Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Client:
Rudanco Hospitality Corporation
4728 Dorchester Road, Unit 11B, 2nd Floor
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Attention: Mr. Peter Horn

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1 Executive Summary

EXP Services Inc. (EXP) was retained by Rudanco Hospitality ("Client") to complete a Phase Two Environmental Site Assessment (ESA) of the property located at 13030 Lundy's Lane in Thorold, ON (hereinafter referred to as the 'Site' or 'Phase Two Property').

It is EXP's understanding that the Phase Two ESA is required in support of the proposed redevelopment of the Site for mixed-use purposes (residential/commercial/employment lands), and as such, a Record of Site Condition (RSC) is required. Based on the assumed building and site permit requirements, this investigation / report was completed in accordance with Ontario Regulation (O.Reg.) 153/04 (as amended).

The Site is located on the northwest corner of the intersection of Lundy's Lane and Thorold Townline Road and is currently developed for commercial and residential/agricultural land use. The Site has an area of approximately 23.07 hectares (57.02 acres) and contains four (4) associated structures; one (1) motel, one (1) night club, one (1) residential house (with an office addition), and a Quonset hut. An inground pool was situated southwest of the motel.

This Phase Two ESA was conducted in accordance with the Phase Two ESA standard defined by O.Reg. 153/04; and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 8 of this report.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Draft Phase One ESA completed by EXP and dated November 10, 2021. The detail information of the APECs is outlined in Section 4.0 of the report. The results and findings of the Phase Two ESA conducted at the Site are summarized as follows:

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

- The Phase Two ESA drilling program was conducted on November 26, 2021. Two (2) boreholes were advanced by Elements GEO Drilling (Elements) to a maximum depth of 6.10 metres below ground surface (m bgs) under the supervision of EXP staff. One (1) of the boreholes were equipped with a monitoring well (BH/MW101).

- On November 26, 2021, one (1) hand-dug test pit was advanced at the Site with a shovel by EXP to a maximum depth of 0.31 m bgs.

- At each of the boreholes (BH/MW101 and BH102), a surficial layer of asphalt with a thickness of 0.04m was encountered. A surficial layer of topsoil was encountered at the test pit location with a thickness of 0.15 m. The asphalt was underlain by granular fill/re-worked native materials at all borehole locations to 1.52 m bgs. The underlying native soil consisted predominantly of clayey silt at both borehole and test pit locations, which extended to the maximum depth of the investigation at 6.10 m bgs.

- The monitoring well network for the Phase Two ESA consisted of one (1) newly installed monitoring well (BH/MW101) and two (2) previously installed monitoring wells (MW1 and MW9) screened between 2.72 and 6.10 m bgs, within clayey silt.

- Groundwater levels were measured on November 29th and 30th 2021. The depth to groundwater ranged between 0.450 (BH/MW101), and 1.145 mbgs (MW1), or between 184.014 and 184.590 m asl. Based on the groundwater contour map delineated for the Site, the groundwater is anticipated to flow in a northeasterly direction.

- The horizontal hydraulic gradient on-Site ranged from 0.005 m/m (between BH/MW101 and MW-9) and 0.785 m/m (between BH/MW101 and MW-1).
- Soil samples were submitted for the analysis of Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Polychlorinated Biphenyls (PCBs), Organochlorinated Pesticides (OCs), and pH and 75-micron sieve.
- All parameters were either non-detected or detected below their applicable MECP (2011) Table 2 Site Condition Standards (SCS).
- Groundwater samples were submitted for the analysis of PHCs, BTEX, and Metals.
- All parameters were either non-detected or detected below their applicable MECP (2011) Table 2 SCS.
- No evidence of free product (i.e., visible film or sheen), or odor was observed during soil sampling, groundwater purging, or groundwater sampling activities.

Based on the results of the Phase Two ESA, no further work is recommended prior to the filing of a Record of Site Condition (RSC).

2 Introduction

EXP Services Inc. (EXP) was retained by Rudanco Hospitality Corporation ("Client") to complete a Phase Two Environmental Site Assessment (ESA) of the property located at 13030 Lundy's Lane in Thorold, ON (hereinafter referred to as the 'Site' or 'Phase Two Property').

It is EXP's understanding that the Phase Two ESA is required in support of the proposed redevelopment of the Site for mixed-use purposes (residential/commercial/employment lands), and as such, a Record of Site Condition (RSC) is required. Based on the assumed building and site permit requirements, this investigation / report was completed in accordance with Ontario Regulation (O.Reg.) 153/04 (as amended).

This Phase Two ESA was conducted in accordance with the Phase Two ESA standard defined by O.Reg.153/04; and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 8 of this report.

The objective of the Phase Two ESA was to assess the areas of potential environmental concern (APECs) identified in the Draft Phase One ESA completed by EXP and dated November 10, 2021. The detail information of the APECs is outlined in Section 4.0 of the report.

2.1 Site Description

The Site is located on the northwest corner of the intersection at Lundy's Lane and Thorold Townline Road and is currently developed for commercial and residential/agricultural land use. The Site has an area of approximately 23.07 hectares (57.02 acres) and contains four (4) associated structures; one (1) motel, one (1) night club, one (1) residential house (with an office addition), and a Quonset hut. An inground pool was situated southwest of the motel.

Based on a review of historical aerial photographs, chain of title information, previous reports, and other records, the Site was used for residential and agricultural purposes prior to 1934. The current residential structure and agricultural operations have occupied the Site prior to 1934.

2.2 Legal Description and Property Ownership

Refer to the table below for the Site identification information.

Municipal Address	13030 Lundy's Lane, Thorold, ON
Current Land Use	Residential/Agricultural/Commercial
Proposed Land Use	Residential
Legal Description	Part Twp lot 89 Thorold in RO718059 lying S of Hydro Lands Part Twp lot 89 Thorold as Parts 1&2, 59R-4846 Part Twp lot 89 Thorold in RO718059 lyding N of Hydro Lands Part Twp lot 89 Thorold as Part 2, 59R-9203
Property Identification Number (PIN)	64057-0049(LT) 64057-0050(LT) 64057-0058(LT)

	64057-0070(LT)
Approximate Universal Transverse Mercator (UTM) coordinates	NAD83 17T 648283 m E 4771669 m N
Accuracy Estimate of UTM	10-15 m
Measurement Method	Google Earth
Site Area	23.07 hectares (57.02 acres)
Property Owner	Rudanco Hospitality Corporation and Zeljko Holdings Limited
Name of Any Other Person Who Engaged the Qualified Person	Mr. Jeremia Rudan Rudanco Hospitality Corporation 4728 Dorchester Road, Unit 11B, 2nd Floor Niagara Falls, ON L2E 7H9

2.3 Current and Proposed Future Uses

At the time of the Phase Two ESA, the Site was occupied with four (4) associated structures; one (1) motel, one (1) night club, one (1) residential house (with an office addition), and a Quonset hut. It is EXP's understanding that Rudanco Hospitality Corporation intends to re-develop the Site for mixed-use purposes (residential/commercial/employment lands).

2.4 Applicable Site Condition Standards

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

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

- Table 1 – applicable to sites where background concentrations must be met (full depth), such as sensitive sites where site-specific criteria have not been derived;
- Table 2 – applicable to sites with potable groundwater and full depth restoration;
- Table 3 – applicable to sites with non-potable groundwater and full depth restoration;
- Table 4 – applicable to sites with potable groundwater and stratified restoration;
- Table 5 – applicable to sites with non-potable groundwater and stratified restoration;
- Table 6 – applicable to sites with potable groundwater and shallow soils;
- Table 7 – applicable to sites with non-potable groundwater and shallow soils;

- Table 8 – applicable to sites with potable groundwater and that are within 30 m of a water body; and,
- Table 9 – applicable to sites with non-potable groundwater and that are within 30 meters (m) of a water body.

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

For assessment purposes, EXP selected both the MECP (2011) Table 2: Full Depth Background Site Condition Standards in a Potable Ground Water Condition – Residential/Parkland/Institutional Property Use for medium/fine textured soils. The selection of this category was based on the following factors:

- More than 2/3 area of the Site has an overburden thickness greater than 2 m.
- The boreholes are not located within 30 m of a surface water body,
- The soil at the Site has a pH value between 5 and 9 for surficial soils; and, between 5 and 11 for subsurface soils.
- The property is not located within an area of natural significance.
- The Site is serviced with a potable water supply well and surrounding properties located within 250 m of the Site are serviced with a potable water supply well.
- The predominant soil type on the Site is considered to be fine textured (as per the soil description identified in the borehole logs in Appendix C, and the results of the 75-micron sieve result included in Appendix E).
- The Site's intended land use is residential/commercial/employment.
- There is no intention to carry out a stratified restoration at the Site.

3 Background Information

3.1 Physical Setting

The following physiographic, geological and soil maps were reviewed:

- "Toporama"; Natural Resources Canada. Scale 1:17,500. 2008.
- "Quaternary Geology, Seamless coverage of the Province of Ontario"; Data Set 14 – Revised, Scale 1: 1,000,000 Issued 2000.
- "Bedrock Geology of Ontario, Southern Sheet," Ontario Geological Survey, MDR126-REV1. Scale 1:250,000. Issued 2011.

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

- The elevation of the Site is 185 m above sea level and is relatively flat.
- An unnamed tributary is located approximately 125 m west of the Site, and flows west towards the Welland Canal, located approximately 2.32 km west of the Site. Based on local topography, the anticipated groundwater flow direction is to the northwest.
- The Site is expected to consist of Glaciolacustrine deposits that predominantly consist of silt and clay, minor sand, basin and quiet water deposits from the Pleistocene era.
- The bedrock in the general area of the Site is part of a group belonging to the Guelph Formation consisting of sandstone, shale, dolostone and siltstone.

3.2 Previous Environmental Investigations

3.2.1 Environmental Reports

1. "Phase One Environmental Site Assessment, 13030 Lundy's Lane, Thorold, Ontario" dated February 4th, 2020 and prepared by BAE Environmental (BAE) for Zeljko Holdings Limited. The following pertinent information was noted:
   - The Site consists of 3.04 ha (7.5 acres) of land and is surrounded by undeveloped agricultural lands.
     - It is noted that the current Site includes the entirety of the property assessed during this report.
   - The Site was historically used for agricultural purposes until the 1960s, and then was redeveloped as a commercial motel and restaurant since the 1960's/70s.
   - As part of the investigation, BAE reviewed city directories, fire insurance maps, documented data, and aerial photographs. No environmental concerns were identified with regard to the current or previous land use.
   - Four structures were observed on Site at the time of the Site visit – vacant motel, an office building, a banquet hall and a Quonset hut.
   - Based on the Phase One ESA findings, it was noted that no environmental concerns were identified for the Site or near the subject property. No further environmental investigations were recommended at the time.

2. "Phase One Environmental Site Assessment, PIN-0049: PT Twp Lt 899, THLD, as in RO718059, Lying S Hydro Lands, T/W RO718059: Thorold, PIN-0058: PT Twp Lt 89, THLD, as in RO718059, Lying N Hydro Lands, T/W RO718059: Thorold" dated February 7th, 2020 and prepared by BAE Environmental for Rudanco Hospitality Corporation. The following pertinent information was noted:
   - The Site consists of 19 ha (47 acres) of vacant agricultural land and is surrounded by undeveloped agricultural lands.

    - It is noted that the current Site includes the entirety of the property assessed during this report.
- As part of the investigation, BAE reviewed city directories, fire insurance maps, documented data, and aerial photographs. No environmental concerns were identified with regard to the current or previous land use.
- Based on the Phase One ESA findings, it was noted that no environmental concerns were identified for the Site or near the subject property. No further environmental investigations were recommended at the time.

3. "Phase One Environmental Site Assessment, Pt Township Lot 89, Thorold, Part 2 59R-9206; Thorold. All of PIN 64057-0070" dated February 3rd, 2020 and prepared by BAE Environmental for Zeljko Holdings Limited. The following pertinent information was noted:
    - The Site consists of 0.878 ha (2.17 acres) of vacant agricultural land and is surrounded by undeveloped agricultural lands.
        - It is noted that the current Site includes the entirety of the property assessed during this report.
    - As part of the investigation, BAE reviewed city directories, fire insurance maps, documented data, and aerial photographs. No environmental concerns were identified with regard to the current or previous land use.
    - Based on the Phase One ESA findings, it was noted that no environmental concerns were identified for the Site or near the subject property. No further environmental investigations were recommended at the time.

4. "Preliminary Geotechnical Investigation: Proposed Residential Development, 13030 Lundy's Lane, Allanburg, Ontario" dated July 23rd, 2021 and prepared by Soil-Mat Engineers & Consultants Ltd. for Rudanco Hospitality Corporation. The following pertinent information was noted:
    - The purpose of the geotechnical investigation was to assess the subsurface soil and groundwater conditions, and to provide comments and recommendations for the design and construction of the proposed development.
    - On May 28th, 2021 a total of ten (10) boreholes were advanced on the property to a maximum depth of 12.2 metres below ground surface (m bgs).
    - Four (4) of the boreholes were advanced as monitoring wells to allow for the future measurements of groundwater levels.
    - The general stratigraphy observed in the boreholes consisted of topsoil, underlain by native reddish-brown clayey silt. Bedrock was inferred at depths ranging between 10.9 and 12.2 m bgs. Bedrock consisted of limestone and dolostone.
    - Groundwater levels taken at the property between May 31st and July 1st, 2021 indicated groundwater at approximately 1.5 to 2 m bgs

5. "Draft Phase One Environmental Site Assessment – 13030 Lundy's Lane, Thorold, Ontario" dated November 10, 2021 by EXP Services Inc., prepared for Rudanco Hospitality Corporation. The Draft report identified the following APECs at the Site:

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)1	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: Historic orchards (PCA Identifier 1a)	Southwest Portion, with the exception of the area occupied by the Quonset hut, motel, and parking areas.	PCA#40 – Pesticides (including herbicides, fungicides, and anti-fouling agents) manufacturing, processing, bulk-storage, and large-scale applications	On-Site	Organochlorine Pesticides	Soil
APEC 2: Transformer (PCA Identifier 1b)	South-central portion of Site	PCA#55 – Transformer Manufacturing, Processing, and Use	On-Site	Polychlorinated Biphenyls (PCBs), and Petroleum Hydrocarbons (PHCs), Including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)	Soil
APEC 3: Automotive Repair Facility (PCA Identifier 3)	South portion of Site	PCA#52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-Site	Petroleum Hydrocarbons (PHCs), Including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and Metals	Groundwater

(1) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D (O.Reg.153/04, as amended) that is occurring or has occurred in a phase one Study area.

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

4 Scope of the Investigation

4.1 Overview of Site Investigation

The objective of the Phase Two ESA was to assess the APECs identified in the Phase One ESA (EXP 2021) to obtain soil and groundwater data to characterize the Site to support the filing of a RSC for re-development purposes.

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

- Request local utility locating companies (e.g., cable, telephone, gas, hydro, water, sewer and storm water) to mark any underground utilities present at the Site;
- Retain a private utility locating company to mark any underground utilities present in the vicinity of the borehole locations and to clear the individual borehole locations;
- Advance two (2) boreholes and one (1) test pit as part of the Phase Two investigation at the Site
- Instrument one (1) borehole with a monitoring well to assess groundwater quality at the Site.
- Collect representative soil samples from the borehole for laboratory analysis of petroleum hydrocarbons fractions 1 to 4 (PHCs) including benzene, toluene, ethylbenzene, xylene (BTEX), polychlorinated biphenyls (PCBs), organochlorine pesticides (OCs), metals, pH, and 75-micron sieve;
- Develop the newly installed groundwater monitoring well;
- Collect groundwater samples from the newly installed monitoring well for laboratory chemical analysis of PHCs including BTEX, and metals;
- Complete an elevation survey of one (1) newly installed monitoring well (BH/MW101), and utilize two (2) previously installed monitoring wells (BH/MW1 and BH/MW9) from the previous geotechnical investigation, in order to determine the groundwater flow direction in the groundwater unit(s) identified beneath the Site; and,
- Analyze the data and prepare a report of the findings, in accordance with O.Reg.153/04.

4.2 Media Investigated

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

4.3 Phase One Conceptual Site Model

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

4.4 Deviations from Sampling and Analysis Plan (SAAP)

The field investigative and sampling program was carried out following the requirements of the Site Sampling and Analysis Plan (SAAP in Appendix A).

No significant deviations from the SAAP were reported that affected the sampling and data quality objectives.

4.5 Impediments

The entire Site was accessible at the time of the investigation, however; a hand dug test pit (TP1) was completed, rather than a drilled borehole, as saturated conditions resulted in the inability for the drill rig to mobilize to this area of the Site.

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 and hand dug test pit to facilitate the collection of soil samples for geologic characterization and/or chemical analysis; and,
- Monitoring well installation for the collection of groundwater samples for chemical analysis.

Boreholes were advanced in the surficial fill and overburden soils by a licensed drilling company under the full-time supervision of EXP staff. The drilling equipment used to advance the boreholes is described below. The hand dug test pit was completed into the overburden soils, just beneath the surficial topsoil layer. No petroleum-based greases or solvents were used during drilling or test pit activities.

The monitoring well was installed in borehole BH101 by a MECP licensed well contractor in accordance with Ontario Regulation 903/90, as amended (O.Reg. 903) using manufactured well components (i.e., riser pipes and screens) and materials (i.e., sand pack and grout) from documented sources.

5.2 Underground Utilities

Prior to the commencement of drilling and test pit 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 (Bullz-Eye Locating) was retained to clear individual borehole locations.

