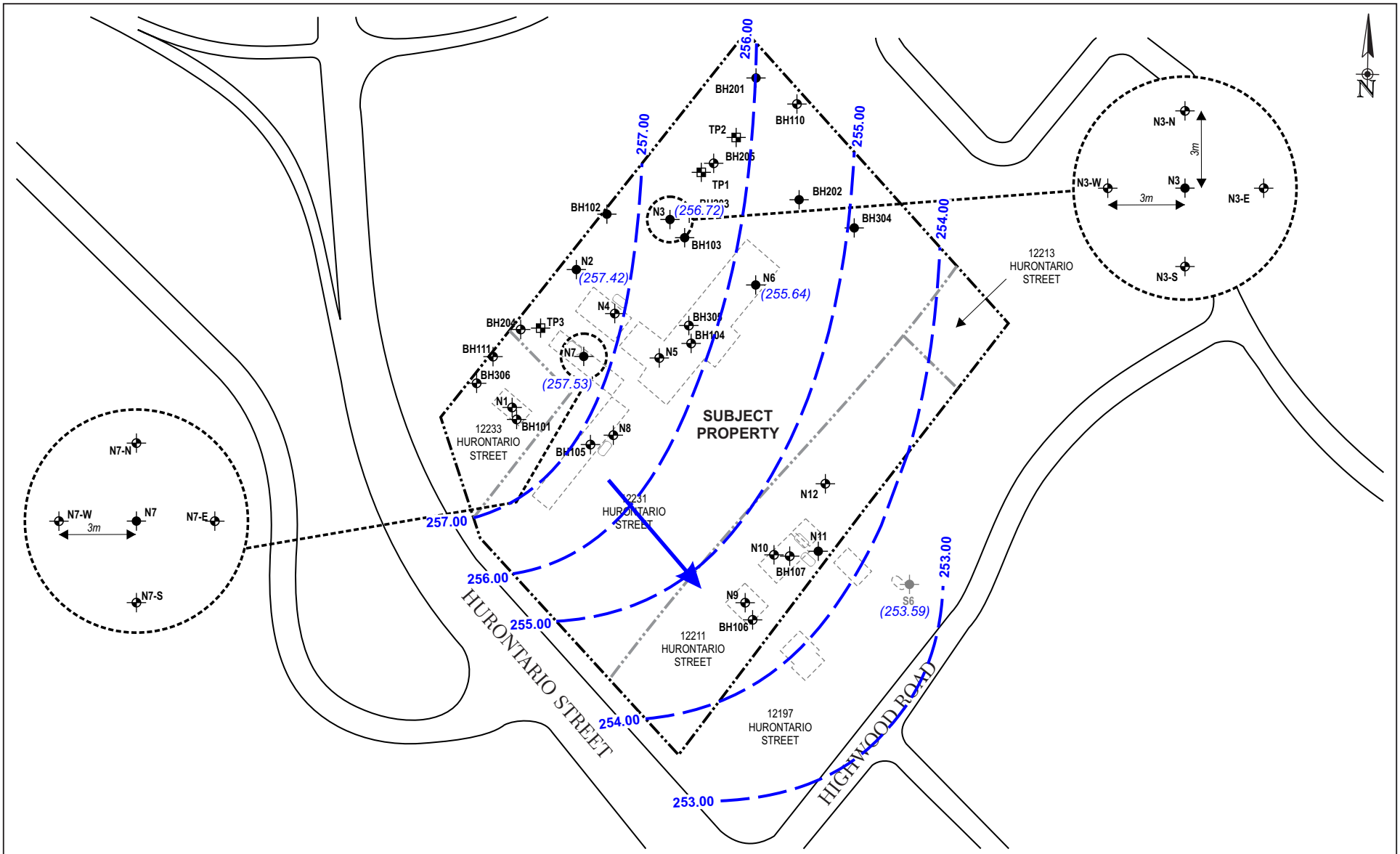
LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

CROSS SECTION B-B' – GROUNDWATER ANALYTICAL RESULTS: OTHER REGULATED PARAMETERS (INCLUDING SODIUM AND CHLORIDE)

FIGURE 6J

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022



SCALE: 0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR
  N SERIES(EXP, 2019)
  BH SERIES (EXP, 2020, 2021)
- TEST HOLE
  N SERIES(EXP, 2019)
  BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- (100.00) GROUND WATER ELEVATION (masl)
- 100.00 GROUND WATER ELEVATION CONTOUR (masl)
- GROUND WATER FLOW DIRECTION
- masl METRES ABOVE SEA LEVEL
- S6 OFF-SITE TEST HOLE WITH MONITOR (EXP, 2019)

GROUND WATER CONTOUR PLAN (APRIL 30, 2019)

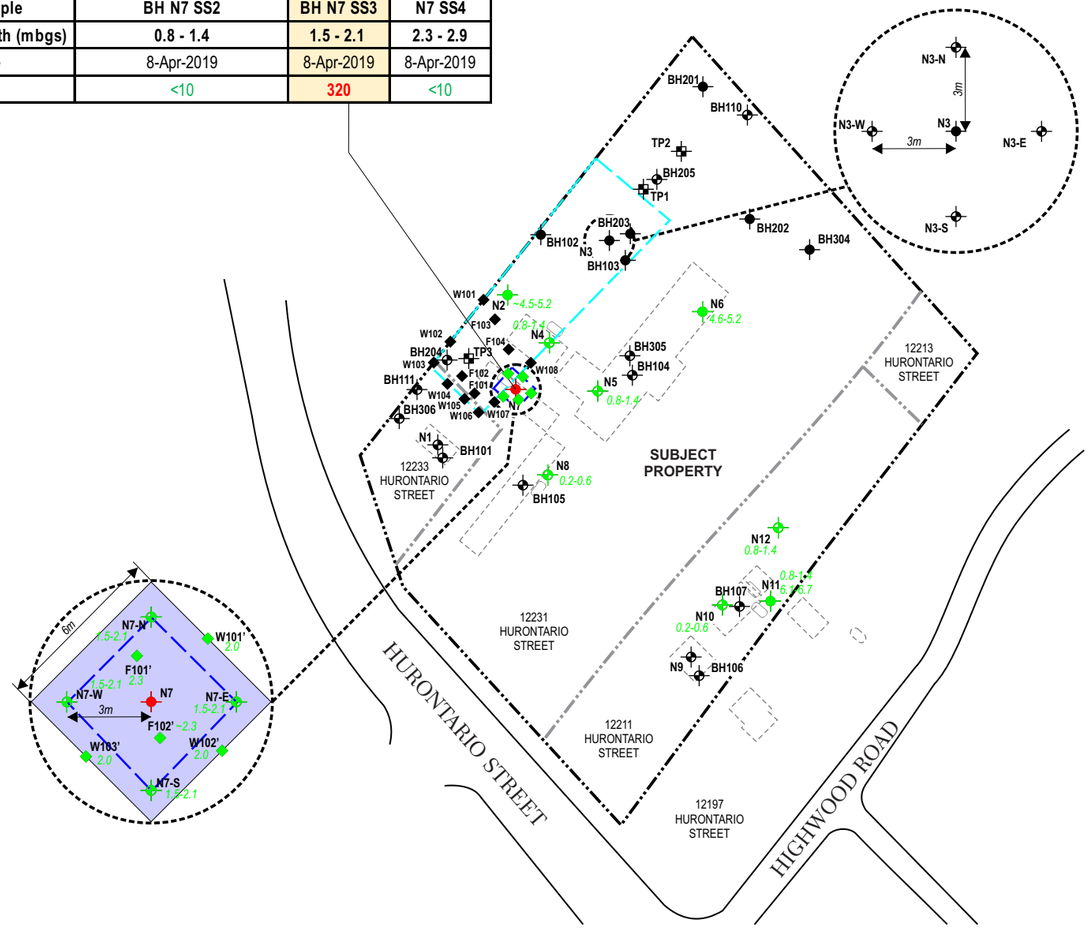
7

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP SITE PLAN-JAN22-GWC

BH N7			
Sample	BH N7 SS2	BH N7 SS3	N7 SS4
Depth (mbgs)	0.8 - 1.4	1.5 - 2.1	2.3 - 2.9
Date	8-Apr-2019	8-Apr-2019	8-Apr-2019
F2	<10	320	<10



Parameter	Abbreviation	TABLE 4 Soil Standards*	Units
F2 (C10-C16)	F2	150	µg/g

SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SAMPLE DEPTH (mbgs)
- AREA OF CONTAMINATION AOC A
- SOIL REMOVED DURING REMEDIATION ACTIVITIES. NOT CARRIED FORWARD IN PHASE TWO CSM

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

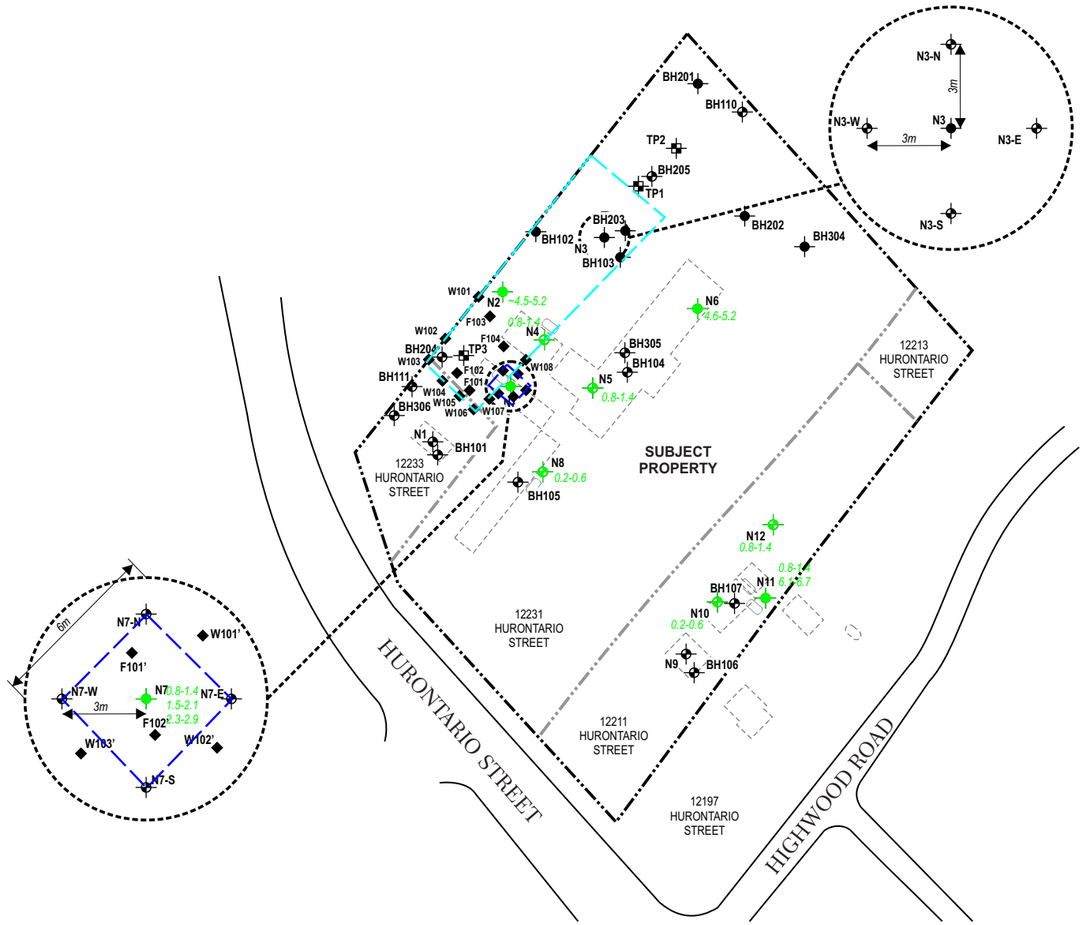
SOIL ANALYTICAL RESULTS – PETROLEUM HYDROCARBONS

FIGURE 8A

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:SOIL PET



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

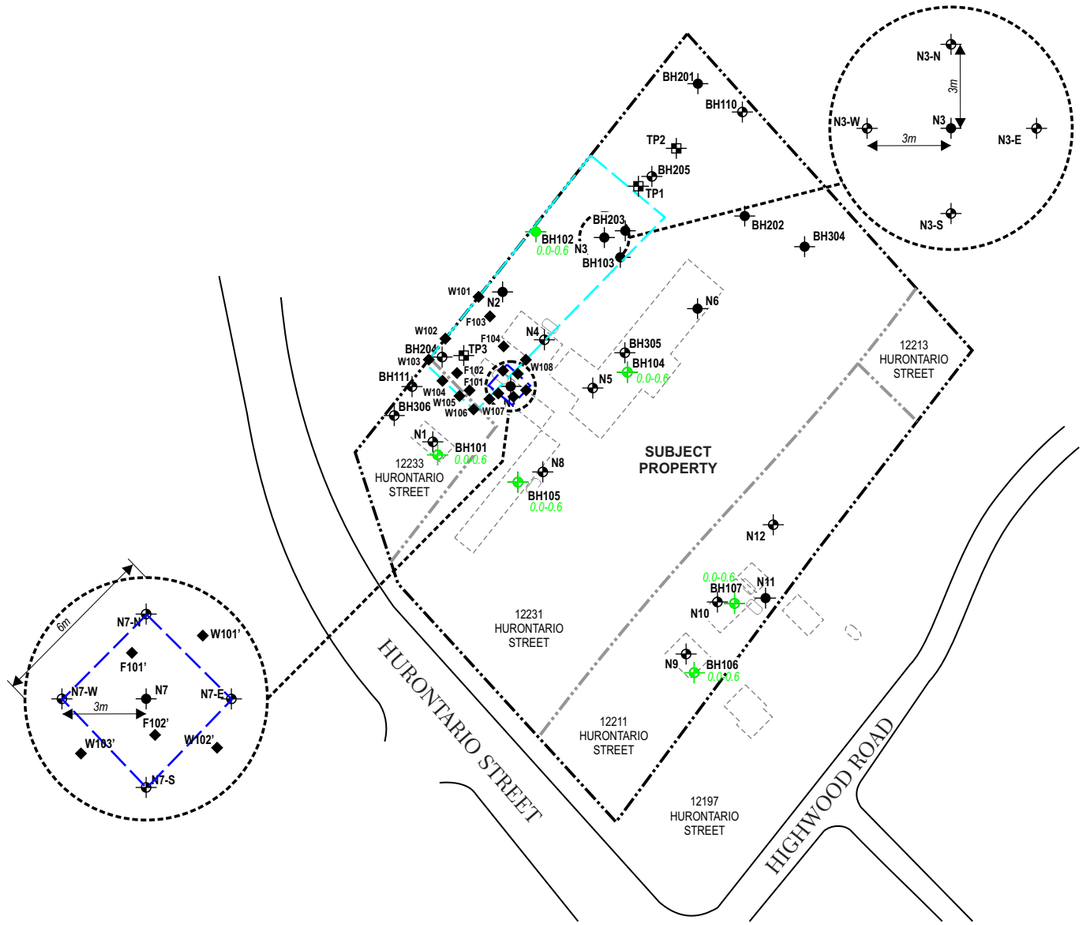
SOIL ANALYTICAL RESULTS – VOLATILE ORGANIC COMPOUNDS

FIGURE 8B

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-PH2 T4 RESULTS-JUL21:SOIL VOCs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