5.3 Borehole and Test Pit Program

The drilling and test pit program was conducted on November 26, 2021. Two (2) boreholes (BH101 and BH102) were advanced by Elements GEO Drilling (Elements) to a maximum depth of 6.10 metres below ground surface (m bgs) under the supervision of EXP staff. One (1) of the two (2) boreholes was equipped with a monitoring well (BH/MW101).

One (1) hand-dug test pit (TP1) was advanced with a shovel by EXP to a maximum depth of 0.31 m bgs on November 26, 2021.

The boreholes were advanced using a truck-mounted Diedrich D-120 equipped with solid stem and split spoon sampling equipment. No petroleum-based greases or solvents were used during drilling activities. A summary of the boreholes advanced is provided in Table 2.

EXP continuously monitored the drilling activities to record the physical characteristics of the soil, depth of soil sample collection and total depth of boreholes. Field observations are summarized on the borehole logs provided in Appendix C. Representative soil samples were recovered in the overburden of the boreholes at regular intervals using a spilt spoon sampler in boreholes.

Efforts to prevent cross contamination during the soil sampling program included the use of dedicated nitrile gloves, sampling containers, hermetic sampling syringes etc. during sampling handling, washing the auger flights between sample locations and cleaning the split spoon sampler between runs.

Drill cuttings were temporarily stored in sealed on-Site drums pending analytical results.

5.4 Soil: Sampling

The soil sampling conducted during the completion of this Phase Two ESA was undertaken in accordance with the SAAP presented in Appendix A.

Soil samples for geologic characterization and chemical analysis were collected on a continuous basis in the overburden materials using sampling equipment advanced into the subsurface using a truck-mounted Diedrich D-120 equipped with solid stem and split spoon sampling equipment. Upon retrieval from the boreholes, the split spoons were placed on a flat surface and disassembled by drilling personnel to provide access of the recovered cores. Geologic and sampling details of the recovered cores were logged and assessed for the potential presence of non-aqueous phase liquids. Soil stratigraphy encountered in the boreholes were texturally, visually and olfactory classified in the field and in the laboratory. Soil samples were logged for colour, grain size, moisture content, density, structures, texture and/or staining. Field observations are summarized on the borehole logs provided in Appendix C.

Measures were taken in the field and during transport to preserve sample integrity prior to chemical analysis. Recommended volumes of soil samples selected for chemical analysis were collected from the recovered cores into pre-cleaned, laboratory-supplied glass sample jars/vials identified for the specified analytical test group.

All soil samples were placed in clean coolers containing ice prior to and during transportation to the subcontract laboratory, AGAT Laboratories (AGAT Labs) of Mississauga, Ontario. The samples were transported/submitted within the acceptable holding time to AGAT Labs following Chain of Custody protocols for chemical analysis.

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

Soil samples submitted for specific chemical analysis were selected on the basis of visual inspection of the recovered cores, sample location and/or depth interval. The rationale for soil sample submission is presented in Table 2.

Geologic details of the soil cores recovered from the boreholes advanced at the Site are provided in finalized boreholes logs presented in Appendix C.

Field duplicate soil samples were collected and analyzed for Quality Assurance/Quality Control (QA/QC) purposes. See Section 5.14 of this report for further details.

5.5 Soil: Field Screening Measurements

A portion of each soil sample was placed in a sealed plastic bag and allowed to reach ambient temperature prior to field screening using an RKI Eagle calibrated with hexane (H) and isobutylene (I). The measurements were made by inserting the instrument's probe into the plastic bag while manipulating the sample to ensure volatilization of the soil gases. These readings provide a real-time indication of the relative concentration of vapours encountered in the subsurface during drilling and are used to aid in the assessment of the vertical and horizontal extent of contamination and the selection of soil samples for analysis; samples with the highest PID readings were selected for submission to AGAT Labs for chemical analysis of PHCs. Prior to use in the field, the Eagle 2 was calibrated by Spectra Scientific, and a copy of the calibration was provided with the instrument. Additionally, an ambient air reading of zero ppm was observed confirming the PID's proper operation. Each sample was additionally examined for visual, textural and olfactory classification at the time of sampling. The field screening measurements, in parts per million (ppm) isobutylene equivalents, are presented on the borehole logs in Appendix C.

5.6 Groundwater: Monitoring Well Installation

The purpose of the monitoring well installation program was to characterize groundwater quality, determine hydraulic gradients and hydraulic conductivity. The monitoring well was installed in general accordance with the Ontario Water Resources Act - R.R.O. 1990, Regulation 903 - amended to O. Reg. 128/03, and were installed by Elements.

One (1) of the boreholes (BH101) advanced on-Site on November 26, 2021, was instrumented with a monitoring well to assess the groundwater quality at the Site.

The monitoring well was installed at a depth of 5.77 m bgs consisting of a 1.5 or 3 m length, 51 mm diameter number 10 slot size (0.25 mm) PVC well screens and Schedule 40 PVC riser pipe. All pipe connections were factory machined threaded flush couplings. The annular space around the wells was backfilled with silica sand to an average height of 0.6 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface. The monitoring well was completed with protective flush mount well casing.

EXP continuously monitored the well installation activities. Well installation details are summarized in Table 4 and on the borehole logs provided in Appendix C.

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

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

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

5.7 Groundwater: Monitoring Well Development

Upon completion of monitoring well installation, the monitoring well was developed to remove fine sediment particles from the sand pack and enhance hydraulic communication with the surrounding formation waters. The monitoring well was developed on November 29th, 2021, using dedicated inertial tubing and a foot valve to disturb the water column and recover groundwater containing dislodged sediment particles.

Equipment used during groundwater level measurements was thoroughly cleaned and decontaminated between wells. Well purging details were documented on a log sheet or in a bound hard cover notebook.

5.8 Groundwater: Field Measurements of Water Quality Parameters

Prior to collecting groundwater samples, field measurements of water quality parameters were recorded from the one (1) newly installed monitoring well, and sampled utilizing low-flow purging and sampling methodologies. Groundwater was purged using a peristaltic pump and dedicated LDPE tubing. Field measurements of dissolved oxygen concentration, electrical conductivity, oxidation-reduction potential, pH, temperature, turbidity and water levels were recorded at three (3) minute intervals during the purging activities using a pre-calibrated multi probe water quality meter, a turbidity meter and a water level meter. Groundwater was considered to be chemically stable when the pH measurements of three (3) successive readings

agreed to within ± 1 pH units, the specific conductance within ± 10%, and the temperature within ± 10%. The multi-meter electrodes were calibrated prior to receipt of the meter by the supplier using in-house reference standards.

5.9 Groundwater: Sampling

Groundwater samples were collected from the newly installed monitoring well on November 30, 2021. The groundwater sampling conducted during the completion of this Phase Two ESA was generally undertaken in accordance with the SAAP presented in Appendix A.

Upon completion of purging activities, groundwater samples were collected from the one (1) newly installed monitoring well (MW101). Recommended groundwater sample volumes were collected into pre-cleaned laboratory-supplied vials or bottles provided with analytical test group specific preservatives, as required. The samples were placed in an insulated cooler pre-chilled with ice immediately upon collection. Samples for PHCs including BTEX analysis were collected in triplicate vials prepared with concentrated sodium bisulphate as a preservative. Each PHC/BTEX vial was inverted and inspected for gas bubbles prior to being placed in the cooler to ensure that no head-space was present in the samples.

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

Decontamination and other protocols were followed during sample collection and handling to minimize the potential for sample cross-contamination.

Groundwater samples submitted for specific chemical analysis were selected on the basis of sample location and/or depth interval. The rationale for groundwater sample submission is presented in Table 5.

Appropriate QA/QC samples were collected during groundwater sampling, including field duplicate samples and trip blanks, where required, as presented in Table 5.

5.10 Sediment Sampling

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

5.11 Analytical Testing

The contractual laboratory selected to perform all chemical analyses was AGAT Labs. AGAT Labs is an accredited laboratory under the Standards Council of Canada/Canadian Association of Laboratory Accreditation (CALA), Accredited Laboratory No. 97 and No. A3200, respectively, in accordance with ISO/IEC 17025:2005 – "General Requirements for the Competence of Testing and Calibration Laboratories".

5.12 Elevation Survey

An elevation survey was conducted during the Phase Two ESA investigative activities, with the purpose of obtaining relative vertical control of the monitoring well locations. The top of pipe and ground surface elevation of the new monitoring well (BH/MW101) was tied into previously surveyed wells (MW-1 and MW-9). The surface elevations were referenced to a geodetic benchmark established during the completion of the geotechnical investigation by Soil Mat (2021, i.e., manhole location east of the entranceway to 13030 Lundy's Lane).

5.13 Residue Management Procedures

The residue materials produced during the borehole drilling, soil sampling programs and monitoring well sampling program comprised of soil cuttings from drilling activities, decontamination fluids from equipment cleaning, and waters from well development and purging. All soil cuttings generated from the boreholes, completed for environmental purposes, was stored on Site in 50 gallon drums. All development and purged water was collected and stored on-Site in labeled, sealed 20 L pails containers for disposal.

5.14 Quality Assurance and Quality Control Measures

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

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

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

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

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

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

One (1) duplicate soil sample BH102 SS33 (duplicate of BH102 SS3) was collected and submitted for analysis of PHCs including BTEX. One (1) duplicate groundwater sample (BH/MW1011) was collected from BH/MW101 and submitted for analysis of PHCs including BTEX. One (1) trip blank for groundwater was submitted for analysis of BTEX.

6 Review and Evaluation

6.1 Geology

The soil investigation conducted at the Site for the environmental assessment consisted of the advancement of two (2) boreholes and one (1) test pit into the asphalt or topsoil, and the underlying granular fill and native materials to a maximum depth of the investigation at 6.10 m bgs. The borehole logs describing geologic details of the soil cores recovered during the Site drilling activities are presented in Appendix C. Boundaries of soil indicated on the log sheets are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change.

At each of the boreholes (BH/MW101 and BH102), a surficial layer of asphalt with a thickness of 0.04m was encountered. A surficial layer of topsoil was encountered at the test pit location with a thickness of 0.15 m. The asphalt was underlain by granular fill/re-worked native material at all borehole locations to 1.52 m bgs. The underlying native soil consisted predominantly of clayey silt at borehole and test pit locations, which extended to a maximum depth of 6.10 m below grade.

6.1.1 Surface Material

A surficial layer of asphalt, with a thickness of 0.04 m, was encountered at each of the borehole locations.

A surficial layer of topsoil was encountered at the test pit location (TP1) with a thickness of 0.15 m.

6.1.2 Granular Fill and Re-worked Native Material

Granular material with a thickness of 0.03m was encountered beneath the asphalt at each of the borehole locations. The granular material was underlain by re-worked native material consisting of silty sand to a maximum depth of 1.52 m bgs at each of the borehole locations.

Granular fill, with a thickness of 0.03 m, was encountered beneath the asphalt at each of the borehole locations. The granular fill was underlain by fill material consisting of silty sand to a maximum depth of 1.52 m bgs at each of the borehole locations.

6.1.3 Native Material

Native reddish-brown clayey silt was encountered at each of the borehole locations and the test pit location below the surficial topsoil and granular / re-worked native material. The clayey silt was moist to wet.

6.1.4 Bedrock

During the Phase Two ESA, bedrock was not encountered during the advancement of boreholes to a maximum depth of 6.10 m bgs. The depth of bedrock is between 10.9 and 12.2 mbgs based on the geotechnical investigation (Soil-Mat, 2021).

6.2 Groundwater: Elevations and Flow Direction

The monitoring well network advanced as part of the Phase Two ESA consisted of one (1) newly installed monitoring well (BH/MW101) and two (2) previously installed monitoring wells by (MW1 and MW9) screened between 2.72 and 6.10 m bgs, within clayey silt. Groundwater levels were measured on November 29th and 30th 2021. The depth to groundwater ranged between 0.450 (BH/MW101) and 1.145 mbgs (MW1) or between 184.014 and 184.590 m asl.

The groundwater levels and corresponding elevations are summarized in Table 6, and presented in the borehole logs provided in Appendix C.

Based on the groundwater contour map delineated for the Site, the shallow groundwater is anticipated to flow in a northerly direction. A groundwater contour map is presented in Figure 6.

6.2.1 Groundwater: Hydraulic Conductivity

Based on the soil types and textual values provided in the textbook called "Groundwater" by Alan R. Freeze and John A. Cherry, the value is approximately 1 x 10^{-9} m/s.

6.2.2 Groundwater: Horizontal Hydraulic Gradients

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

$i = \Delta h/\Delta s$

Where,

i = horizontal hydraulic gradient;

Δh (m) = groundwater elevation difference; and,

Δs (m) = separation distance.

The horizontal hydraulic gradient on-Site ranged from 0.005 m/m (between BH/MW101 and MW-9) and 0.785 m/m (between BH/MW101 and MW-1).

6.3 Soil Texture

Based on the 75-micron sieve of representative soil, the soil texture at the Site was determined to be fine textured soils (refer to Appendix E) which is consistent with the reported geotechnical investigation (Soil-Mat, 2021).

6.4 Soil Field Screening

Total Organic Vapour (TOV) readings from each sample interval were measured for soil sample selected for BTEX/PHC analysis from the advanced boreholes that were completed for environmental purposes . Vapour concentrations readings collected during subsurface drilling were measured using the RKI Eagle 2 in ppm calibrated with isobutylene and hexane or equivalent. The vapour readings, in ppm, are provided on the borehole log in Appendix C.

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

6.5 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. The selection of representative "worst case" soil samples was based on field screening, visual and/or olfactory evidence of impacts and the presence of potential water bearing zones. Copies of the laboratory Certificates of Analysis for the analyzed soil samples are provided in Appendix E. The locations of the soil samples are shown on Figures 7 to 10.

6.5.1 Soil pH

The Table 2 SCS criteria are applicable if soil pH is in the range of 5 to 9 for surface soil (less than 1.5 m below soil surface) and 5 to 11 for subsurface soil (greater than 1.5 m below soil surface).

The reported pH value was 7.51 for surface soils and 7.37 for subsurface soils, which are within the acceptable range to use the Table 2 SCS. The results of the pH analysis are presented in Table D.3 in Appendix D.

6.5.2 Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene, Xylene (BTEX)

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

As shown in Table D.1, PHCs including BTEX were not detected at the laboratory Reporting Detection Limits (RDLs). The RDLs were below the Table 2 SCS.

6.5.3 Polychlorinated Biphenyls (PCBs)

One (1) soil sample was analyzed for PCBs. The results of the analysis together with the applicable Table 2 SCS are presented in Table D.2 in Appendix D.

As shown in Table D.2, PCBs were not detected at the laboratory Reporting Detection Limits (RDLs). The RDLs were below the Table 2 SCS.

6.5.4 Organochlorine Pesticides (OCs)

One (1) soil sample was analyzed for OCs. The results of the analysis together with the applicable Table 2 SCS are presented in Table D.4 in Appendix D.

As shown in Table D.4, OCs were not detected at the laboratory Reporting Detection Limits (RDLs). The RDLs were below the Table 2 SCS.

6.5.3 Chemical Transformation and Soil Contaminant Sources

No soil impacts were identified in the boreholes on Site.

6.5.4 Evidence of Non-Aqueous Phase Liquid

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

6.6 Groundwater Quality

In accordance with the scope of work, chemical analyses were performed on groundwater samples recovered from the monitoring wells. The selection of groundwater samples was based on location and/or screen depth. Copies of the laboratory Certificates of Analysis for the analyzed groundwater samples are provided in Appendix E. A summary of the analytical results for the groundwater samples, including the locations of each sample, well screen interval depth, a comparison of parameter concentrations against applicable SCS, and the identification of the PCOCs, are provided in Appendix D. The locations of the soil samples are shown on Figures 11 and 12.

6.6.1 Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene and Xylenes (BTEX)

Two (2) groundwater samples were analyzed for PHCs including BTEX, including one (1) QA/QC field duplicate. One (1) QA/QC trip blank was analyzed for BTEX. The results of the analysis together with the applicable Table 2 SCS are presented in Table D.5 in Appendix D.

As shown in Table D.5, PHCs including BTEX were not detected at the laboratory RDLs. The RDLs were below the Table 2 SCS.

6.6.2 Metals

One (1) groundwater sample was analyzed for Metals. The results of the analysis together with the applicable Table 2 SCS are presented in Table D.6 in Appendix D.

As shown in Table D.6, Metals were either not detected or detected below the applicable Table 2 SCS. The laboratory RDLs were below the Table 2 SCS.

6.6.3 Chemical Transformation and Contaminant Sources

No groundwater impacts were identified in the Phase Two ESA.

6.6.4 Evidence of Non-Aqueous Phase Liquid (NAPL)

No evidence of NAPL was observed during groundwater monitoring, purging and sampling activities.

6.7 Sediment Quality

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

6.8 Quality Assurance and Quality Control Measures

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

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

One (1) duplicate soil sample (BH102 SS33 is duplicate of BH102 SS3) was collected and analyzed for PHCs including BTEX. One (1) duplicate groundwater sample (BH/MW1011) was collected from BH/MW101 and submitted for analysis of PHCs including BTEX. One (1) trip blank for groundwater was submitted for analysis of BTEX.