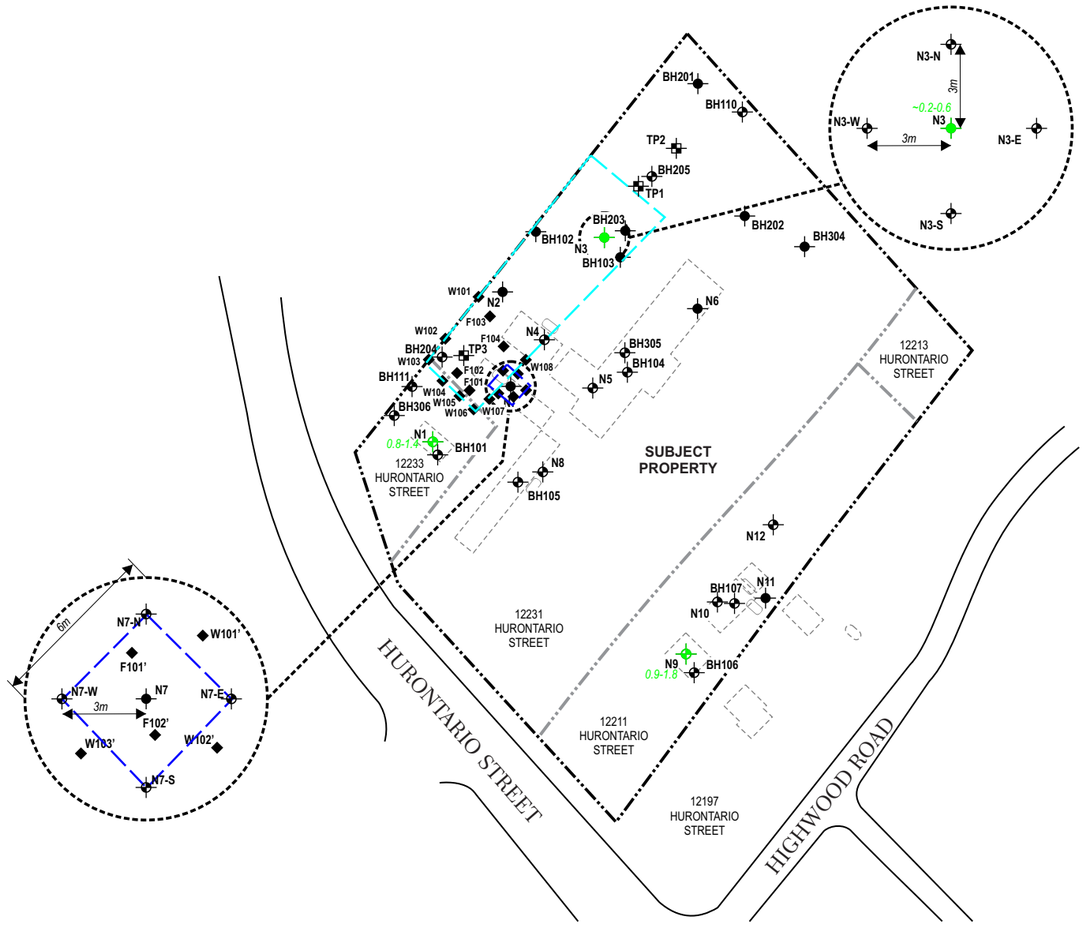
SOIL ANALYTICAL RESULTS – POLYCYCLIC AROMATIC HYDROCARBONS

FIGURE 8C

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:SOIL PAHs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SAMPLE DEPTH (mbgs)

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

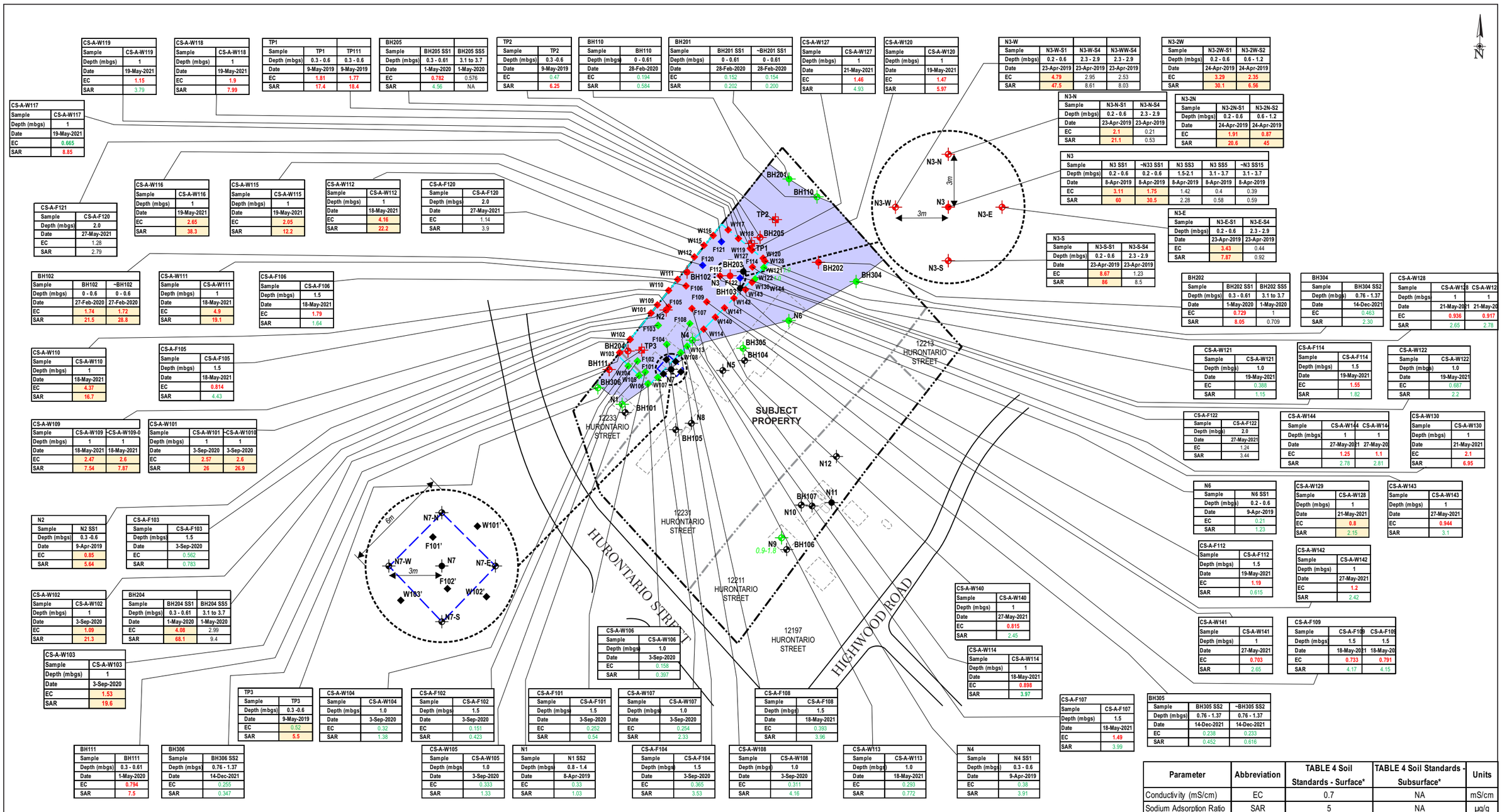
SOIL ANALYTICAL RESULTS – METALS (INCLUDING HYRIDE-FORMING)

FIGURE 8D

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:SOIL METAL



CS-A-W119	
Sample	CS-A-W119
Depth (mbgs)	1
Date	19-May-2021
EC	1.15
SAR	3.79

CS-A-W118	
Sample	CS-A-W118
Depth (mbgs)	1
Date	19-May-2021
EC	1.9
SAR	7.99

TP1		
Sample	TP1	TP111
Depth (mbgs)	0.3 - 0.6	0.3 - 0.6
Date	9-May-2019	9-May-2019
EC	1.81	1.77
SAR	17.4	18.4

BH205		
Sample	BH205 SS1	BH205 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	0.782	0.576
SAR	4.56	NA

TP2	
Sample	TP2
Depth (mbgs)	0.3 -0.6
Date	9-May-2019
EC	0.47
SAR	6.25

BH110	
Sample	BH110
Depth (mbgs)	0 - 0.61
Date	28-Feb-2020
EC	0.194
SAR	0.584

BH201		
Sample	BH201 SS1	~BH201 SS1
Depth (mbgs)	0 - 0.61	0 - 0.61
Date	28-Feb-2020	28-Feb-2020
EC	0.152	0.154
SAR	0.202	0.200

CS-A-W127	
Sample	CS-A-W127
Depth (mbgs)	1
Date	21-May-2021
EC	1.46
SAR	4.93

CS-A-W120	
Sample	CS-A-W120
Depth (mbgs)	1
Date	19-May-2021
EC	1.47
SAR	5.97

N3-W			
Sample	N3-W-S1	N3-W-S4	N3-WW-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019	23-Apr-2019
EC	4.79	2.95	2.53
SAR	47.5	8.61	8.03

N3-2W		
Sample	N3-2W-S1	N3-2W-S2
Depth (mbgs)	0.2 - 0.6	0.6 - 1.2
Date	24-Apr-2019	24-Apr-2019
EC	3.29	2.35
SAR	30.1	6.56

N3-N		
Sample	N3-N-S1	N3-N-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	2.1	0.21
SAR	21.1	0.53

N3-2N		
Sample	N3-2N-S1	N3-2N-S2
Depth (mbgs)	0.2 - 0.6	0.6 - 1.2
Date	24-Apr-2019	24-Apr-2019
EC	1.91	0.87
SAR	20.6	45

N3						
Sample	N3 SS1	~N33 SS1	N3 SS3	N3 SS5	~N3 SS15	
Depth (mbgs)	0.2 - 0.6	0.2 - 0.6	1.5-2.1	3.1 - 3.7	3.1 - 3.7	
Date	8-Apr-2019	8-Apr-2019	8-Apr-2019	8-Apr-2019	8-Apr-2019	
EC	3.11	1.75	1.42	0.4	0.39	
SAR	60	30.5	2.28	0.58	0.59	

N3-E		
Sample	N3-E-S1	N3-E-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	3.43	0.44
SAR	7.87	0.92