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

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

The analytical program conducted by AGAT Labs included analytical test group specific QA/QC measures to evaluate the accuracy and precision of the analytical results and the efficiency of analyte recovery during solute extraction procedures. The

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

6.9 Phase Two Conceptual Site Model

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

7 Conclusions

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

- The Phase Two ESA drilling program was conducted on November 26, 2021. Two (2) boreholes were advanced by Elements GEO Drilling (Elements) to a maximum depth of 6.10 metres below ground surface (m bgs) under the supervision of EXP staff. One (1) of the boreholes were equipped with a monitoring well (BH/MW101).
- On November 26, 2021, one (1) hand-dug test pit was advanced at the Site with a shovel by EXP to a maximum depth of 0.31 m bgs.
- At each of the boreholes (BH/MW101 and BH102), a surficial layer of asphalt with a thickness of 0.04m was encountered. A surficial layer of topsoil was encountered at the test pit location with a thickness of 0.15 m. The asphalt was underlain by granular fill/re-worked native materials at all borehole locations to 1.52 m bgs. The underlying native soil consisted predominantly of clayey silt at both borehole and test pit locations, which extended to the maximum depth of the investigation at 6.10 m bgs.
- The monitoring well network for the Phase Two ESA consisted of one (1) newly installed monitoring well (BH/MW101) and two (2) previously installed monitoring wells (MW1 and MW9) screened between 2.72 and 6.10 m bgs, within clayey silt.
- Groundwater levels were measured on November 29th and 30th 2021. The depth to groundwater ranged between 0.450 (BH/MW101), and 1.145 mbgs (MW1), or between 184.014 and 184.590 m asl. Based on the groundwater contour map delineated for the Site, the groundwater is anticipated to flow in a northeasterly direction.
- The horizontal hydraulic gradient on-Site ranged from 0.005 m/m (between BH/MW101 and MW-9) and 0.785 m/m (between BH/MW101 and MW-1).
- Soil samples were submitted for the analysis of Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Polychlorinated Biphenyls (PCBs), Organochlorinated Pesticides (OCs), and pH and 75-micron sieve.
- All parameters were either non-detected or detected below their applicable MECP (2011) Table 2 Site Condition Standards (SCS).
- Groundwater samples were submitted for the analysis of PHCs, BTEX, and Metals.
- All parameters were either non-detected or detected below their applicable MECP (2011) Table 2 SCS.
- No evidence of free product (i.e., visible film or sheen), or odor was observed during soil sampling, groundwater purging, or groundwater sampling activities.

7.1 Site Characterization

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

- Request local utility locating companies (e.g., cable, telephone, gas, hydro, water, sewer and storm water) to mark any underground utilities present at the Site;

- Retain a private utility locating company to mark any underground utilities present in the vicinity of the borehole locations and to clear the individual borehole locations;
- Advance two (2) boreholes and one (1) test pit as part of the Phase Two investigation at the Site
- Instrument one (1) borehole with a monitoring well to assess groundwater quality at the Site.
- Collect representative soil samples from the borehole for laboratory analysis of petroleum hydrocarbons fractions 1 to 4 (PHCs) including benzene, toluene, ethylbenzene, xylene (BTEX), polychlorinated biphenyls (PCBs), organochlorine pesticides (OCs), metals, pH, and 75-micron sieve;
- Develop the newly installed groundwater monitoring well;
- Collect groundwater samples from the newly installed monitoring well for laboratory chemical analysis of PHCs including BTEX, and metals;
- Complete an elevation survey of one (1) newly installed monitoring well (BH/MW101), and utilize two (2) previously installed monitoring wells (BH/MW1 and BH/MW9) from the previous geotechnical investigation, in order to determine the groundwater flow direction in the groundwater unit(s) identified beneath the Site; and,
- Analyze the data and prepare a report of the findings, in accordance with O.Reg.153/04.

7.2 Whether Environmental Conditions were Met

Based on the analytical results, the following summary is presented:

- Soil samples were submitted for the analysis of Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Polychlorinated Biphenyls (PCBs), Organochlorinated Pesticides (OCs), and pH and 75-micron sieve.
- All parameters were either non-detected or detected below their applicable MECP (2011) Table 2 Site Condition Standards (SCS).
- Groundwater samples were submitted for the analysis of PHCs, BTEX, and Metals.
- All parameters were either non-detected or detected below their applicable MECP (2011) Table 2 SCS.
- No evidence of free product (i.e., visible film or sheen), or odor was observed during soil sampling, groundwater purging, or groundwater sampling activities.

7.3 Phase Two Property Certification

Soil and groundwater met O. Reg. 153/04 Table 2 Standards for OC Pesticides, PHCs including BTEX, PCBs, and Metals.

Based on the results of the Phase Two ESA, no further work is recommended prior to the filing of a Record of Site Condition (RSC).

8 General Limitations

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

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

The environmental investigation was carried out to address the intent of applicable provincial Regulations, Guidelines, Policies, Standards, Protocols and Objectives administered by the Ministry of the Environment. 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.

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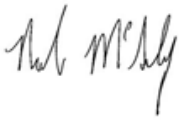
9 Closure

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

Yours truly,

EXP Services Inc.



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10 References

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

1. Canadian Standards Association [CSA] (2000) Z769-00, Phase II Environmental Site Assessment. Canadian Standards Association, March 2000.
2. Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended, September 2004.
3. First Base Solutions [FBS] (2011) VuMap. First Base Solutions. Available online at: http://vumap.firstbasesolutions.com/index.php.
4. Ministry of the Environment and Climate Change [MECP] (1996) Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario. Ontario Ministry of the Environment, December 1996.
5. 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.
6. MECP (2011) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Ontario Ministry of the Environment, April 15, 20101.
7. Ontario Regulation 153/04, made under the Environmental Protection Act, May 2004, amended.
8. Ontario Water Resources Act – R.R.O. 1990, Regulation 903, amended.
9. Gao, C., Shirota, J., Kelly, R.I., Brunton, F.R. and van Haaften, S. 2006. Bedrock topography and overburden thickness mapping, southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 207

Previous Environmental Investigation Reports include:

10. "Phase One Environmental Site Assessment, 13030 Lundy's Lane, Thorold, Ontario" dated February 4th, 2020 and prepared by BAE Environmental (BAE) for Zeljko Holdings Limited.
11. "Phase One Environmental Site Assessment, PIN-0049: PT Twp Lt 899, THLD, as in RO718059, Lying S Hydro Lands, T/W RO718059: Thorold, PIN-0058: PT Twp Lt 89, THLD, as in RO718059, Lying N Hydro Lands, T/W RO718059: Thorold" dated February 7th, 2020 and prepared by BAE Environmental for Rudanco Hospitality Corporation.
12. "Phase One Environmental Site Assessment, Pt Township Lot 89, Thorold, Part 2 59R-9206; Thorold. All of PIN 64057-0070" dated February 3rd, 2020 and prepared by BAE Environmental for Zeljko Holdings Limited.
13. "Preliminary Geotechnical Investigation: Proposed Residential Development, 13030 Lundy's Lane, Allanburg, Ontario" dated July 23rd, 2021 and prepared by Soil-Mat Engineers & Consultants Ltd. for Rudanco Hospitality Corporation.
14. "Phase One Environmental Site Assessment, 13030 Lundy's Lane, Thorold, Ontario" dated November 10th, 2021 and prepared by EXP Services Inc. for Rudanco Hospitality Corporation.

Tables

TABLE 1 - Areas of Potential Environmental Concern (APECs)

GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Area of Potential Environmental Concern (APEC)[1]	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)[2]	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern[3]	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: Historic orchards (PCA Identifier 1a)	Southwest portion of Site	PCA#40 – Pesticides (including herbicides, fungicides, and anti-fouling agents) manufacturing, processing, bulk-storage, and large-scale applications	On-Site	Organochlorine Pesticides	Soil
APEC 2: Transformer (PCA Identifier 1b)	South-central portion of Site	PCA#55 – Transformer Manufacturing, Processing, and Use	On-Site	Polychlorinated Biphenyls (PCBs), Petroleum Hydrocarbons (PHCs), Including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)	Soil
APEC 3: Automotive Repair Facility (PCA Identifier 3)	South portion of Site	PCA#52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-Site	Petroleum Hydrocarbons (PHCs), Including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and Metals	Groundwater

Notes:

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

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

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

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

4. When submitting a record of site condition for filing, a copy of this table must be attached

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TABLE 2 - Borehole Log Information

GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Location ID	Ground Elevation (m)	Depth of BH (m bgs)	Bottom Elevation (m bgs)	Date Drilled	Drilling Contractor
BH/MW101	185.04	6.1	178.94	26-Nov-21	Elements
BH 102	185.58	3.66	181.92	26-Nov-21	Elements
TP-1	185.55	0.31	185.24	26-Nov-21	Elements

Elevation surveyed with handheld Trimble GPS.

TABLE 3 - Summary of Soil Samples Submitted for Chemical Analysis

GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Soil Sample ID	Sample Depth Interval (m)	Rationale	Analysis
BH102 SS2	0.61 - 1.37	Assess soil quality associated with APEC 2 and regulatory sample	PCBs, pH
BH102 SS3	1.52 - 2.13	Assess soil quality associated with APEC 2 and regulatory sample	PHCs, BTEX
BH102 SS4	2.28 - 2.89	Regulatory sample	pH
TP1 SS2	0.15 - 0.31	Assess soil quality associated with APEC 1	OCPs
Laboratory Quality Assurance / Quality Control (QA/QC) Samples:			
BH102 SS33	1.52 - 2.13	Duplicate of BH102 SS3	PHCs, BTEX

PHCs - Petroleum Hydrocarbons Fractions 1 to 4

BTEX - Benzene, Toluene, Ethylbenzene, Xylene

PCBs- Polychlorinated Biphenyls

OCPs - Organochlorine Pesticides

TABLE 4 - Monitoring Well Installation Details

GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Location ID	Ground Elevation (masl)	Stickup (m)	Top of Pipe Elevation (masl)	Approximate Depth of MW (m bgs)	Screen Length (m)	Top of Screen (Measured)	Bottom of Screen (Measured)	Geologic Units Intercepted by Well Screen	Well Condition
BH/MW101	185.04	-0.145	184.895	5.770	3.050	182.320	179.270	Clayey Silt	Intact
MW1	185.55	1.180	186.730	6.100	3.050	182.500	179.450	Clayey Silt	Intact
MW9	184.28	1.115	185.395	6.100	3.050	181.230	178.180	Clayey Silt	Intact

The surface elevations were referenced to a geodetic benchmark i.e. manhole location east of the entranceway to 13030 Lundy's Lane

TABLE 5 - Summary of Groundwater Samples Submitted for Chemical Analysis

GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

GW Sample ID	Sampling Date	Rationale	Analysis
BH/MW101	30-Nov-21	Assess groundwater quality associated with APEC 3	PHCs including BTEX, Metals
Laboratory Quality Assurance / Quality Control (QA/QC) Samples:			
BH/MW1011	30-Nov-21	Duplicate of BH/MW101	PHCs including BTEX
TRIP BLANK	30-Nov-21	Regulatory Sample	BTEX

GW - Groundwater

PHCs including BTEX- Petroleum Hydrocarbons including Benzene, Toluene, Ethylbenzene and Xylenes

BTEX - Benzene, Toluene, Ethylbenzene, Xylene

TABLE 6 - Water Level Depths and Elevations

GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Location ID	Ground Elevation (masl)	Stickup (m)	Top of Pipe Elevation (masl)	Water Level Depth (m bg)	Water Level Depth (m asl)	Date
BH/MW101	185.040	-0.145	184.895	0.450	184.590	29-Nov-21
				0.577	184.463	30-Nov-21
MW1	185.550	1.180	186.730	1.145	184.405	30-Nov-21
MW9	184.280	1.115	185.395	0.266	184.014	30-Nov-21

TABLE 7 - Summary of Horizontal Hydraulic Gradients

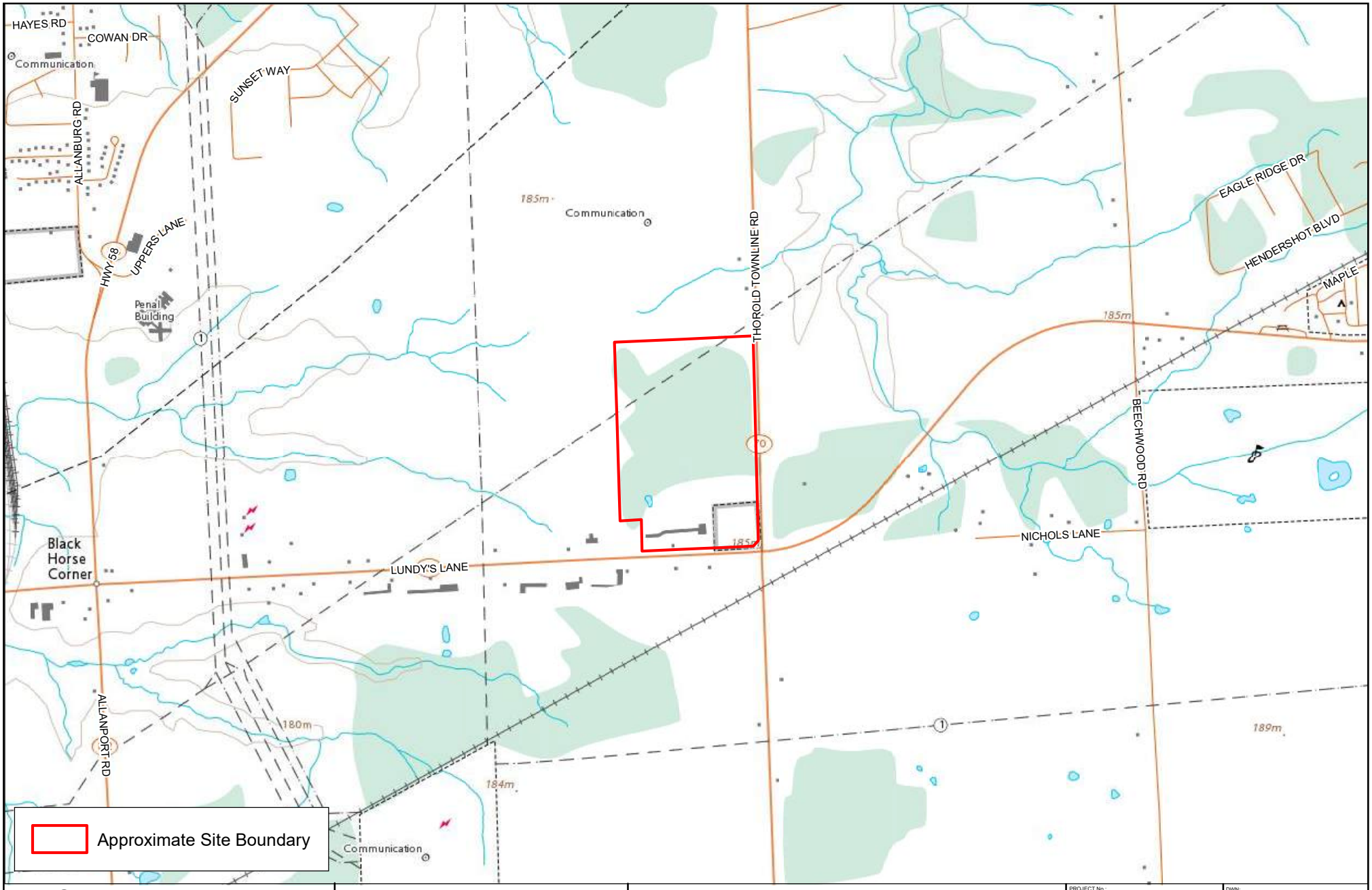
GTR-21019405-B0, Phase Two Environmental Site Assessment

13030 Lundy's Lane, Thorold, Ontario

Well Pair	Separation Distance (m)	Groundwater Elevations (m)	Elevation Difference (m)	Hydraulic Gradient* (m/m)
BH/MW101	212.00	185.04	166.49	0.785
MW-1		18.55		
BH/MW101	166.00	185.04	0.76	0.005
MW-9		184.28		

*The horizontal hydraulic gradient between monitoring well pair is calculated from $i = \Delta h/\Delta s$, where I is the horizontal hydraulic gradient, Δh (m) is the groundwater elevation difference and Δs (m) is the distance apart.

Figures



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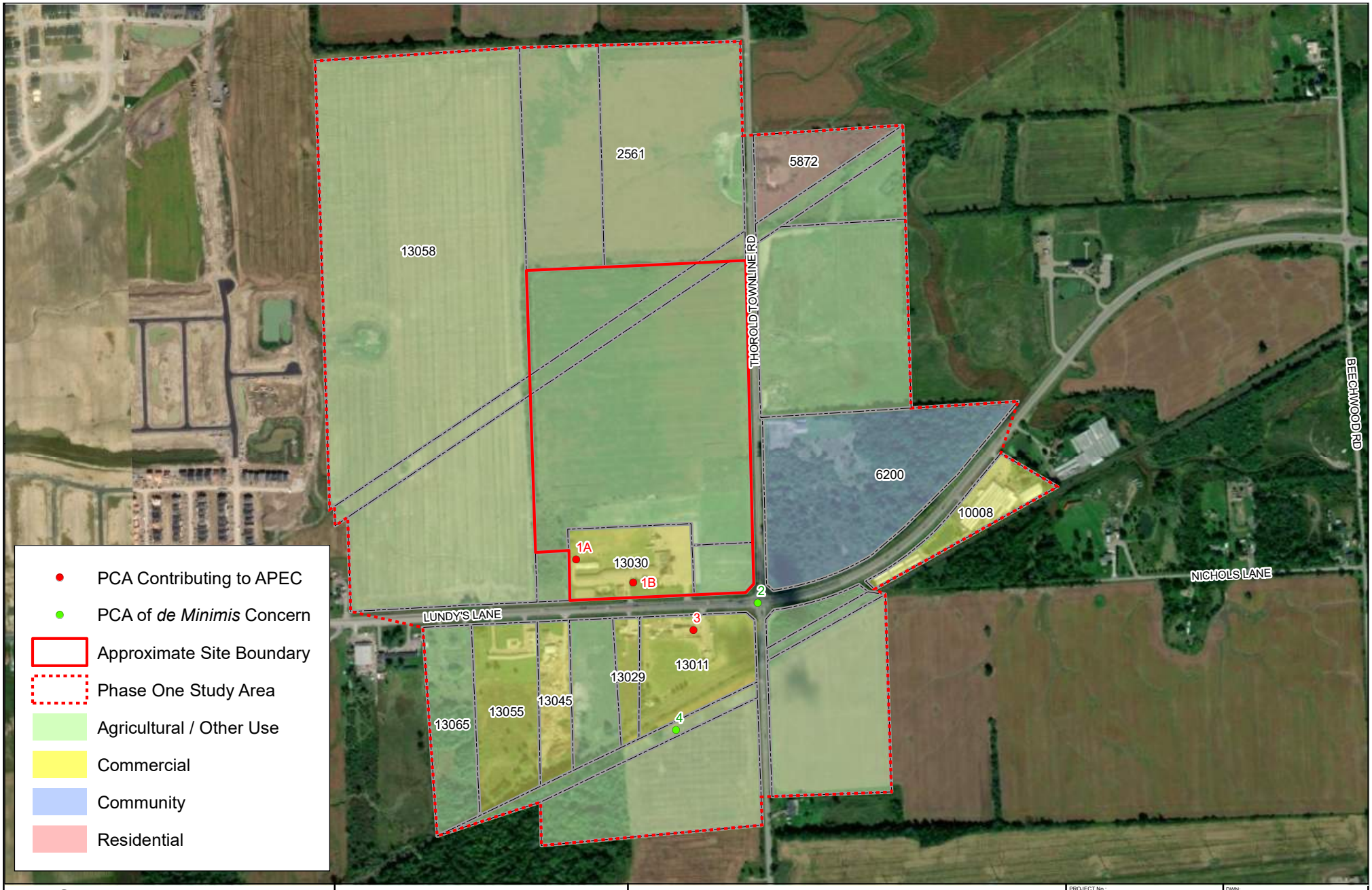
N

0 150 300 450 600 750 m

TITLE AND LOCATION:

SITE LOCATION PLAN
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 1



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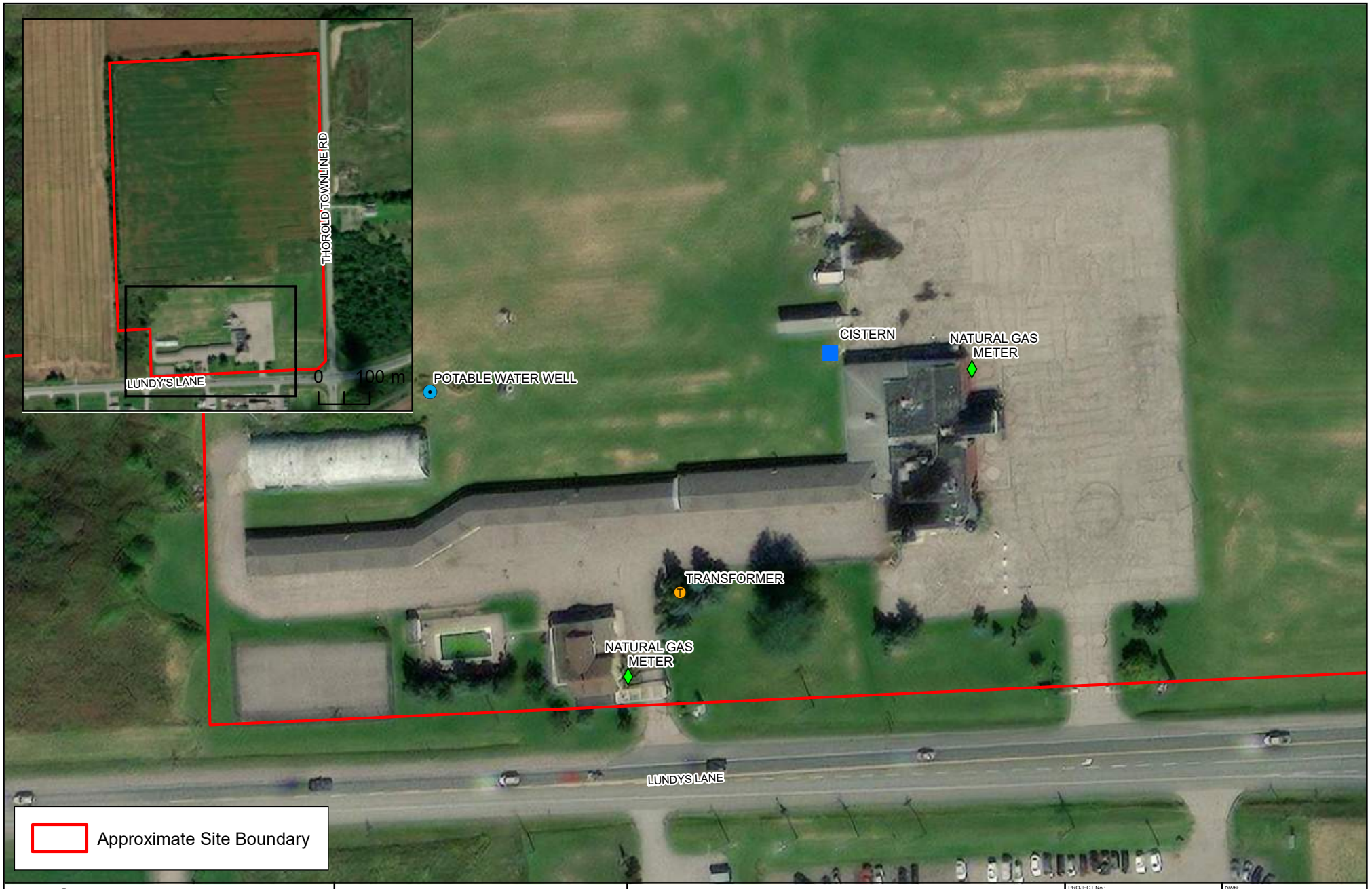
N

0 100 200 300 400 500 m

TITLE AND LOCATION:

PHASE ONE STUDY AREA, LAND USE PLAN, AND POTENTIALLY CONTAMINATING ACTIVITIES (PCAs)
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 2



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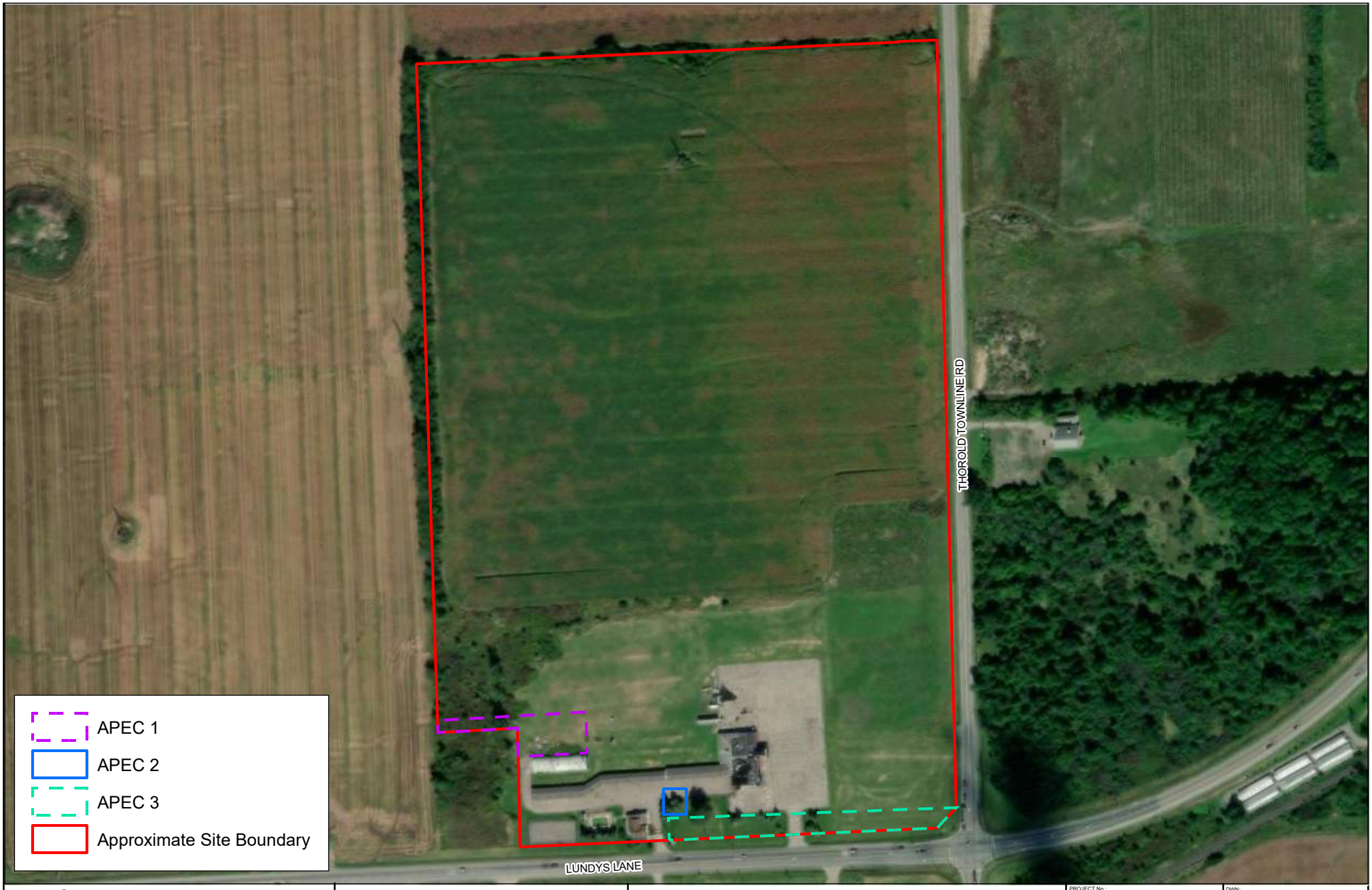
N

0 10 20 30 40 50 m

TITLE AND LOCATION:

SITE PLAN AND UTILITIES
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 3



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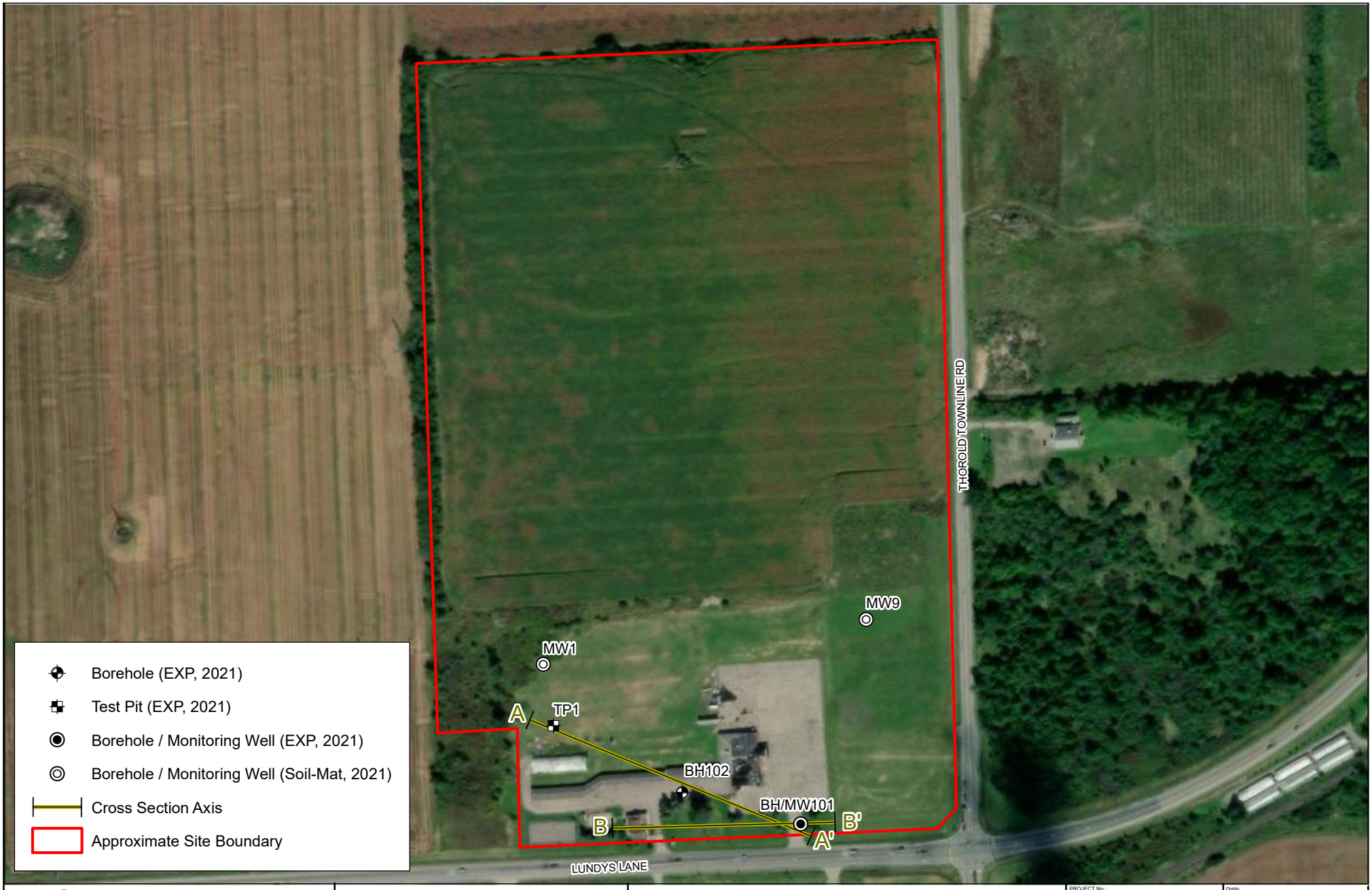
N

0 30 60 90 120 150 m

TITLE AND LOCATION:

AREAS OF POTENTIAL
ENVIRONMENTAL CONCERN (APECs)
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 4



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N

0 30 60 90 120 150 m

TITLE AND LOCATION:

BOREHOLE / MONITORING WELL
LOCATION PLAN
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 5A

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N

0 30 60 90 120 150 m

TITLE AND LOCATION:

BOREHOLE / MONITORING WELL
LOCATION PLAN AND APECs
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 5B

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0 30 60 90 120 150 m

TITLE AND LOCATION:

GROUNDWATER CONTOUR PLAN
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.:	DWN:
GTR-21019405-A0	AC
SCALE:	CHKD:
AS NOTED	LE
DATE:	FIG. No.:
DECEMBER 2021	6

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N

0 30 60 90 120 150 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS -
PETROLEUM HYDROCARBONS (PHCs)
INCLUDING BTEX
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 7

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N

0 30 60 90 120 150 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS -
POLYCHLORINATED BIPHENYLS (PCBs)
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 8

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0 30 60 90 120 150 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS - pH
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 9

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N

0 30 60 90 120 150 m

TITLE AND LOCATION:

SOIL ANALYTICAL RESULTS -
ORGANOCHLORINE PESTICIDES (OCPs)
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 10

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N

0 30 60 90 120 150 m

TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS (PHCs) INCLUDING BTEX
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 11

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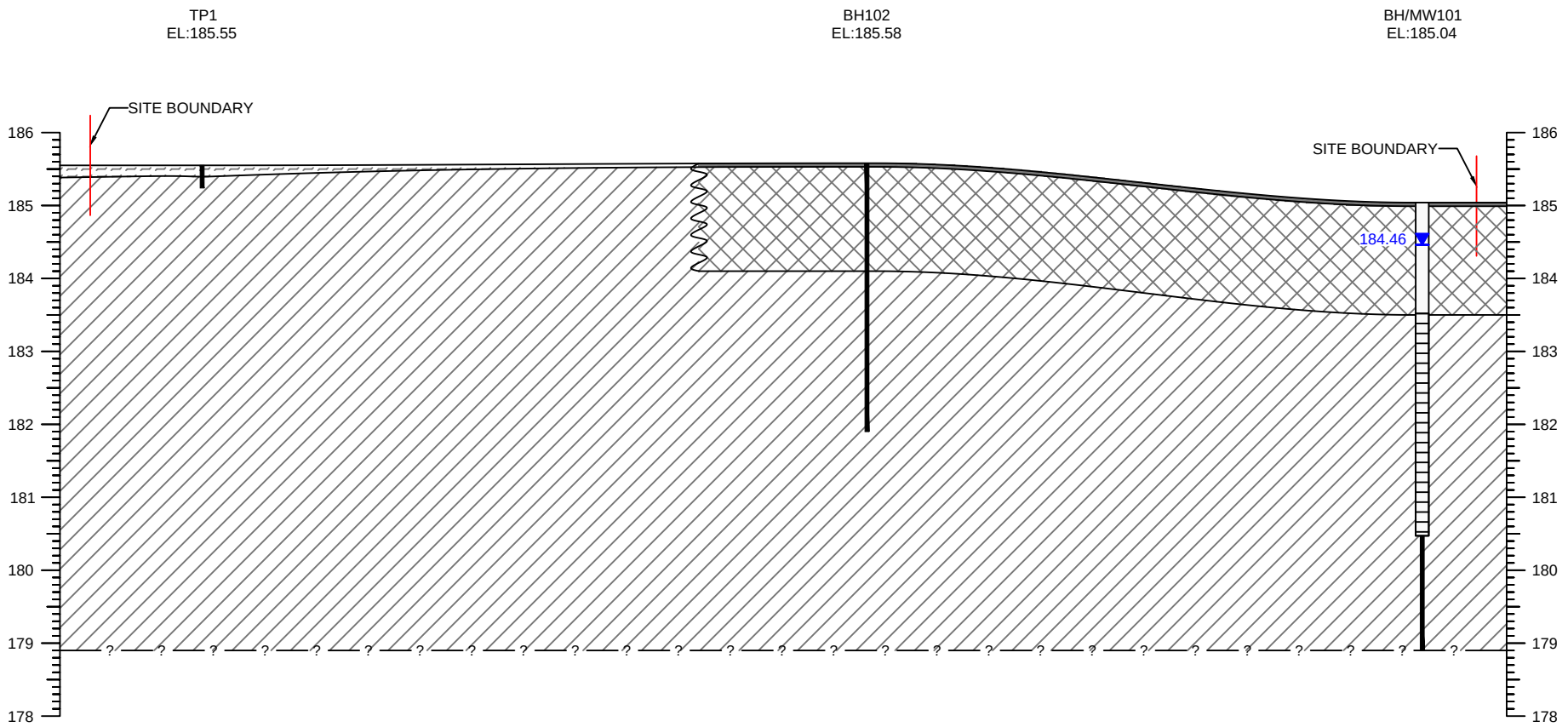
TITLE AND LOCATION:

GROUNDWATER ANALYTICAL RESULTS -
METALS (INCLUDING HYDRIDE-FORMING METALS)
Phase Two Environmental Site Assessment
13030 Lundy's Lane
Thorold, Ontario

PROJECT No.: GTR-21019405-A0	DWN: AC
SCALE: AS NOTED	CHKD: LE
DATE: DECEMBER 2021	FIG. No.: 12

A
NORTHWEST

A'
SOUTHEAST



VERTICAL SCALE: AS SHOWN

HORIZONTAL SCALE:

0 10 20 30 40 50 m

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LEGEND:

- ASPHALT
- TOPSOIL
- REWORKED NATIVE
- CLAYEY SILT
- GROUNDWATER ELEVATION (masl) AS MEASURED ON NOVEMBER 30, 2021

TITLE AND LOCATION:

CROSS SECTION A-A'

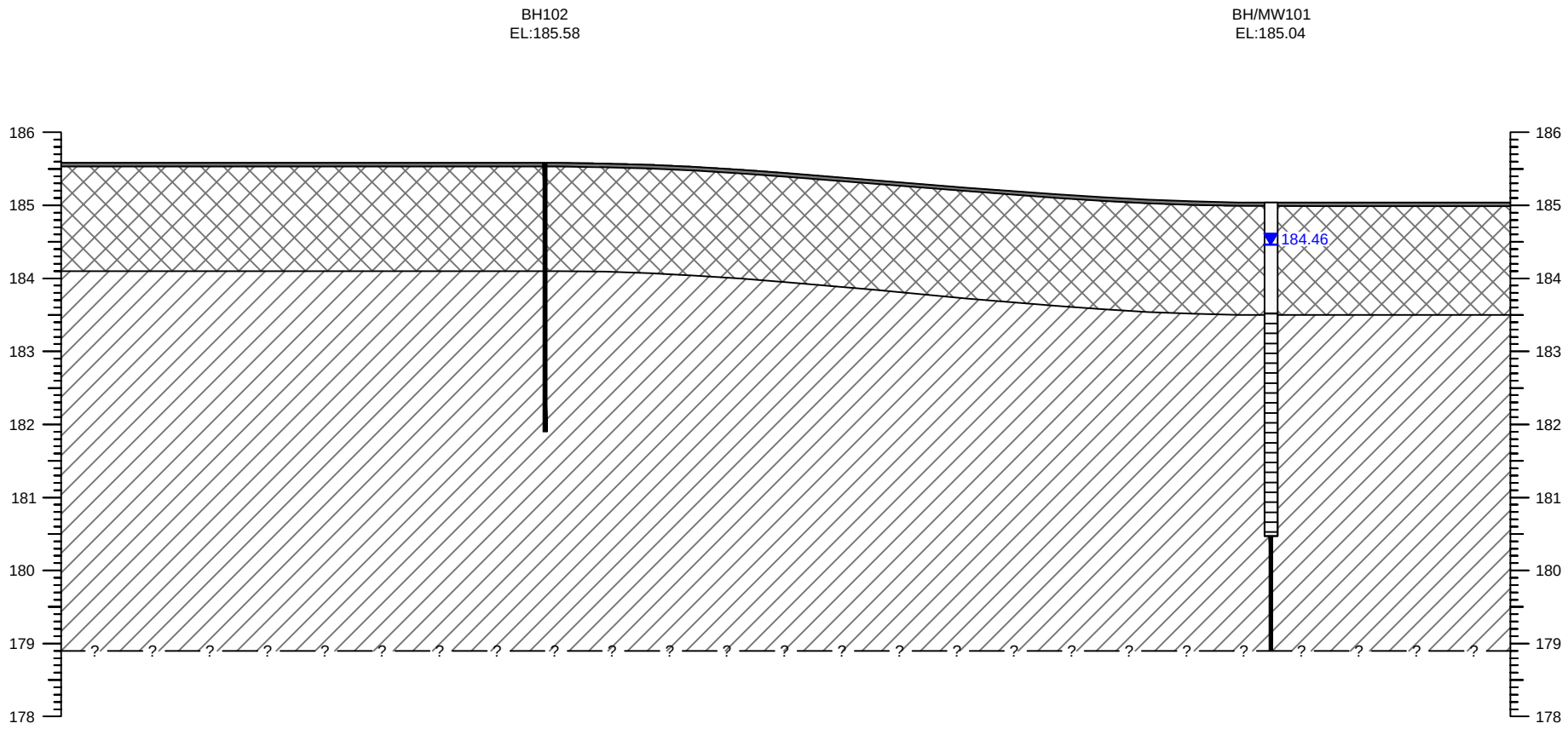
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
13030 LUNDY'S LANE
THOROLD, ONTARIO

PROJECT NO.:	DWN.:
GTR-21019405-A0	JA
SCALE: AS NOTED	CK: LE
DATE: DECEMBER 2021	FIG. NO.: 13

\\exp\data\BRM\GTR-21019405-A0\60 Execution\65 Drawings\Phase Two\Cross Sections\GTR-21019405-A0.dwg

B
WEST

B'
EAST



VERTICAL SCALE: AS SHOWN

HORIZONTAL SCALE:

0 10 20 30 40 50 m

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LEGEND:

- ASPHALT
- REWORKED NATIVE
- CLAYEY SILT
- GROUNDWATER ELEVATION (masl) AS MEASURED ON NOVEMBER 30, 2021

TITLE AND LOCATION:

CROSS SECTION B-B'
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
13030 LUNDY'S LANE
THOROLD, ONTARIO

PROJECT NO.: GTR-21019405-A0	DWN.: JA
SCALE: AS NOTED	CK: LE
DATE: DECEMBER 2021	FIG. NO.: 14

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Appendix A – Sampling and Analysis Plan

Phase Two Environmental Site Assessment

1. Introduction

This Appendix presents the Sampling and Analysis Plan (SAAP) that was developed in support of the Phase Two Environmental Assessment Work (ESA) for the property at 13030 Lundy's Lane in Thorold, ON (here within referred to as the 'Site').

The Phase Two ESA will be conducted to provide further characterization of the Site subsurface conditions and address the Areas of Potential Environmental Concerns (APECs) outlined in EXP's November 2021 Phase One ESA. The SAAP presents the procedures and measures that will be undertaken during field investigative activities to characterize the Site conditions and meet the data quality objectives of the Phase Two ESA.

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

2. Field Sampling Program

The field sampling program was developed to provide for the collection of samples of the surficial and subsurface soil materials for chemical analysis of Polychlorinated Biphenyls (PCBs), Metals, Petroleum Hydrocarbons including Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), and Organochlorine Pesticides (OCPs) and PHCs, BTEX and metals in groundwater.

The soil sampling media is to consist of the surface soils and upper overburden materials (depths up to 6.10 m below grade). The soil sampling will be location-specific to assess for the potential presence of PHCs, BTEX, PCBs, OCPs and metals based on the identification of areas of potential environmental concern (APECs). Vapour readings will also be collected in the field to determine if samples are to be submitted for BTEX and PHC F1-F2 analysis. The soil sample intervals will extend from the surface up to a maximum depth of approximately 6.10 meters (m) below grade surface (bgs) or sample refusal.

The groundwater sampling will be location-specific to assess for the potential presence of PHCs, BTEX, and metals based on the identification of APECs. The monitoring well network will comprise of chemical analysis from one (1) newly installed well.

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

3. Field Methods

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

- Borehole Drilling;
- Soil Sampling;

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

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

3.1 Borehole Drilling

Boreholes will be advanced at the Site to facilitate the collection of soil samples for chemical analysis and geologic characterization; and, for the installation of groundwater monitoring wells. A total of two (2) are proposed to be advanced at the Site for the environmental investigation, up to a maximum depth of approximately 6.10 m below grade, to provide for the collection of samples of the surficial and overburden materials beneath the Site. The borehole location will be selected to determine the presence or absence of impacts in the soils and the upper overburden groundwater and to address the APECs outlined in EXP's November 2021 Phase One ESA Report.

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

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

3.2 Test Pits

A test pit will be advanced at the Site to facilitate the collection of soil samples for chemical analysis and geologic characterization. A total of one (1) test pit is proposed to be advanced at the Site for the environmental investigation, up to a maximum depth of approximately 0.31 m below grade, to provide for the collection of samples of the surficial beneath the Site. The test pit location will be selected to determine the presence or absence of impacts in the soils and to address the APECs outlined in EXP's November 2021 Phase One ESA Report

3.3 Soil Sampling

Soil samples will be collected for chemical analysis and geologic property characterization. The soil samples will be collected using 5 cm diameter, 61 cm long, split spoons and solid stem augers or a 5 cm diameter, 1.2 m long, duel tube sampling system with interior dedicated vinyl sampling tubes. Upon retrieval from the boreholes, the split spoons or vinyl sampling tubes will be placed on a flat surface and disassembled by drilling personnel to provide access of the recovered cores. Geologic and sampling details of the recovered cores will be logged and the samples will be assessed for the potential presence of non-aqueous phase liquids. Soil stratigraphy encountered in the boreholes will be texturally, visually and olfactory classified in the field and in the laboratory. Soil samples will be logged for colour, grain size, moisture content, density, structures, texture, staining, and field vapour readings. A Photo-ionization Detector (PID) or GastechtorTM will be utilized to screen the soil samples for Total Organic Vapour (TOV). Representative worst-case soil samples from each borehole will be collected and submitted to a certified laboratory for analysis based on TOV readings, sample depth, visual and/or olfactory field observations.

Recommended volumes of soil samples selected for chemical analysis will be collected into pre-cleaned laboratory-supplied glass sample jars/vials identified for the specified analytical test group. Samples intended for PHC/BTEX and VOCs will be collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. The samples will be placed into clean insulated coolers chilled with ice for storage and transport. The samples will be assigned unique identification numbers, and the date, time, location, and requested analyses for each sample

will be documented in a bound field note book. The samples will be submitted to the contractual laboratory within analytical test group holding times under Chain of Custody protocols. New disposable chemical resistant gloves will be used for each soil core to prevent sample cross-contamination.

3.4 Monitoring Well Installation

A proposed total of five (5) boreholes will be instrumented as groundwater monitoring wells installed with 1.5 to 3 m long screens intercepting the native overburden material, where the shallow water table aquifer is expected, extending to depths of approximately 9.90 m below grade. The monitoring wells will be constructed using 51 mm diameter, Schedule 40, PVC riser pipe and number 10 slot size (0.25 mm) well screens. The base of the well screen will be sealed with threaded flush PVC end caps. All well pipe connections will be factory machined threaded flush couplings. The annular space around the well screen will be backfilled with silica sand, to an average height of 0.6 m above the top of the screen. Granular bentonite will be placed in the borehole annulus from the top of the sand pack to approximately 0.3 m below grade. The monitoring well will be completed with monument and flush-mounted protective steel casings cemented into place.

3.5 Monitoring Well Development

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

3.6 Groundwater Level Measurements

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

3.7 Elevation Survey

An elevation survey was conducted during the Phase Two ESA investigative activities, with the purpose of obtaining relative vertical control of the monitoring well locations. The top of pipe and ground surface elevations of each monitoring well were surveyed utilizing a handheld Trimble® Global Positioning System (GPS).

3.8 Field Measurements of Water Quality Parameters

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

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

3.9 Groundwater Sampling

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

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

4. Field Quality Assurance/Quality Control Program

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

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

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

4.1 Decontamination Protocols

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

4.2 Equipment Calibration

All equipment requiring calibration will be calibrated in the field according to manufacturer's requirements using analytical grade reagents, or by the supplier prior to conducting field activities, and subsequently checked in the field. The calibration of all pre-calibrated instruments will be checked in the field using analytical grade reagents and re-calibrated as required. For multiple day sampling events, equipment calibration will be checked prior to the beginning of sampling activities. All calibration data will be documented in a bound hard cover notebook.

4.3 Sample Preservation

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

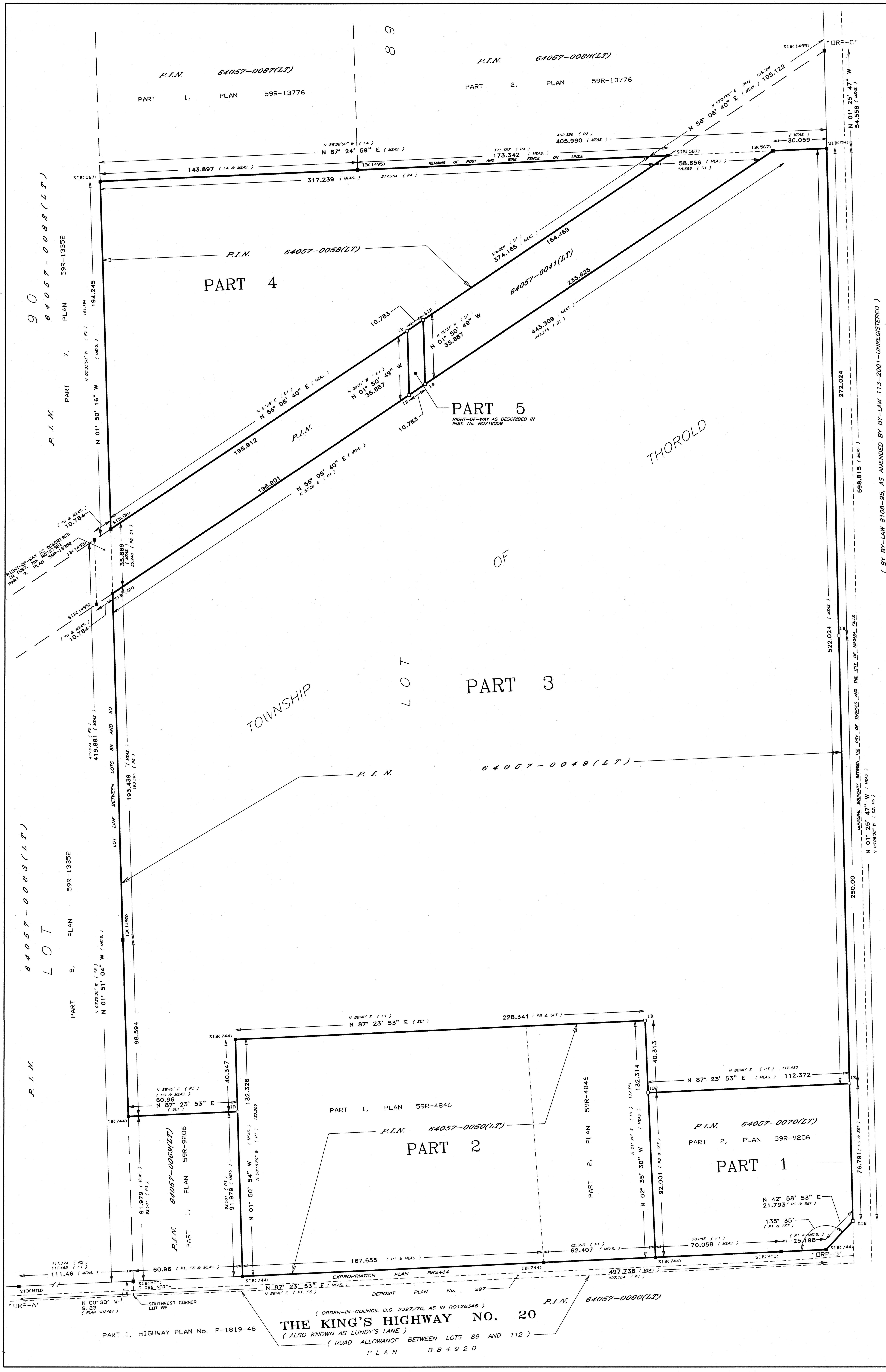
4.4 Sample Documentation

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

4.5 Field Quality Control

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

Appendix B – Survey Plan



I REQUIRE THIS PLAN TO BE DEPOSITED UNDER THE LAND TITLES ACT

DATE: JANUARY 30, 2020

PHILIP S. SUDA O.L.S.