N3-S		
Sample	N3-S-S1	N3-S-S4
Depth (mbgs)	0.2 - 0.6	2.3 - 2.9
Date	23-Apr-2019	23-Apr-2019
EC	8.67	1.23
SAR	86	8.5

CS-A-W117	
Sample	CS-A-W117
Depth (mbgs)	1
Date	19-May-2021
EC	0.665
SAR	8.85

CS-A-W116	
Sample	CS-A-W116
Depth (mbgs)	1
Date	19-May-2021
EC	2.65
SAR	38.3

CS-A-W115	
Sample	CS-A-W115
Depth (mbgs)	1
Date	19-May-2021
EC	2.05
SAR	12.2

CS-A-W112	
Sample	CS-A-W112
Depth (mbgs)	1
Date	18-May-2021
EC	4.16
SAR	22.2

CS-A-F120	
Sample	CS-A-F120
Depth (mbgs)	2.0
Date	27-May-2021
EC	1.14
SAR	3.9

CS-A-F121	
Sample	CS-A-F120
Depth (mbgs)	2.0
Date	27-May-2021
EC	1.28
SAR	2.79

BH202		
Sample	BH202 SS1	BH202 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	0.729	1
SAR	8.05	0.709

BH304		
Sample	BH304 SS2	
Depth (mbgs)	0.76 - 1.37	
Date	14-Dec-2021	
EC	0.463	
SAR	2.30	

CS-A-W128		
Sample	CS-A-W128	CS-A-W12
Depth (mbgs)	1	1
Date	21-May-2021	21-May-20
EC	0.936	0.917
SAR	2.65	2.78

BH102		
Sample	BH102	~BH102
Depth (mbgs)	0 - 0.6	0 - 0.6
Date	27-Feb-2020	27-Feb-2020
EC	1.74	1.72
SAR	21.5	28.8

CS-A-W111	
Sample	CS-A-W111
Depth (mbgs)	1
Date	18-May-2021
EC	4.9
SAR	19.1

CS-A-F106	
Sample	CS-A-F106
Depth (mbgs)	1.5
Date	18-May-2021
EC	1.79
SAR	1.64

CS-A-W121	
Sample	CS-A-W121
Depth (mbgs)	1.0
Date	19-May-2021
EC	0.388
SAR	1.15

CS-A-F114	
Sample	CS-A-F114
Depth (mbgs)	1.5
Date	19-May-2021
EC	1.55
SAR	1.82

CS-A-W122	
Sample	CS-A-W122
Depth (mbgs)	1.0
Date	19-May-2021
EC	0.687
SAR	2.2

CS-A-W110	
Sample	CS-A-W110
Depth (mbgs)	1
Date	18-May-2021
EC	4.37
SAR	16.7

CS-A-F105	
Sample	CS-A-F105
Depth (mbgs)	1.5
Date	18-May-2021
EC	0.814
SAR	4.43

CS-A-F122	
Sample	CS-A-F122
Depth (mbgs)	2.0
Date	27-May-2021
EC	1.24
SAR	3.44

CS-A-W144		
Sample	CS-A-W144	CS-A-W14
Depth (mbgs)	1	1
Date	27-May-2021	27-May-20
EC	1.25	1.1
SAR	2.78	2.81

CS-A-W130	
Sample	CS-A-W130
Depth (mbgs)	1
Date	21-May-2021
EC	2.1
SAR	6.95

CS-A-W109		
Sample	CS-A-W109	CS-A-W109-D
Depth (mbgs)	1	1
Date	18-May-2021	18-May-2021
EC	2.47	2.6
SAR	7.54	7.87

CS-A-W101		
Sample	CS-A-W101	~CS-A-W1010
Depth (mbgs)	1	1
Date	3-Sep-2020	3-Sep-2020
EC	2.57	2.6
SAR	26	26.9

N6	
Sample	N6 SS1
Depth (mbgs)	0.2 - 0.6
Date	9-Apr-2019
EC	0.21
SAR	1.23

CS-A-W129	
Sample	CS-A-W128
Depth (mbgs)	1
Date	21-May-2021
EC	0.8
SAR	2.15

CS-A-W143	
Sample	CS-A-W143
Depth (mbgs)	1
Date	27-May-2021
EC	0.944
SAR	3.1

N2	
Sample	N2 SS1
Depth (mbgs)	0.3 -0.6
Date	9-Apr-2019
EC	0.85
SAR	5.64

CS-A-F103	
Sample	CS-A-F103
Depth (mbgs)	1.5
Date	3-Sep-2020
EC	0.562
SAR	0.783

CS-A-F112	
Sample	CS-A-F112
Depth (mbgs)	1.5
Date	19-May-2021
EC	1.19
SAR	0.615

CS-A-W142	
Sample	CS-A-W142
Depth (mbgs)	1
Date	27-May-2021
EC	1.2
SAR	2.42

CS-A-W140	
Sample	CS-A-W140
Depth (mbgs)	1
Date	27-May-2021
EC	0.815
SAR	2.45

CS-A-W102	
Sample	CS-A-W102
Depth (mbgs)	1
Date	3-Sep-2020
EC	1.09
SAR	21.3

BH204		
Sample	BH204 SS1	BH204 SS5
Depth (mbgs)	0.3 - 0.61	3.1 to 3.7
Date	1-May-2020	1-May-2020
EC	4.08	2.99
SAR	68.1	9.4

CS-A-W106	
Sample	CS-A-W106
Depth (mbgs)	1.0
Date	3-Sep-2020
EC	0.158
SAR	0.397

CS-A-W114	
Sample	CS-A-W114
Depth (mbgs)	1
Date	18-May-2021
EC	0.898
SAR	3.97

CS-A-W141	
Sample	CS-A-W141
Depth (mbgs)	1
Date	27-May-2021
EC	0.703
SAR	2.65

CS-A-F109		
Sample	CS-A-F109	CS-A-F105
Depth (mbgs)	1.5	1.5
Date	18-May-2021	18-May-20
EC	0.733	0.791
SAR	4.17	4.15

CS-A-W103	
Sample	CS-A-W103
Depth (mbgs)	1
Date	3-Sep-2020
EC	1.53
SAR	19.6

TP3	
Sample	TP3
Depth (mbgs)	0.3 -0.6
Date	9-May-2019
EC	0.52
SAR	5.5

CS-A-W104	
Sample	CS-A-W104
Depth (mbgs)	1.0
Date	3-Sep-2020
EC	0.32
SAR	1.38

CS-A-F102	
Sample	CS-A-F102
Depth (mbgs)	1.5
Date	3-Sep-2020
EC	0.151
SAR	0.423

CS-A-F101	
Sample	CS-A-F101
Depth (mbgs)	1.5
Date	3-Sep-2020
EC	0.252
SAR	0.54

CS-A-W107	
Sample	CS-A-W107
Depth (mbgs)	1.0
Date	3-Sep-2020
EC	0.254
SAR	2.33

CS-A-F108	
Sample	CS-A-F108
Depth (mbgs)	1.5
Date	18-May-2021
EC	0.393
SAR	3.96

CS-A-F107	
Sample	CS-A-F107
Depth (mbgs)	1.5
Date	18-May-2021
EC	1.49
SAR	3.99

BH305		
Sample	BH305 SS2	~BH305 SS2
Depth (mbgs)	0.76 - 1.37	0.76 - 1.37
Date	14-Dec-2021	14-Dec-2021
EC	0.238	0.233
SAR	0.452	0.616

BH111	
Sample	BH111
Depth (mbgs)	0.3 - 0.61
Date	1-May-2020
EC	0.734
SAR	7.5

BH306		
Sample	BH306 SS2	
Depth (mbgs)	0.76 - 1.37	
Date	14-Dec-2021	
EC	0.255	
SAR	0.347	

CS-A-W105	
Sample	CS-A-W105
Depth (mbgs)	1.0
Date	3-Sep-2020
EC	0.333
SAR	1.33

N1	
Sample	N1 SS2
Depth (mbgs)	0.8 - 1.4
Date	8-Apr-2019
EC	0.33
SAR	1.03

CS-A-F104	
Sample	CS-A-F104
Depth (mbgs)	1.5
Date	3-Sep-2020
EC	0.365
SAR	3.83

CS-A-W108	
Sample	CS-A-W108
Depth (mbgs)	1.0
Date	3-Sep-2020
EC	0.311
SAR	4.16

CS-A-W113	
Sample	CS-A-W113
Depth (mbgs)	1.0
Date	18-May-2021
EC	0.259
SAR	0.772

N4	
Sample	N4 SS1
Depth (mbgs)	0.3 - 0.6
Date	9-Apr-2019
EC	0.38
SAR	3.91

Parameter	Abbreviation	TABLE 4 Soil Standards - Surface*	TABLE 4 Soil Standards - Subsurface*	Units
Conductivity (mS/cm)	EC	0.7	NA	mS/cm
Sodium Adsorption Ratio	SAR	5	NA	µg/g

SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- AREA OF CONTAMINATION AOC B
- SOIL REMOVED DURING REMEDIATION ACTIVITIES. NOT CARRIED FORWARD IN PHASE TWO CSM

*STANDARDS SHOWN ARE FOR A RESIDENTIAL/PARKLAND/INSTITUTIONAL PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/g, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
LOCATION WHERE SAMPLE COLLECTED BELOW 1.5 mbgs IS SHOWN IN DARK BLUE
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD (SUBSURFACE/COLLECTED BELOW 1.5 mbgs) SHOWN IN TEXT AS BLACK.