PLAN 59 R-16622

RECEIVED AND DEPOSITED

DATE: January 30, 2020

R Lane

REPRESENTATIVE FOR THE LAND REGISTRAR FOR THE LAND TITLES DIVISION OF NIAGARA SOUTH(59)

SCHEDULE

PART	LOT	TOWNSHIP	P.I.N.
1	PART OF LOT 89	THOROLD	ALL OF 64057-0070(LT)
2			ALL OF 64057-0050(LT)
3			ALL OF 64057-0049(LT)
4			ALL OF 64057-0058(LT)
5			PART OF 64057-0041(LT)

PART 1 COMPRISES ALL OF P.I.N. 64057-0070(LT)
PART 2 COMPRISES ALL OF P.I.N. 64057-0050(LT)
PART 3 COMPRISES ALL OF P.I.N. 64057-0049(LT)
PART 4 COMPRISES ALL OF P.I.N. 64057-0058(LT)
PART 5 COMPRISES PART OF P.I.N. 64057-0041(LT)

PART 5 SUBJECT TO A RIGHT-OF-WAY AS DESCRIBED IN INST. No. RO718059

PLAN OF SURVEY OF

PART OF LOT 89,

GEOGRAPHIC TOWNSHIP OF THOROLD

IN THE

CITY OF THOROLD

REGIONAL MUNICIPALITY OF NIAGARA

SCALE 1 : 1000

50 40 30 20 10 0 50 METRES

PHILIP S. SUDA O.L.S.

BEARING NOTE

BEARINGS SHOWN ARE GRID BEARINGS DERIVED FROM OBSERVED REFERENCE POINTS "A", "B" AND "C" BY REAL TIME NETWORK OBSERVATIONS AND ARE REFERRED TO THE CENTRAL MERIDIAN 81° W, U.T.M. ZONE 17, NAD 83(CSRS)

DISTANCE NOTE

DISTANCES SHOWN ON THIS PLAN ARE ADJUSTED GROUND LEVEL DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY THE AVERAGE COMBINED SCALE FACTOR OF 0.99984722

COORDINATE VALUES ARE TO AN URBAN ACCURACY IN ACCORDANCE WITH SECTION 14 (2) OF O.REG. 216/10

INTEGRATION DATA		
POINT ID	NORTHING	EASTING
ORP-"A"	4771370.365	648015.094
ORP-"B"	4771392.957	648512.230
ORP-"C"	4772061.968	648510.786

NOTE

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

METRIC NOTE

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

LEGEND

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT SET
SIB	DENOTES STANDARD IRON BAR
SSIB	DENOTES SHORT STANDARD IRON BAR
IB	DENOTES IRON BAR
IT	DENOTES IRON TUBE
IBø	DENOTES ROUND IRON BAR
CC	DENOTES CUT CROSS
WIT	DENOTES WITNESS
P1	DENOTES DEPOSITED PLAN 59R-4846
P2	DENOTES DEPOSITED PLAN 59R-13352
P3	DENOTES DEPOSITED PLAN 59R-9206
P4	DENOTES DEPOSITED PLAN 59R-13776
P5	DENOTES DEPOSITED PLAN 59R-13352
P6	DENOTES EXPROPRIATION PLAN ATTACHED TO INST. No. BB2464
D1	DENOTES INST. No. TH22995
D2	DENOTES INST. No. RO718059
744	DENOTES R.J. MATTHEWS O.L.S.
1495	DENOTES P.D. REITSMA O.L.S.
OH	DENOTES ONTARIO HYDRO
MTO	DENOTES MINISTRY OF TRANSPORTATION OF ONTARIO

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 20th DAY OF SEPTEMBER 20 19

DATE: JANUARY 30, 2020

PHILIP S. SUDA
ONTARIO LAND SURVEYOR

SUDA & MALESZYK SURVEYING INC.
ONTARIO LAND SURVEYORS
26 EAST MAIN STREET, WELLAND, ONTARIO, L3B 3W3
TEL: (905) 732-7651

FILE NO: 19-134 | JOB NO: 5920

Appendix C – Borehole Logs

Log of Borehole BH/MW101

Project No. GTR-21019405-B0 | Drawing No. 1

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

Location: 13030 Lundy's Lane, Thorold, ON

Please refer to borehole location plan

Date Drilled: Nov. 26, 2021

Drill Type: Diedrich 120

Datum: Relative

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
			185.04	0
		Asphalt	~185.0	
		Granular Fill	~185.0	
		Re-worked Native: brown silty sand, trace gravel	~184.5	1
			~183.5	
		CLAYEY SILT: reddish-brown, moist		2
				3
				4
		Wet starting at approximately 4.57 m bgs.		5
			~178.9	6
		Borehole terminated at 6.10 m bgs		7
				8
				9
				10

N Value: 20, 40, 60

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

SAMPLES | % RECOV | SAMPLE ID | ANALYSIS

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.
3. Combustible vapour reading by Photoionzation Gas Detector calibrates with hexane and isobutylene.
4. Well installed at 2.72 - 5.77 m bgs.

ENVIRONMENTAL-EXP 13030 LUNDYS LANE.GPJ 6/29/22

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2021	0.45	
Nov. 30, 2021	0.577	

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

Log of Borehole BH102

Project No. GTR-21019405-B0 Drawing No. 2

Project: Phase II ESA Sheet No. 1 of 1

Location: 13030 Lundy's Lane, Thorold, ON

Please refer to borehole location plan

Date Drilled: Nov. 26, 2021

Drill Type: Diedrich 120

Datum: Relative

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
			185.58	0					
		Asphalt	~185.5						
		Granular Fill	~185.5						
		Re-worked Native: brown silty sand, trace gravel			0 (H) 0 (I)		35	SS1	
		brown-grey silty clay	~184.8	1	0 (H) 0 (I)		85	SS2	PCB pH
		CLAYEY SILT: reddish brown, moist	~184.1	2	0 (H) 0 (I)		85	SS3	PHC* BTEX*
				3	0 (H) 0 (I)		100	SS4	pH
					0 (H) 0 (I)		100	SS5	
		Borehole terminated at 3.66 m bgs	~181.9	4					
				5					
				6					
				7					
				8					
				9					
				10					

NOTES:
1. This drawing is to be read with the subject report and project number as presented above.
2. Interpretation assistance by EXP is required before use by others.
3. Combustible vapour reading by Photoionzation Gas Detector calibrates with hexane and isobutylene.

ENVIRONMENTAL-EXP 13030 LUNDYS LANE.GPJ 6/29/22

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

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

Log of Borehole TP1

Project No. GTR-21019405-B0 Drawing No. 3

Project: Phase II ESA Sheet No. 1 of 1

Location: 13030 Lundy's Lane, Thorold, ON

Please refer to borehole location plan

Date Drilled: Nov. 26, 2021

Drill Type:

Datum: Relative

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
		Topsoil: dark brown, some organics, moist	185.55	0	20 40 60	25 50 75	SS	100	SS1	
		CLAYEY SILT: brown, trace organics, moist	~185.4		0 (H) 0 (I)		SS	100	SS2	OCP
		Test pit terminated at 0.31 m bgs	~185.2	1	0 (H) 0 (I)					
		NOTES: 1. This drawing is to be read with the subject report and project number as presented above. 2. Interpretation assistance by EXP is required before use by others. 3. Combustible vapour reading by Photoionzation Gas Detector calibrates with hexane and isobutylene.		2						
				3						
				4						
				5						
				6						
				7						
				8						
				9						
				10						

ENVIRONMENTAL-EXP 13030 LUNDYS LANE.GPJ 6/29/22

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

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

Appendix D – Analytical Results

SOIL ANALYTICAL RESULTS:

Table I - Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, Xylene (BTEX) in Soil

Phase Two Environmental Site Assessment - GTR-21019405-B0 - 13030 Lundy's Lane, Thorold, ON

Sample ID **Lab ID / Certificate of Analyis Number** **Sampling Date** **Screen Depth (m)** **Consultant** **Laboratory**	***Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Residential/Parkland/Institutional Property Use - Fine Textured Soil***	***Units***	***RDL***	BH102 SS3 3275178 / 21H837519 Nov 26, 2021 1.52 - 2.13 EXP AGAT Laboratories	BH102 SS33 3275252 / 21H837519 Nov 26, 2021 1.52 - 2.13 EXP AGAT Laboratories
Petroleum Hydrocarbons including Benzene, Toluene, Ethylbenzene, and Xylene					
Benzene	0.24	ug/g	0.02	<0.02	<0.02
Toluene	2.1	ug/g	0.05	<0.05	<0.05
Ethylbenzene	0.28	ug/g	0.05	<0.05	<0.05
m & p-Xylene	25	ug/g	0.05	<0.05	<0.05
o-Xylene	25	ug/g	0.05	<0.05	<0.05
Xylenes (Total)	25	ug/g	0.05	<0.05	<0.05
F1 (C6 - C10)	NV	ug/g	5	<5	<5
F1 (C6 to C10) minus BTEX	180	ug/g	5	<5	<5
F2 (C10 to C16)	250	ug/g	10	<10	<10
F3 (C16 to C34)	800	ug/g	50	<50	<50
F4 (C34 to C50)	5600	ug/g	50	<50	<50

Notes

All soil concentrations reported in µg/g.

'<' = Parameter below detection limit, as indicated

Bold Concentration exceeds MECP (2011) SCS.

SOIL ANALYTICAL RESULTS:

Table II - Polychlorinated Biphenyls (PCBs) in Soil

Phase Two Environmental Site Assessment - GTR-21019405-B0 - 13030 Lundy's Lane, Thorold, ON

Sample ID **Lab ID / Certificate of Analyis Number** **Sampling Date** **Screen Depth (m)** **Consultant** **Laboratory**	***Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Residential/Parkland/Institutional Property Use - Fine Textured Soil***	***Units***	***RDL***	BH102 SS2 3275177 / 21H837519 Nov 26, 2021 0.76- 1.37 EXP AGAT Laboratories
Polychlorinated Biphenyls (PCBs)				
Polychlorinated Biphenyls	0.35	ug/g	0.1	<0.1

Notes

All soil concentrations reported in µg/g.

'<' = Parameter below detection limit, as indicated

Bold Concentration exceeds MECP (2011) SCS.

SOIL ANALYTICAL RESULTS:

Table III - pH in Soil

Phase Two Environmental Site Assessment - GTR-21019405-B0 - 13030 Lundy's Lane, Thorold, ON

Sample ID	***Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Residential/Parkland/Institutional Property Use - Fine Textured Soil***	***Units***	***RDL***	BH102 SS2	BH102 SS4
Lab ID / Certificate of Analyis Number				3275177 / 21H837519	3275251 / 21H837519
Sampling Date				Nov 26, 2021	Nov 26, 2021
Screen Depth (m)				0.76- 1.37	2.28 - 2.89
Consultant				EXP	EXP
Laboratory				AGAT Laboratories	AGAT Laboratories
Other Regulated Parameters					
Available (CaCl2) pH	5 to 9 (surface soils); 5 to 11 (surficial soils)	pH		7.51	7.37

Notes

All soil concentrations reported in µg/g.

'<' = Parameter below detection limit, as indicated

Bold Concentration exceeds MECP (2011) SCS.

SOIL ANALYTICAL RESULTS:

Table III - Organochlorine Pesticides in Soil

Phase Two Environmental Site Assessment - GTR-21019405-B0 - 13030 Lundy's Lane, Thorold, ON

Sample ID **Lab ID / Certificate of Analyis Number** **Sampling Date** **Screen Depth (m)** **Consultant** **Laboratory**	***Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Soil - Residential / Parkland / Institutional Property Use - Fine Textured Soil***	***Units***	***RDL***	TP1-SS2 3275253 / 21H837519 Nov 26, 2021 0.15 - 0.31 EXP AGAT Laboratories
Organochlorine Pesticides				
Hexachloroethane	0.07	ug/g	0.01	<0.01
Gamma-Hexachlorocyclohexane	0.063	ug/g	0.005	<0.005
Heptachlor	0.15	ug/g	0.005	<0.005
Aldrin	0.05	ug/g	0.005	<0.005
Heptachlor Epoxide	0.05	ug/g	0.005	<0.005
Endosulfan I	NV	ug/g	0.005	<0.005
Endosulfan II	NV	ug/g	0.005	<0.005
Endosulfan	0.04	ug/g	0.005	<0.005
Alpha-Chlordane	NV	ug/g	0.005	<0.005
gamma-Chlordane	NV	ug/g	0.005	<0.005
Chlordane	0.05	ug/g	0.007	<0.007
op'-DDE	NV	ug/g	0.005	<0.005
pp'-DDE	NV	ug/g	0.005	<0.005
DDE	0.33	ug/g	0.007	<0.007
op'-DDD	NV	ug/g	0.005	<0.005
pp'-DDD	NV	ug/g	0.005	<0.005
DDD	3.3	ug/g	0.007	<0.007
op'-DDT	NV	ug/g	0.005	<0.005
pp'-DDT	NV	ug/g	0.005	<0.005
DDT (Total)	1.4	ug/g	0.007	<0.007
Dieldrin	0.05	ug/g	0.005	<0.005
Endrin	0.04	ug/g	0.005	<0.005
Methoxychlor	0.13	ug/g	0.005	<0.005
Hexachlorobenzene	0.52	ug/g	0.005	<0.005
Hexachlorobutadiene	0.014	ug/g	0.01	<0.01

Notes

All soil concentrations reported in µg/g.

'<' = Parameter below detection limit, as indicated

NV No MECP (2011) SCS value

Bold Concentration exceeds MECP (2011) SCS.

GROUNDWATER ANALYTICAL RESULTS:

Table IV - Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) in Groundwater

Phase Two Environmental Site Assessment - GTR-21019405-B0 - 13030 Lundy's Lane, Thorold, ON

Sample ID **Lab ID / Certificate of Analyis Number** **Sampling Date** **Screen Depth (m)** **Consultant** **Laboratory**	***Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Potable Ground Water- All Types of Property Uses - Fine Textured Soil***	***Units***	***RDL***	BH/MW101 3275132 / 21H837511 Nov 30, 2021 3.05 - 6.10 EXP AGAT Laboratories	BH/MW1011 3275133 / 21H837511 Nov 30, 2021 3.05 - 6.10 EXP AGAT Laboratories	TRIP BLANK 3275134 / 21H837511 Nov 30, 2021 3.05 - 6.10 EXP AGAT Laboratories
Petroleum Hydrocarbons including Benzene, Toluene, Ethylbenzene and Xylene						
Benzene	5	ug/L	0.20	<0.20	<0.20	<0.20
Toluene	24	ug/L	0.20	<0.20	<0.20	<0.20
Ethylbenzene	2.4	ug/L	0.10	<0.10	<0.10	<0.10
m & p-Xylene	NV	ug/L	0.20	<0.20	<0.20	<0.20
o-Xylene	NV	ug/L	0.10	<0.10	<0.10	<0.10
Xylenes (Total)	300	ug/L	0.20	<0.20	<0.20	<0.20
F1 (C6 - C10)	750	ug/L	25	<25	<25	-
F1 (C6 to C10) minus BTEX	750	ug/L	25	<25	<25	-
F2 (C10 to C16)	150	ug/L	100	<100	<100	-
F3 (C16 to C34)	500	ug/L	100	<100	<100	-
F4 (C34 to C50)	500	ug/L	100	<100	<100	-

Notes

All groundwater concentrations reported in µg/L.

'<' = Parameter below detection limit, as indicated

Bold Concentration exceeds MECP (2011) SCS.

GROUNDWATER ANALYTICAL RESULTS:

Table V - Metals (including Hydride-Forming Metals) in Groundwater

Phase Two Environmental Site Assessment - GTR-21019405-B0 - 13030 Lundy's Lane, Thorold, ON

Sample ID **Lab ID / Certificate of Analyis Number** **Sampling Date** **Screen Depth (m)** **Consultant** **Laboratory**	***Ontario Reg. 153/04 (Amended April 15, 2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition Potable Ground Water- All Types of Property Uses - Fine Textured Soil***	***Units***	***RDL***	BH/MW101 3275132 / 21H837511 Nov 30, 2021 3.05 - 6.10 EXP AGAT Laboratories
Metals (including Hydride-Forming Metals)				
Dissolved Antimony (Sb)	6	ug/L	1.0	<1.0
Dissolved Arsenic (As)	25	ug/L	1.0	<1.0
Dissolved Barium (Ba)	1000	ug/L	2.0	78.2
Dissolved Beryllium (Be)	4	ug/L	0.50	<0.50
Dissolved Boron (B)	5000	ug/L	10.0	40.7
Dissolved Cadmium (Cd)	2.7	ug/L	0.20	<0.20
Dissolved Chromium (Cr)	50	ug/L	2.0	<2.0
Dissolved Cobalt (Co)	3.8	ug/L	0.50	0.64
Dissolved Copper (Cu)	87	ug/L	1.0	<1.0
Dissolved Lead (Pb)	10	ug/L	0.50	<0.50
Dissolved Molybdenum (Mo)	70	ug/L	0.50	2.94
Dissolved Nickel (Ni)	100	ug/L	1.0	3.3
Dissolved Selenium (Se)	10	ug/L	1.0	2
Dissolved Silver (Ag)	1.5	ug/L	0.20	<0.20
Dissolved Thallium (Tl)	2	ug/L	0.30	<0.30
Dissolved Uranium (U)	20	ug/L	0.50	14.1
Dissolved Vanadium (V)	6.2	ug/L	0.40	0.74
Dissolved Zinc (Zn)	1100	ug/L	5.0	<5.0

Notes

All groundwater concentrations reported in µg/L.