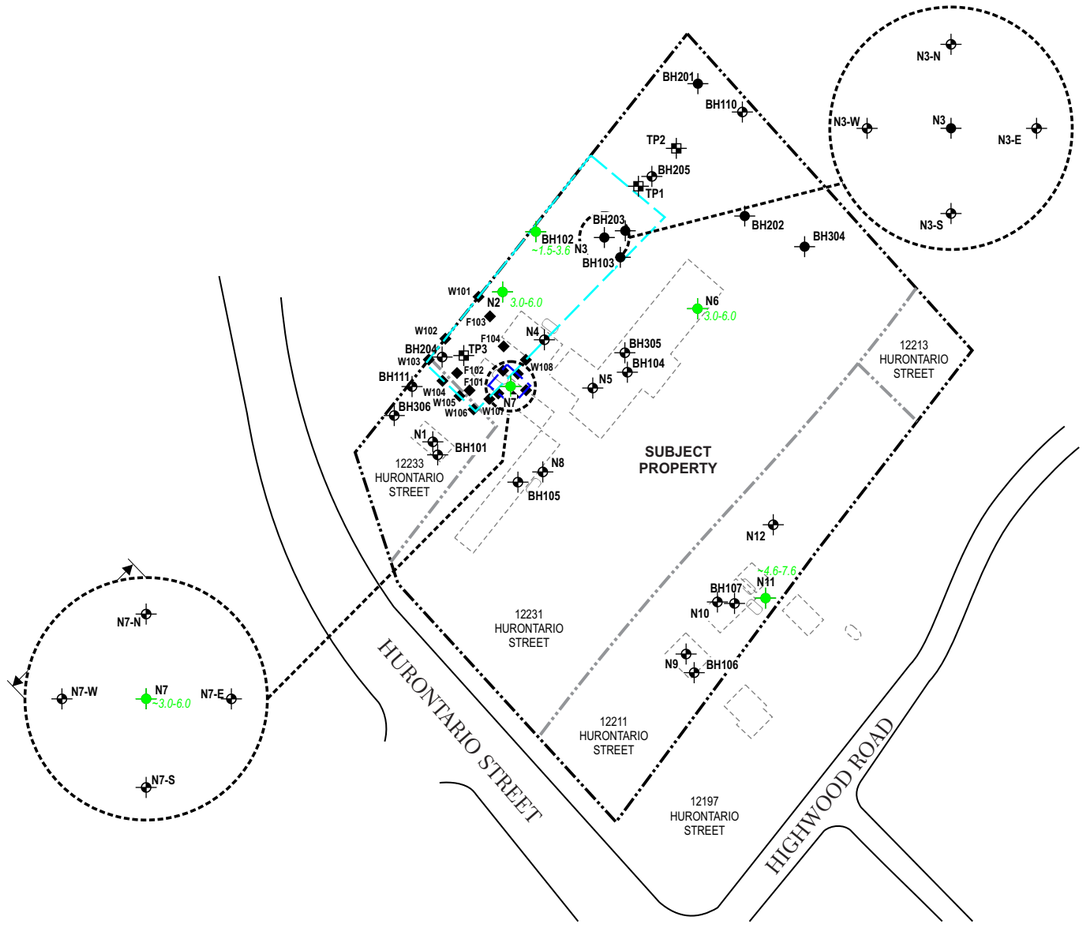
SOIL ANALYTICAL RESULTS – OTHER REGULATED PARAMETERS (INCLUDING EC AND SAR)

FIGURE 8E

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:SOIL EC & SAR



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

exp.