'<' = Parameter below detection limit, as indicated

Bold Concentration exceeds MECP (2011) SCS.

Appendix E – Laboratory Certificates of Analysis

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
1266 SOUTH SERVICE ROAD, SUITE C1-1
STONEY CREEK , ON L8E 5R9
(905) 573-4000
ATTENTION TO: Lauren Eldridge
PROJECT: GTR-2109405-B0
AGAT WORK ORDER: 21H837511
TRACE ORGANICS REVIEWED BY: Inga Kuzmina, Trace Organics Lab Manager
WATER ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician
DATE REPORTED: Dec 08, 2021
PAGES (INCLUDING COVER): 10
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: 21H837511

PROJECT: GTR-2109405-B0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

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

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-08

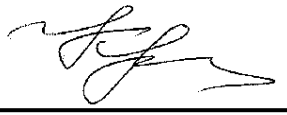
		SAMPLE DESCRIPTION:		TRIP BLANK
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-11-30
Parameter	**Unit**	**G / S**	**RDL**	**3275134**
Benzene	µg/L		0.20	<0.20
Toluene	µg/L		0.20	<0.20
Ethylbenzene	µg/L		0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20
o-Xylene	µg/L		0.10	<0.10
Xylenes (Total)	µg/L		0.20	<0.20
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	50-140		73
4-Bromofluorobenzene	% Recovery	50-140		84

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3275134 Results relate only to the items tested.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene + o-Xylene. 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:



AGAT Laboratories

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http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

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

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-08

		SAMPLE DESCRIPTION:		BH/MW101	BH/MW1011
		SAMPLE TYPE:		Water	Water
		DATE SAMPLED:		2021-11-30	2021-11-30
Parameter	Unit	G / S	RDL	3275132	3275133
Benzene	µg/L	5.0	0.20	<0.20	<0.20
Toluene	µg/L	24	0.20	<0.20	<0.20
Ethylbenzene	µg/L	2.4	0.10	<0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20	<0.20
o-Xylene	µg/L		0.10	<0.10	<0.10
Xylenes (Total)	µg/L	300	0.20	<0.20	<0.20
F1 (C6 - C10)	µg/L	750	25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25	<25
F2 (C10 to C16)	µg/L	150	100	<100	<100
F3 (C16 to C34)	µg/L	500	100	<100	<100
F4 (C34 to C50)	µg/L	500	100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA
Sediment				NO	NO
Surrogate	**Unit**	**Acceptable Limits**			
Toluene-d8	% Recovery	60-140		83.2	77.5
Terphenyl	% Recovery	60-140		98	71

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

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

DATE RECEIVED: 2021-11-30 **DATE REPORTED: 2021-12-08**

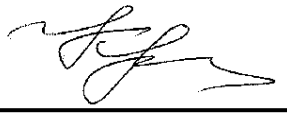
Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition - Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines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

3275132-3275133 The C6-C10 fraction is calculated using Toluene response factor.
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.
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 153/04, results are considered valid without determining the PAH contribution if not requested by the client.
NA = Not Applicable

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:



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Certificate of Analysis

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-08

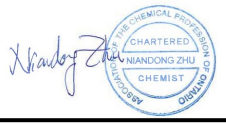
		SAMPLE DESCRIPTION:		BH/MW101
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-11-30
Parameter	Unit	G / S	RDL	3275132
Dissolved Antimony	µg/L	6	1.0	<1.0
Dissolved Arsenic	µg/L	25	1.0	<1.0
Dissolved Barium	µg/L	1000	2.0	78.2
Dissolved Beryllium	µg/L	4	0.50	<0.50
Dissolved Boron	µg/L	5000	10.0	40.7
Dissolved Cadmium	µg/L	2.7	0.20	<0.20
Dissolved Chromium	µg/L	50	2.0	<2.0
Dissolved Cobalt	µg/L	3.8	0.50	0.64
Dissolved Copper	µg/L	87	1.0	<1.0
Dissolved Lead	µg/L	10	0.50	<0.50
Dissolved Molybdenum	µg/L	70	0.50	2.94
Dissolved Nickel	µg/L	100	1.0	3.3
Dissolved Selenium	µg/L	10	1.0	2.0
Dissolved Silver	µg/L	1.5	0.20	<0.20
Dissolved Thallium	µg/L	2	0.30	<0.30
Dissolved Uranium	µg/L	20	0.50	14.1
Dissolved Vanadium	µg/L	6.2	0.40	0.74
Dissolved Zinc	µg/L	1100	5.0	<5.0

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 - Coarse 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.

3275132 Metals analysis completed on a filtered sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

Trace Organics Analysis

RPT Date: Dec 08, 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) - BTEX (Water)															
Benzene	3268755		<0.20	<0.20	NA	< 0.20	77%	50%	140%	114%	60%	130%	83%	50%	140%
Toluene	3268755		<0.20	<0.20	NA	< 0.20	95%	50%	140%	95%	60%	130%	85%	50%	140%
Ethylbenzene	3268755		<0.10	<0.10	NA	< 0.10	98%	50%	140%	102%	60%	130%	95%	50%	140%
m & p-Xylene	3268755		<0.20	<0.20	NA	< 0.20	103%	50%	140%	103%	60%	130%	108%	50%	140%
o-Xylene	3268755		<0.10	<0.10	NA	< 0.10	105%	50%	140%	114%	60%	130%	100%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (Water)															
Benzene	3277338		<0.20	<0.20	NA	< 0.20	85%	60%	140%	116%	60%	140%	111%	60%	140%
Toluene	3277338		<0.20	<0.20	NA	< 0.20	112%	60%	140%	119%	60%	140%	109%	60%	140%
Ethylbenzene	3277338		<0.10	<0.10	NA	< 0.10	86%	60%	140%	103%	60%	140%	110%	60%	140%
m & p-Xylene	3277338		<0.20	<0.20	NA	< 0.20	93%	60%	140%	88%	60%	140%	106%	60%	140%
o-Xylene	3277338		<0.10	<0.10	NA	< 0.10	113%	60%	140%	83%	60%	140%	110%	60%	140%
F1 (C6 - C10)	3277338		<25	<25	NA	< 25	98%	60%	140%	99%	60%	140%	98%	60%	140%
F2 (C10 to C16)	3277325		< 100	< 100	NA	< 100	102%	60%	140%	85%	60%	140%	86%	60%	140%
F3 (C16 to C34)	3277325		< 100	< 100	NA	< 100	106%	60%	140%	75%	60%	140%	74%	60%	140%
F4 (C34 to C50)	3277325		< 100	< 100	NA	< 100	98%	60%	140%	76%	60%	140%	71%	60%	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:

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

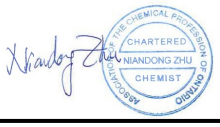
SAMPLED BY:NM

Water Analysis

RPT Date: Dec 08, 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) - Metals (Including Hydrides) (Water)															
Dissolved Antimony	3271799		<1.0	<1.0	NA	< 1.0	100%	70%	130%	100%	80%	120%	103%	70%	130%
Dissolved Arsenic	3271799		<1.0	<1.0	NA	< 1.0	95%	70%	130%	94%	80%	120%	99%	70%	130%
Dissolved Barium	3271799		160	171	6.6%	< 2.0	99%	70%	130%	104%	80%	120%	101%	70%	130%
Dissolved Beryllium	3271799		<0.50	<0.50	NA	< 0.50	107%	70%	130%	109%	80%	120%	106%	70%	130%
Dissolved Boron	3271799		18.7	20.2	NA	< 10.0	99%	70%	130%	105%	80%	120%	102%	70%	130%
Dissolved Cadmium	3271799		<0.20	<0.20	NA	< 0.20	100%	70%	130%	100%	80%	120%	100%	70%	130%
Dissolved Chromium	3271799		<2.0	2.2	NA	< 2.0	101%	70%	130%	104%	80%	120%	102%	70%	130%
Dissolved Cobalt	3271799		0.52	<0.50	NA	< 0.50	101%	70%	130%	103%	80%	120%	102%	70%	130%
Dissolved Copper	3271799		1.1	1.3	NA	< 1.0	101%	70%	130%	106%	80%	120%	98%	70%	130%
Dissolved Lead	3271799		<0.50	<0.50	NA	< 0.50	97%	70%	130%	99%	80%	120%	91%	70%	130%
Dissolved Molybdenum	3271799		0.56	0.72	NA	< 0.50	103%	70%	130%	105%	80%	120%	108%	70%	130%
Dissolved Nickel	3271799		1.6	1.7	NA	< 1.0	101%	70%	130%	102%	80%	120%	101%	70%	130%
Dissolved Selenium	3271799		<1.0	4.0	NA	< 1.0	100%	70%	130%	91%	80%	120%	96%	70%	130%
Dissolved Silver	3271799		<0.20	<0.20	NA	< 0.20	99%	70%	130%	105%	80%	120%	100%	70%	130%
Dissolved Thallium	3271799		<0.30	<0.30	NA	< 0.30	96%	70%	130%	101%	80%	120%	90%	70%	130%
Dissolved Uranium	3271799		1.29	1.41	NA	< 0.50	105%	70%	130%	110%	80%	120%	108%	70%	130%
Dissolved Vanadium	3271799		1.05	0.91	NA	< 0.40	98%	70%	130%	102%	80%	120%	100%	70%	130%
Dissolved Zinc	3271799		<5.0	<5.0	NA	< 5.0	99%	70%	130%	95%	80%	120%	98%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are less than 5X the RDL and RPD will not be calculated.

Certified By:



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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Benzene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Toluene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
m & p-Xylene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
o-Xylene	VOL-91-5001	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
Xylenes (Total)	VOL-91-5001	modified from EPA SW-846 5030C & 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
Benzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Toluene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from MOE PHC-E3421	(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
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
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-91-5010	modified from MOE PHC-E3421	GC/FID
Sediment			

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837511

PROJECT: GTR-2109405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Antimony	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Arsenic	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Barium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Beryllium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Boron	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cadmium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Chromium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Cobalt	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Copper	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Lead	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Molybdenum	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Nickel	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Selenium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Silver	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Thallium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Uranium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Vanadium	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS
Dissolved Zinc	MET-93-6103	modified from EPA 200.8 and EPA 3005A	ICP-MS

AGAT Laboratories

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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: Lauren Eldridge
Address: 1266 S. Service Rd, Stony Creek
Phone: Fax:
Reports to be sent to:
1. Email: Lauren.Eldridge@exp.com
2. Email: Nolan.McGahey@exp.com

Project Information:

Project: GTR-2109405-B
Site Location:
Sampled By: NM
AGAT Quote #: 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: EXP Services Inc.
Contact: Denise Vedell
Address:
Email: Denise.Vedell@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

Sample Matrix Legend

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

Laboratory Use Only

Work Order #: 21H837511
Cooler Quantity: MD COOLER
Arrival Temperatures: 6.5 | 6.9 | 5.9 | 3.5 | 3.2 | 2.9
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: FREE ICE

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

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	Metals - ☐ CrVI, ☐ Hg, ☐ HWSB	BTEX, F1-F4 PHCs Analyze F4G if required ☐ Yes ☐ No	PAHs	PCBs	VOC	O. Reg 558: Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	O. Reg 406: Excess Soils SPLP Rainwater Leach SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	BTEX							Potentially Hazardous or High Concentration (Y/N)
BH/MW101	Nov 30, 2021	Am AM PM	6	GW		Y		+	X									X						
BH/MW1011	↓	↓ AM PM	5	↓					X									X						
~~BH/MW~~ Trip Blank		AM PM	3															X						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						
		AM PM																						

	Date	Time		Date	Time
Samples Relinquished By (Print Name and Sign): Nolan M.	Nov 30/21	1:30 pm	Samples Received By (Print Name and Sign):	Nov 30/21	1:45 pm
Samples Relinquished By (Print Name and Sign):	Nov 30/21	3pm	Samples Received By (Print Name and Sign):	Date	Time
Samples Relinquished By (Print Name and Sign):	Date 11/30/21	Time 4:15	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 1

Nº: T 127828

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Date Issued: March 9, 2021

AGAT Laboratories

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CLIENT NAME: EXP SERVICES INC
1266 SOUTH SERVICE ROAD, SUITE C1-1
STONEY CREEK , ON L8E 5R9
(905) 573-4000
ATTENTION TO: Lauren Eldridge
PROJECT: GTR-21019405-B0
AGAT WORK ORDER: 21H837519
SOIL ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician
TRACE ORGANICS REVIEWED BY: Inga Kuzmina, Trace Organics Lab Manager
DATE REPORTED: Dec 15, 2021
PAGES (INCLUDING COVER): 14
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.*
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- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*

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Certificate of Analysis

AGAT WORK ORDER: 21H837519

PROJECT: GTR-21019405-B0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

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

DATE RECEIVED: 2021-11-30 **DATE REPORTED: 2021-12-15**

		SAMPLE DESCRIPTION:		BH102 SS2	BH102 SS4
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-11-26	2021-11-26
Parameter	Unit	G / S	RDL	3275177	3275251
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.51	7.37

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 - Coarse 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.

3275177-3275251 pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil).

Analysis performed at AGAT Toronto (unless marked by *)

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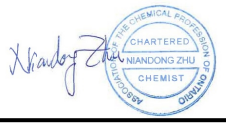

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PROJECT: GTR-21019405-B0

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Particle Size by Sieve (Wet)

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-15

		SAMPLE DESCRIPTION:		BH102 SS4
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-11-26
Parameter	**Unit**	**G / S**	**RDL**	**3275251**
Sieve Analysis - 75 µm (retained)	%		NA	1.20
Sieve Analysis - 75 µm (passing)	%		NA	98.80
Soil Texture (Toronto)				Fine

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

3275251 Value reported is the amount of sample passing through or retained on sieve after wash with water and represents proportion by weight particles smaller or larger than indicated sieve size.

Analysis performed at AGAT Toronto (unless marked by *)

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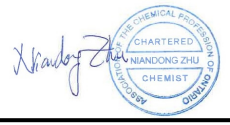

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PROJECT: GTR-21019405-B0

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O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-15

		SAMPLE DESCRIPTION:		TP1-SS2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-11-29
Parameter	**Unit**	**G / S**	**RDL**	**3275253**
Hexachloroethane	µg/g	0.07	0.01	<0.01
Gamma-Hexachlorocyclohexane	µg/g	0.063	0.005	<0.005
Heptachlor	µg/g	0.15	0.005	<0.005
Aldrin	µg/g	0.05	0.005	<0.005
Heptachlor Epoxide	µg/g	0.05	0.005	<0.005
Endosulfan I	µg/g		0.005	<0.005
Endosulfan II	µg/g		0.005	<0.005
Endosulfan	µg/g	0.04	0.005	<0.005
Alpha-Chlordane	µg/g		0.005	<0.005
gamma-Chlordane	µg/g		0.005	<0.005
Chlordane	µg/g	0.05	0.007	<0.007
op'-DDE	ug/g		0.005	<0.005
pp'-DDE	µg/g		0.005	<0.005
DDE	µg/g	0.33	0.007	<0.007
op'-DDD	µg/g		0.005	<0.005
pp'-DDD	µg/g		0.005	<0.005
DDD	µg/g	3.3	0.007	<0.007
op'-DDT	µg/g		0.005	<0.005
pp'-DDT	µg/g		0.005	<0.005
DDT (Total)	µg/g	1.4	0.007	<0.007
Dieldrin	µg/g	0.05	0.005	<0.005
Endrin	µg/g	0.04	0.005	<0.005
Methoxychlor	µg/g	0.13	0.005	<0.005
Hexachlorobenzene	µg/g	0.52	0.005	<0.005
Hexachlorobutadiene	µg/g	0.014	0.01	<0.01
Moisture Content	%		0.1	17.9
wet weight OC	g		0.01	10.99
Surrogate	**Unit**	**Acceptable Limits**		
TCMX	%	50-140		103
Decachlorobiphenyl	%	50-140		108

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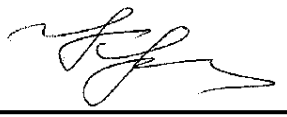

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PROJECT: GTR-21019405-B0

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O. Reg. 153(511) - OC Pesticides (Soil)

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-15

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.

3275253 Results are based on the dry weight of the soil.
DDT total is a calculated parameter. The calculated value is the sum of op'DDT and pp'DDT.
DDD total is a calculated parameter. The calculated value is the sum of op'DDD and pp'DDD.
DDE total is a calculated parameter. The calculated value is the sum of op'DDE and pp'DDE.
Endosulfan total is a calculated parameter. The calculated value is the sum of Endosulfan I and Endosulfan II.
Chlordane total is a calculated parameter. The calculated value is the sum of Alpha-Chlordane and Gamma-Chlordane.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.

Analysis performed at AGAT Toronto (unless marked by *)

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PROJECT: GTR-21019405-B0

CLIENT NAME: EXP SERVICES INC

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SAMPLING SITE:

SAMPLED BY:NM

O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-15

		SAMPLE DESCRIPTION:		BH102 SS3	BH102 SS33
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2021-11-26	2021-11-26
Parameter	**Unit**	**G / S**	**RDL**	**3275178**	**3275252**
Benzene	µg/g	0.21	0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05
Ethylbenzene	µg/g	1.1	0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g	55	5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA
Moisture Content	%		0.1	17.2	16.7
Surrogate	**Unit**	**Acceptable Limits**			
Toluene-d8	% Recovery	60-140		104	71
Terphenyl	%	60-140		95	74

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PROJECT: GTR-21019405-B0

CLIENT NAME: EXP SERVICES INC

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O. Reg. 153(511) - PHCs F1 - F4 (Soil)

DATE RECEIVED: 2021-11-30 **DATE REPORTED: 2021-12-15**

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 - Coarse 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.