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

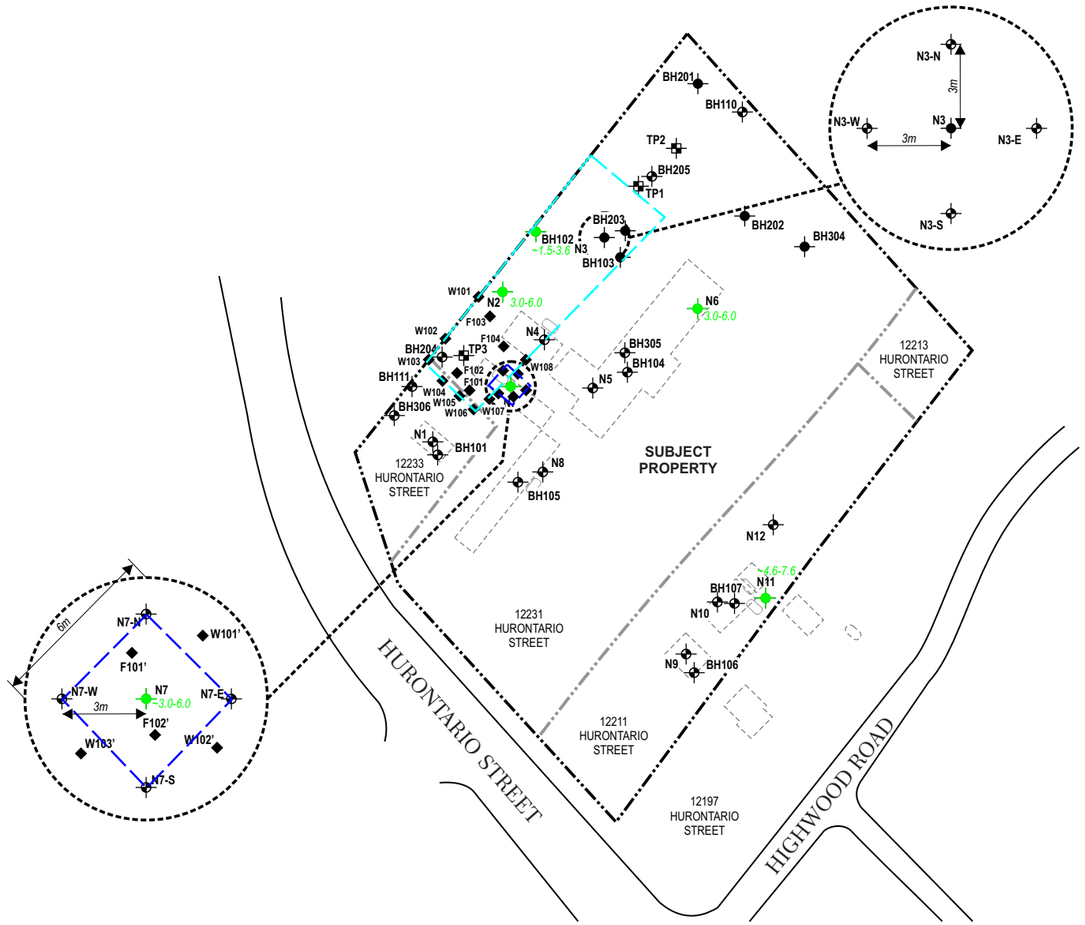
GROUND WATER ANALYTICAL RESULTS – PETROLEUM HYDROCARBONS

FIGURE 9A

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:GW PET



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

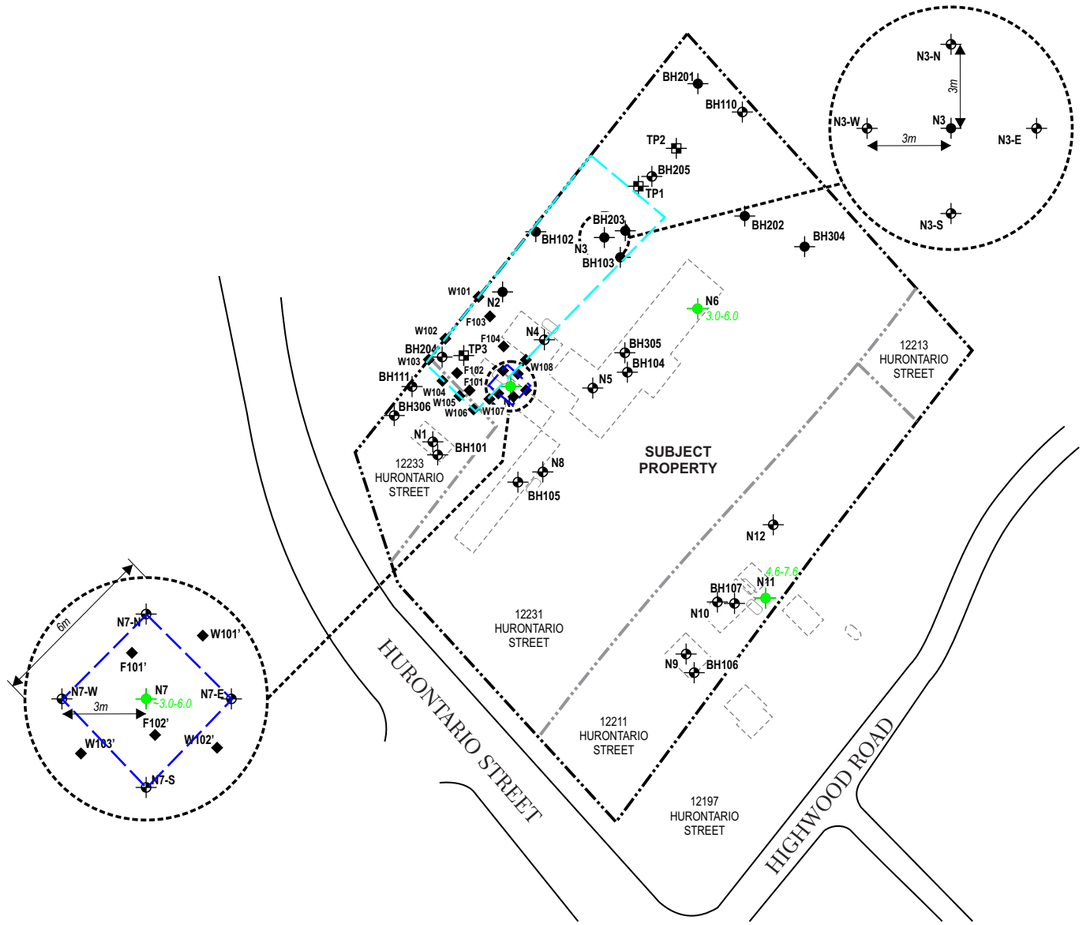
GROUND WATER ANALYTICAL RESULTS – VOLATILE ORGANIC COMPOUNDS

FIGURE 9B

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:GW VOCs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

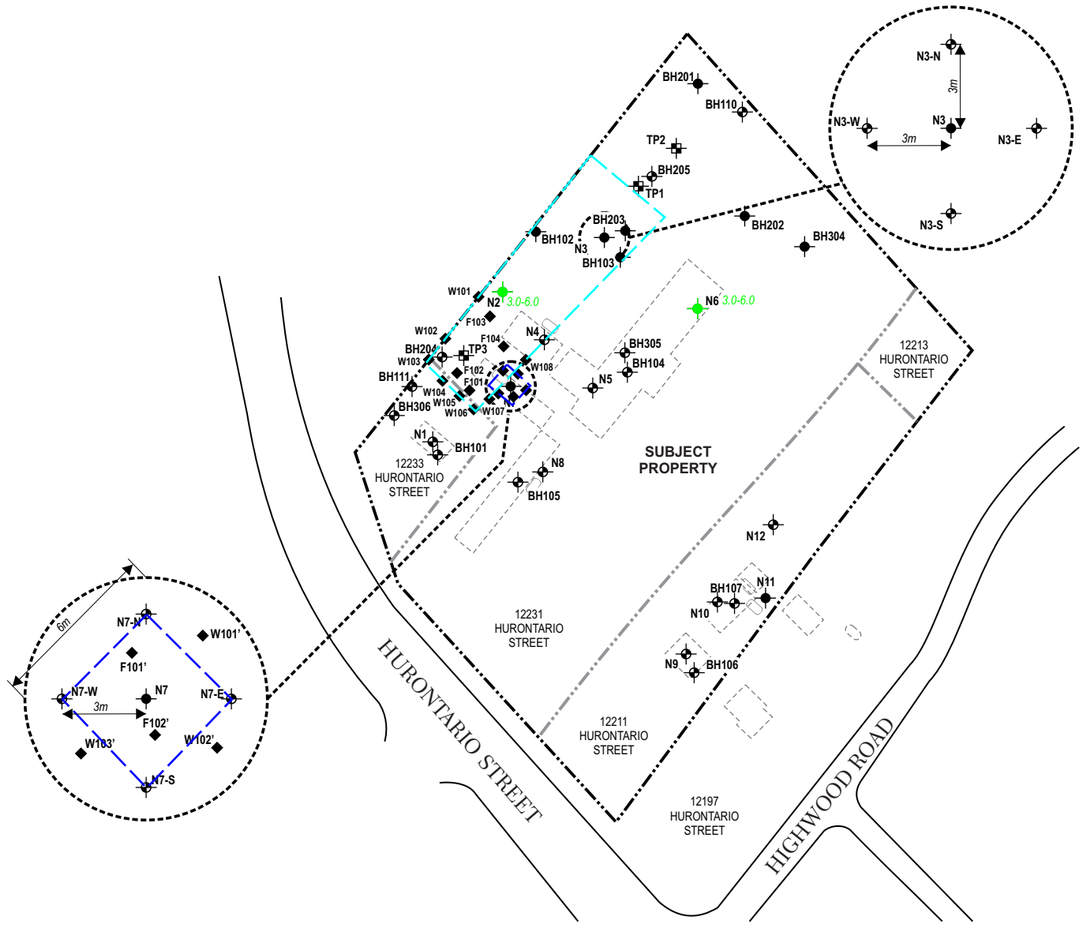
GROUND WATER ANALYTICAL RESULTS – POLYCYCLIC AROMATIC HYDROCARBONS

FIGURE 9C

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:GW PAHs



SCALE:

0 25 50m

SOURCE:

BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:

- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- 3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

GROUND WATER ANALYTICAL RESULTS – METALS (INCLUDING HYDRIDE-FORMING)

FIGURE 9D

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:GW METAL

BH201	
Screen Interval (mbgs)	1.3 to 4.3
Date	7-May-2020
Cl	2280000
Na	361000

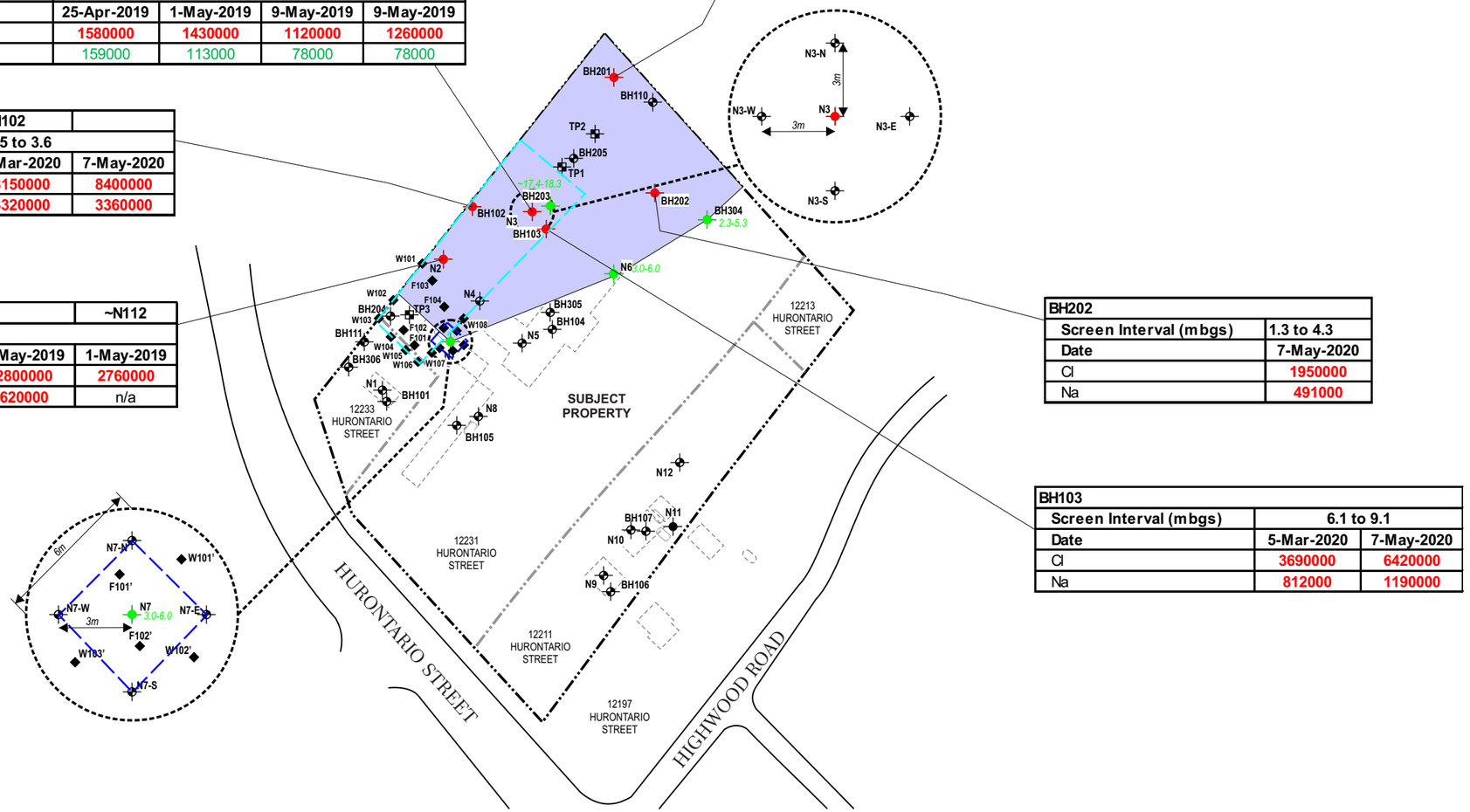
BH-N3				~N113
Screen Interval (mbgs)	3.0-6.0			
Date	25-Apr-2019	1-May-2019	9-May-2019	9-May-2019
Cl	1580000	1430000	1120000	1260000
Na	159000	113000	78000	78000

BH102	~BH102	
Screen Interval (mbgs)	1.5 to 3.6	
Date	5-Mar-2020	5-Mar-2020	7-May-2020
Cl	8140000	8150000	8400000
Na	3350000	3320000	3360000

BH-N2				~N112
Screen Interval (mbgs)	3.0-6.0			
Date	25-Apr-2019	1-May-2019	9-May-2019	1-May-2019
Cl	1240000	2520000	2800000	2760000
Na	485000	607000	620000	n/a

BH202	
Screen Interval (mbgs)	1.3 to 4.3
Date	7-May-2020
Cl	1950000
Na	491000

BH103		
Screen Interval (mbgs)	6.1 to 9.1	
Date	5-Mar-2020	7-May-2020
Cl	3690000	6420000
Na	812000	1190000



Parameter	Abbreviation	Table 4 Soil Standards*	Units
Chloride	Cl	790000	µg/L
Sodium	Na	490000	µg/L

SCALE: 0 25 50m

SOURCE:
BASED ON GOOGLE EARTH IMAGE, DATED MAY 7, 2018 AND FIELD MEASUREMENTS BY EXP STAFF

DRAWN BY	CHECKED BY
K.G.	T.N.T.

LEGEND:
- PROPERTY BOUNDARY EXTENT
- PROPERTY BOUNDARY
- TEST HOLE WITH MONITOR N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST HOLE N SERIES(EXP, 2019) BH SERIES (EXP, 2020, 2021)
- TEST PIT (EXP, 2019)
- CONFIRMATORY SOIL SAMPLES (EXP, 2020, 2021)
- FORMER FEATURES
- FORMER ABOVE GROUND STORAGE TANK LOCATION
- FORMER UNDER GROUND STORAGE TANK LOCATION
- EXCAVATION 1
- EXCAVATION 2
- AREA OF CONTAMINATION AOC C
- 3.0-6.0 SCREEN INTERVAL (mbgs)

*STANDARDS SHOWN ARE FOR ALL TYPE OF PROPERTY USE AND MEDIUM/FINE TEXTURED SOILS
~ INDICATES FIELD DUPLICATE SAMPLE
mbgs - METRES BELOW GROUND SURFACE
ALL RESULTS IN UNITS OF µg/L, UNLESS OTHERWISE NOTED

LOCATION WHERE SAMPLE IS WITHIN O. REG. 153/04 TABLE 4 STANDARDS FOR ALL PARAMETERS ANALYZED IS SHOWN IN GREEN
LOCATION WHERE SAMPLE EXCEEDS O. REG. 153/04 TABLE 4 STANDARDS FOR AT LEAST ONE PARAMETER IS SHOWN IN RED
CONCENTRATION OF CONTAMINANT EXCEEDING TABLE 4 STANDARD SHOWN IN TEXT AS **RED BOLD**
CONCENTRATION OF CONTAMINANT WITHIN TABLE 4 STANDARD SHOWN IN TEXT AS GREEN

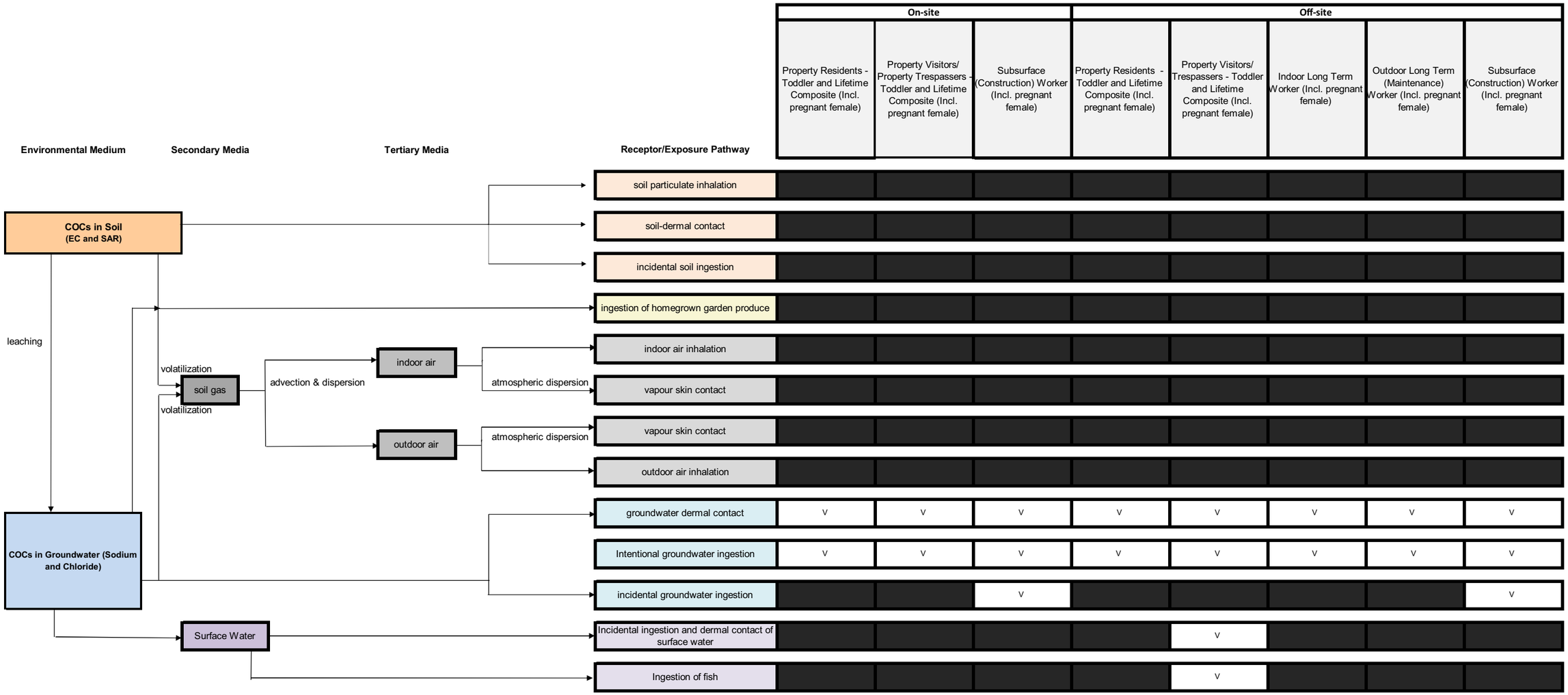
GROUND WATER ANALYTICAL RESULTS – OTHER REGULATED PARAMETERS (INCLUDING SODIUM AND CHLORIDE)

FIGURE 9E

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP RESULTS-JAN22:GW SODIUM & CHLORIDE



LEGEND:

	Pathway is incomplete
V	Pathway is complete

DRAWN BY	CHECKED BY
K.G.	T.N.T.

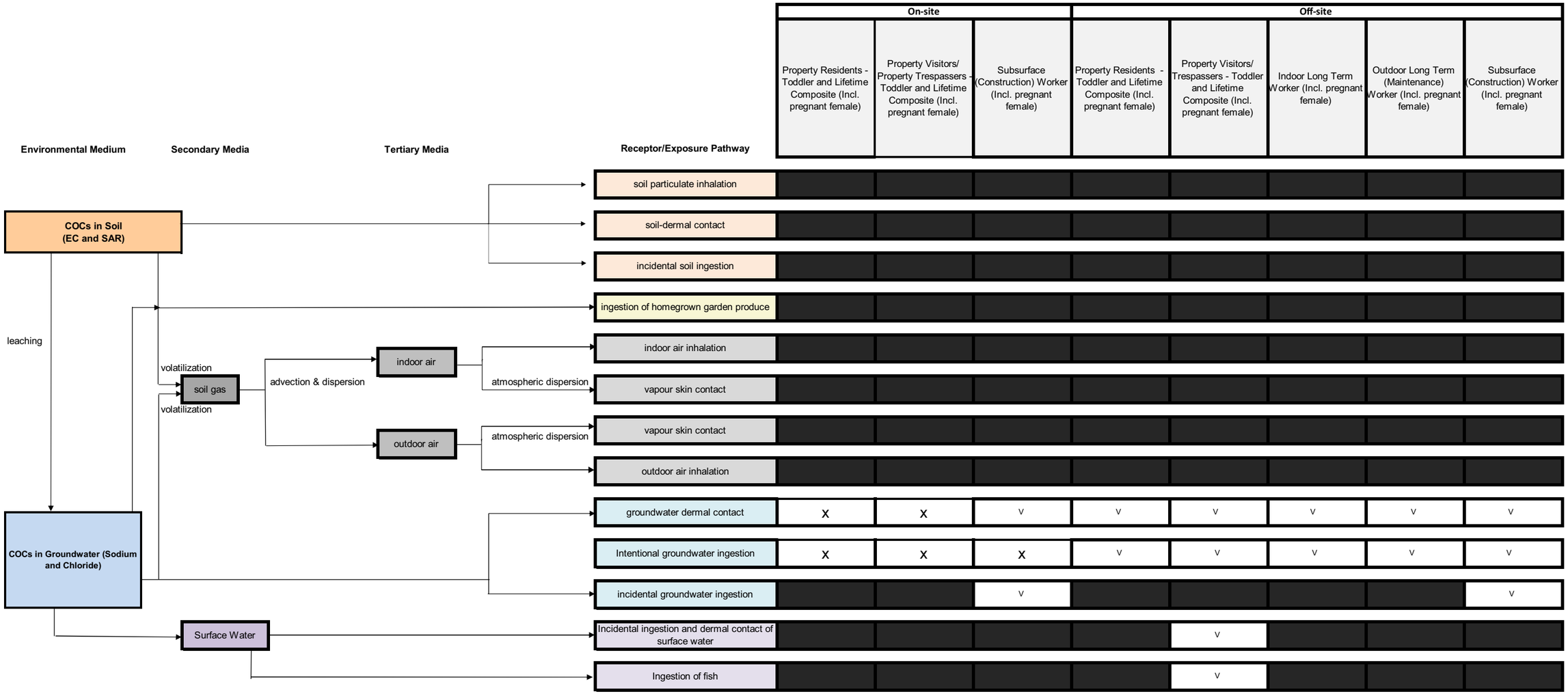
HUMAN HEALTH CONCEPTUAL SITE MODEL WITHOUT RMM

FIGURE 10A

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP HHCSM_ECSM-JAN22:HHCSM W/O RMM



LEGEND:

	Pathway is incomplete
V	Pathway is complete
X	Pathway is mitigated by RMM

RMMS TO BE APPLIED AT THE SITE FOR HUMAN HEALTH PROTECTION INCLUDE A RESTRICTION OF THE CONSTRUCTION OF WELLS FOR POTABLE USE.

DRAWN BY	CHECKED BY
K.G.	T.N.T.

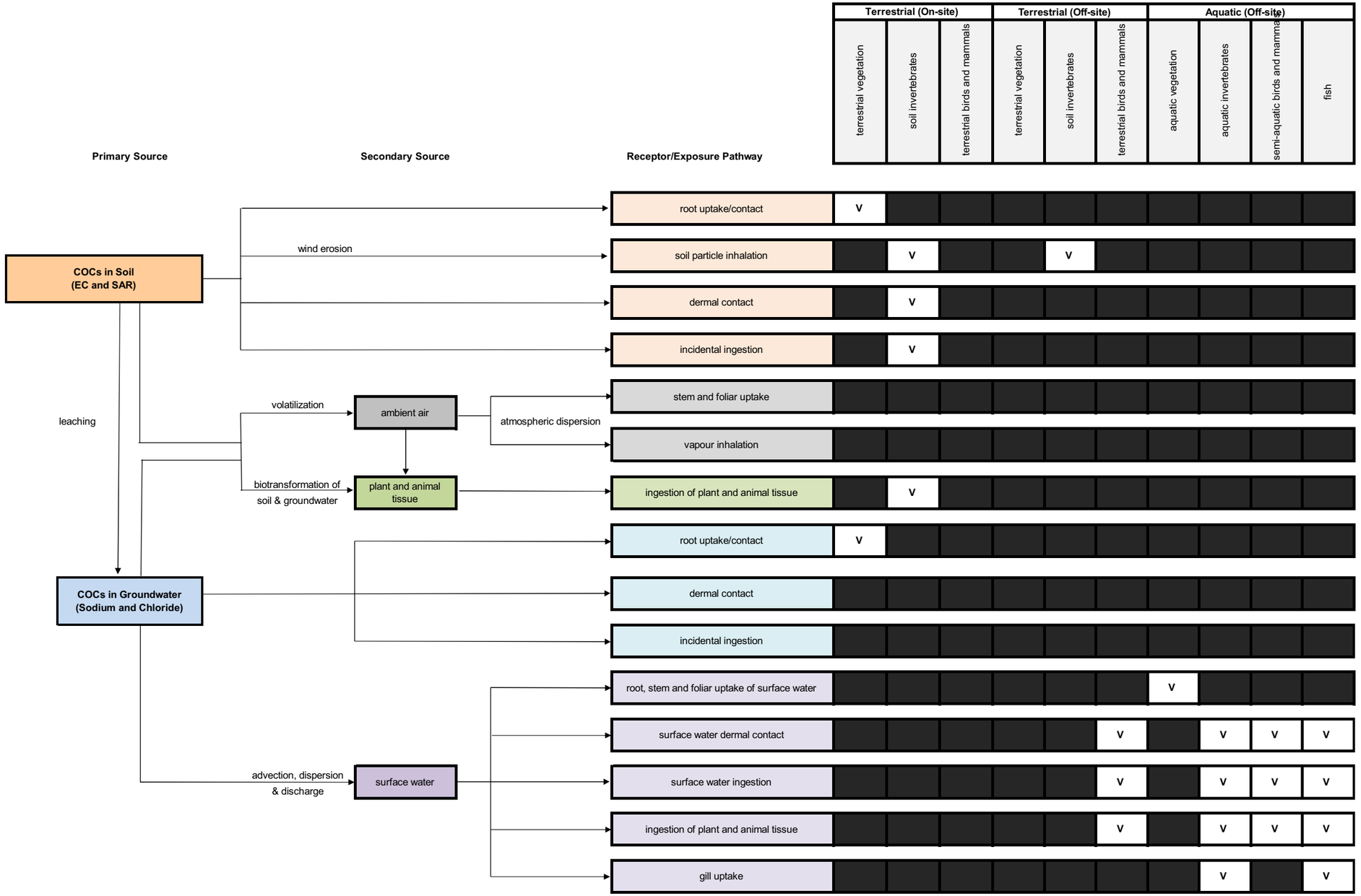
HUMAN HEALTH CONCEPTUAL SITE MODEL WITH RMM

FIGURE 10B

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876 | DATE: JANUARY 2022

257876-MGRA_CP HHCSM_ECSM-JAN22:HHCSM WITH RMM



LEGEND:

	Pathway is incomplete
V	Pathway is complete

DRAWN BY	CHECKED BY
K.G.	T.N.T.

257876-MGRA_CP HHCSM_ECSM-JAN22:ECSM

ECOLOGICAL CONCEPTUAL SITE MODEL

FIGURE 11

12211, 12213, 12231, AND 12233 HURONTARIO STREET, CALEDON, ONTARIO

PROJECT NUMBER: 257876

DATE: JANUARY 2022