3275178-3275252 Results are based on sample dry weight.
The C6-C10 fraction is calculated using Toluene response factor.
Xylenes 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.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates 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.
Quality Control Data is available upon request.

Analysis performed at AGAT Toronto (unless marked by *)

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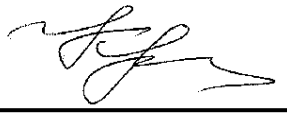

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AGAT WORK ORDER: 21H837519

PROJECT: GTR-21019405-B0

CLIENT NAME: EXP SERVICES INC

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

Total PCBs (soil)

DATE RECEIVED: 2021-11-30

DATE REPORTED: 2021-12-15

		SAMPLE DESCRIPTION:		BH102 SS2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2021-11-26
Parameter	**Unit**	**G / S**	**RDL**	**3275177**
Polychlorinated Biphenyls	µg/g	0.35	0.1	<0.1
Moisture Content	%		0.1	18.5
Surrogate	**Unit**	**Acceptable Limits**		
Decachlorobiphenyl	%	60-130		88

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 - Coarse 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.

3275177 Results are based on the dry weight of soil extracted.

Analysis performed at AGAT Toronto (unless marked by *)

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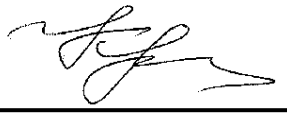

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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837519

PROJECT: GTR-21019405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

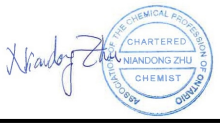
SAMPLED BY:NM

Soil Analysis

RPT Date: Dec 15, 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)															
pH, 2:1 CaCl2 Extraction	3266373		6.99	7.06	1.0%	NA	99%	80%	120%						
Particle Size by Sieve (Wet)															
Sieve Analysis - 75 µm (retained)	3282288		67.86	70.78	4.2%		102%	70%	130%						
Sieve Analysis - 75 µm (passing)	3282288		32.14	29.22	9.5%										

Comments: NA signifies Not Applicable.
pH duplicates QA acceptance criteria was met relative as stated in Table 5-15 of Analytical Protocol document.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:



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Quality Assurance

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837519

PROJECT: GTR-21019405-B0

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SAMPLING SITE:

SAMPLED BY:NM

Trace Organics Analysis

RPT Date: Dec 15, 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
Total PCBs (soil)															
Polychlorinated Biphenyls	3274654		< 0.1	< 0.1	NA	< 0.1	95%	60%	140%	88%	60%	140%	81%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (Soil)															
Benzene	3276907		<0.02	<0.02	NA	< 0.02	110%	60%	140%	106%	60%	140%	84%	60%	140%
Toluene	3276907		<0.05	<0.05	NA	< 0.05	98%	60%	140%	99%	60%	140%	87%	60%	140%
Ethylbenzene	3276907		<0.05	<0.05	NA	< 0.05	120%	60%	140%	80%	60%	140%	104%	60%	140%
m & p-Xylene	3276907		<0.05	<0.05	NA	< 0.05	115%	60%	140%	113%	60%	140%	92%	60%	140%
o-Xylene	3276907		<0.05	<0.05	NA	< 0.05	87%	60%	140%	94%	60%	140%	88%	60%	140%
F1 (C6 - C10)	3276907		<5	<5	NA	< 5	100%	60%	140%	98%	60%	140%	100%	60%	140%
F2 (C10 to C16)	3275523		< 10	< 10	NA	< 10	102%	60%	140%	85%	60%	140%	95%	60%	140%
F3 (C16 to C34)	3275523		< 50	< 50	NA	< 50	115%	60%	140%	75%	60%	140%	86%	60%	140%
F4 (C34 to C50)	3275523		< 50	< 50	NA	< 50	95%	60%	140%	76%	60%	140%	75%	60%	140%
O. Reg. 153(511) - OC Pesticides (Soil)															
Hexachloroethane	3287133		< 0.01	< 0.01	NA	< 0.01	82%	50%	140%	79%	50%	140%	78%	50%	140%
Gamma-Hexachlorocyclohexane	3287133		< 0.005	< 0.005	NA	< 0.005	94%	50%	140%	83%	50%	140%	80%	50%	140%
Heptachlor	3287133		< 0.005	< 0.005	NA	< 0.005	86%	50%	140%	83%	50%	140%	82%	50%	140%
Aldrin	3287133		< 0.005	< 0.005	NA	< 0.005	98%	50%	140%	89%	50%	140%	90%	50%	140%
Heptachlor Epoxide	3287133		< 0.005	< 0.005	NA	< 0.005	85%	50%	140%	86%	50%	140%	87%	50%	140%
Endosulfan I	3287133		< 0.005	< 0.005	NA	< 0.005	82%	50%	140%	84%	50%	140%	98%	50%	140%
Endosulfan II	3287133		< 0.005	< 0.005	NA	< 0.005	85%	50%	140%	98%	50%	140%	104%	50%	140%
Alpha-Chlordane	3287133		< 0.005	< 0.005	NA	< 0.005	82%	50%	140%	92%	50%	140%	92%	50%	140%
gamma-Chlordane	3287133		< 0.005	< 0.005	NA	< 0.005	89%	50%	140%	90%	50%	140%	96%	50%	140%
op'-DDE	3287133		< 0.005	< 0.005	NA	< 0.005	86%	50%	140%	87%	50%	140%	80%	50%	140%
pp'-DDE	3287133		< 0.005	< 0.005	NA	< 0.005	94%	50%	140%	86%	50%	140%	89%	50%	140%
op'-DDD	3287133		< 0.005	< 0.005	NA	< 0.005	105%	50%	140%	80%	50%	140%	102%	50%	140%
pp'-DDD	3287133		< 0.005	< 0.005	NA	< 0.005	94%	50%	140%	82%	50%	140%	106%	50%	140%
op'-DDT	3287133		< 0.005	< 0.005	NA	< 0.005	86%	50%	140%	80%	50%	140%	102%	50%	140%
pp'-DDT	3287133		< 0.005	< 0.005	NA	< 0.005	87%	50%	140%	84%	50%	140%	98%	50%	140%
Dieldrin	3287133		< 0.005	< 0.005	NA	< 0.005	85%	50%	140%	98%	50%	140%	104%	50%	140%
Endrin	3287133		< 0.005	< 0.005	NA	< 0.005	94%	50%	140%	102%	50%	140%	98%	50%	140%
Methoxychlor	3287133		< 0.005	< 0.005	NA	< 0.005	87%	50%	140%	96%	50%	140%	92%	50%	140%
Hexachlorobenzene	3287133		< 0.005	< 0.005	NA	< 0.005	97%	50%	140%	92%	50%	140%	90%	50%	140%
Hexachlorobutadiene	3287133		< 0.01	< 0.01	NA	< 0.01	83%	50%	140%	86%	50%	140%	84%	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:

AGAT Laboratories

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Method Summary

CLIENT NAME: EXP SERVICES INC

AGAT WORK ORDER: 21H837519

PROJECT: GTR-21019405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER
Sieve Analysis - 75 µm (retained)	INOR-93-6065	ASTM D1140	SIEVE
Sieve Analysis - 75 µm (passing)	INOR-93-6065	ASTM D1140	SIEVE

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: 21H837519

PROJECT: GTR-21019405-B0

ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Hexachloroethane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Gamma-Hexachlorocyclohexane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Heptachlor	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Aldrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Heptachlor Epoxide	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan I	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan II	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endosulfan	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
Alpha-Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
gamma-Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Chlordane	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
op'-DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDE	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
op'-DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDD	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	CALCULATION
op'-DDT	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
pp'-DDT	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
DDT (Total)	ORG-91-5113	modified from EPA 3570, 3620C & 8081B	CALCULATION
Dieldrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Endrin	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Methoxychlor	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Hexachlorobenzene	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Hexachlorobutadiene	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
TCMX	ORG-91-5112	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA 3570 & 3620C & 8081B	GC/ECD
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE

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Method Summary

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ATTENTION TO: Lauren Eldridge

SAMPLING SITE:

SAMPLED BY:NM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
wet weight OC	ORG-91-5113		BALANCE
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Polychlorinated Biphenyls	ORG-91-5113	modified from EPA SW-846 3541 & 8082	GC/ECD
Decachlorobiphenyl	ORG-91-5113	modified from EPA SW-846 3541 & 8082	GC/ECD
Moisture Content	ORG-91-5009	CCME Tier 1 Method	BALANCE

AGAT Laboratories

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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 #: 21H837519

Cooler Quantity: MD COOLER

Arrival Temperatures: 2.9 | 3.0 | 3.1 | 2.3 | 2 | 1.8

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes: FREE ICE

Report Information:

Company: ExP Services Inc.
Contact: Lauren Eldridge
Address: 1266 S. Service Rd, Stony Creek
Phone: Fax:
Reports to be sent to:
1. Email: Lauren.Eldridge@exp.com
2. Email: Nolan.McGahey@exp.com

Project Information:

Project: GTR-21019405-B
Site Location:
Sampled By: NM
AGAT Quote #: 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: ExP Services Inc.
Contact: Denise.Nadell@exp.com
Address:
Email: Denise.Nadell@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

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: PCBs	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	O. Reg 406: Excess Soils SPLP: ☐ Metals ☐ VOCs ☐ SVOCs	O. Reg 406: Excess Soils Characterization Package	Salt - EC/SAR	pH	Grain Size (75 micron)	COC					Potentially Hazardous or High Concentration (Y/N)
BH102 SS2	Nov 24, 2021	AM	1	S							X						X							
BH102 SS3	↓	AM	2	↓					X															
BH102 SS4		AM	2														X	X						
BH102 SS33		AM	2						X															
TP1 - SS2	Nov 29, 2021	AM	1	S															X					
		AM																						
		AM																						
		AM																						
		AM																						
		AM																						
		AM																						
		AM																						

Samples Relinquished By (Print Name and Sign): Nolan McGahey	Date: Nov 30, 2021	Time: 1:30	Samples Received By (Print Name and Sign):	Date: Nov 30/21	Time: 1:45pm
Samples Relinquished By (Print Name and Sign):	Date: Nov 30/21	Time: 3pm	Samples Received By (Print Name and Sign):	Date: 11/30/21	Time: 4:11
Samples Relinquished By (Print Name and Sign):	Date: 11/30/21	Time: 5		Date:	Time:

Page 1 of 1

Nº: T 127922

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT

Date Issued: March 9, 2021

Appendix F – Phase Two Conceptual Site Model

Phase Two Conceptual Site Model – 13030 Lundy's Lane, Thorold, ON

This section presents a Phase Two Conceptual Site Model (P2CSM), as it relates to the Site at 13030 Lundy's Lane, Thorold, Ontario, providing a narrative, graphical and tabulated description integrating information related to the Site geologic and hydrogeologic conditions, areas of potential environmental concern/potential contaminating activities, the presence and distribution of potential contaminants of concern, contaminant fate and transport, and potential exposure pathways. These components are discussed in the following sections. The Phase Two CSM was completed in accordance with O. Reg.153/04 as defined by the Ministry of the Environment, Conservation, and Parks (MECP).

1. Introduction

The Site is located on the northwest corner of the intersection at Lundy's Lane and Thorold Townline Road and is currently developed for commercial and residential/agricultural land use. The Site has an area of approximately 23.07 hectares (57.02 acres) and contains four (4) associated structures; one (1) motel, one (1) night club, one (1) residential house (with an office addition), and a Quonset hut. An inground pool was situated southwest of the motel.

Based on a review of historical aerial photographs, chain of title information, previous reports, and other records, the Site was used for residential and agricultural purposes prior to 1934. The current residential structure and agricultural operations have occupied the Site prior to 1934.

Refer to Table 1 for the Site identification information.

Table 1: Site Identification Information

Municipal Address	13030 Lundy's Lane, Thorold, ON
Current Land Use	Residential/Agricultural/Commercial
Proposed Land Use	Residential
Legal Description	Part Twp lot 89 Thorold in RO718059 lying S of Hydro Lands Part Twp lot 89 Thorold as Parts 1&2, 59R-4846 Part Twp lot 89 Thorold in RO718059 lyding N of Hydro Lands Part Twp lot 89 Thorold as Part 2, 59R-9203
Property Identification Number (PIN)	64057-0049(LT) 64057-0050(LT) 64057-0058(LT) 64057-0070(LT)
Approximate Universal Transverse Mercator (UTM) coordinates	NAD83 17T 648283 m E 4771669 m N

Accuracy Estimate of UTM	10-15 m
Measurement Method	Google Earth
Site Area	23.07 hectares (57.02 acres)
Property Owner	Rudanco Hospitality Corporation and Zeljko Holdings Limited
Name of Any Other Person Who Engaged the Qualified Person	Mr. Jeremia Rudan Rudanco Hospitality Corporation 4728 Dorchester Road, Unit 11B, 2nd Floor Niagara Falls, ON L2E 7H9

2. Potentially Contaminating Activities and Areas of Potential Environmental Concern

2.1 Potentially Contaminating Activities

A Phase One ESA, in accordance with O.Reg.153/04, has been conducted by EXP in November 2021 for the Phase One Property. Four (4) potentially contaminating activities (PCAs) were identified on-Site and within 250 m from the Phase One Property Site boundaries. All PCAs that were identified within 250 m property are shown on Figure 2. Each PCA was further evaluated to determine if the activity may be contributing to an area of potential environmental concern (APEC) at the Phase One Property.

The QP determined that select PCAs may contribute to an APEC for the property, while several PCAs were determined to not contribute to an APEC at the Phase One Property/Site due to various factors including, but not limited to, relative distance to the Phase One Property/Site, orientation to the Phase One Property/Site; degree and nature of PCA operations, potentially impacted media, etc. Refer to Table 2 for the evaluation of the PCAs in the Phase One Study Area.

Table 2: Potentially Contaminating Activities in the Phase One Study Area

PCA Identifier	Address	Location of Activity (in relation to Site) (1)	Potentially Contaminating Activity (PCA) (2)	Approximate timeline that PCA occurred	Contributes to APEC (Yes or No)?
Site					
1a	13030 Lundys Lane	Southwest Portion, with the exception of the area occupied by the Quonset hut, motel, and parking areas.	PCA#40 – Pesticides (including herbicides, fungicides, and anti-fouling agents) manufacturing, processing, bulk-storage, and large-scale applications	Based on a review of aerial photographs, the Site was occupied by orchards on the southwest portion of the Site from at least 1934 until approximately 1983. The south portion of the former orchard was re-developed with the Site buildings and parking areas.	Yes, based on the PCA occurring on-Site.

PCA Identifier	Address	Location of Activity (in relation to Site) (1)	Potentially Contaminating Activity (PCA) (2)	Approximate timeline that PCA occurred	Contributes to APEC (Yes or No)?
1b		South-central portion	PCA#55 – Transformer Manufacturing, Processing, and Use	Based on observations made at the time of the Site visit, one (1) pad-mounted transformer was located northeast of the residential dwelling. The concrete pad beneath the transformer appeared to be in good condition, with no visible cracks or staining.	Yes, based on the PCA occurring on-Site.
Surrounding Properties					
2	Intersection of Lundy's Lane and Thorold Townline Road	Southeast Adjacent	PCA 'Other' - Spills	Based on the ERIS report, multiple spills have occurred at this intersection, including: • a vehicle spilled 22.5L of diesel to the shoulder of the road. Soil contamination was noted to be possible. • a spill of 455L of digester sludge was spilled to the drainage ditch on the side of the road. Soil contamination was confirmed • an unknown quantity of biosolids was spilled to the drainage ditch on the side of the road. Soil contamination was noted to be possible.	No, based on the relatively small quantity of diesel noted to be spilled, and the digester sludge / biosolids not considered a contaminant of concern.
3	13011 Lundy's Lane	35 m South	PCA#52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Based on observations made at the time of the Site visit, the property located at 13011 Lundy's Lane was occupied by Marty's Auto Repair.	Yes, based on the close proximity and upgradient location relative to the anticipated groundwater flow direction.
4	Pt Twp Lt 116 Thorold As In Th917; Pt Rdal Btn Twp Lts 115 & 116 Thorold As Closed By Bylaw Th11930	120 m South	PCA#46 – Rail Yards, Tracks, and Spurs	Based on a review of the aerial photographs and observations made at the time of the Site visit, a rail line is located approximately 120 m south of the Site.	No, based on the separation distance from the Site.

(1) Distances are approximate. Precise distances are not possible due to the age of some listings and the aggregation and/or loss of addresses.

(2) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D (O.Reg 153/04, as amended) that is occurring or has occurred in a phase one Study area.

2.2 Areas of Potential Environmental Concern

Based on the evaluation of the PCAs located within the Phase One Study Area, areas of potential environmental concern (APECs) were identified, as presented in Figure 4, and summarized in Table 3 below.

Table 3: Areas of Potential Environmental Concern (APECs)

Area of Potential Environmental Concern (APEC)	Location of APEC on Phase One Property	Potentially Contaminating Activity (PCA)1	Location of PCA (on-Site or off-Site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC 1: Historic orchards (PCA Identifier 1a)	Southwest portion of Site with the exception of the area occupied by the Quonset hut, motel, and parking areas.	PCA#40 – Pesticides (including herbicides, fungicides, and anti-fouling agents) manufacturing, processing, bulk-storage, and large-scale applications	On-Site	Organochlorine Pesticides	Soil
APEC 2: Transformer (PCA Identifier 1b)	South-central portion of Site	PCA#55 – Transformer Manufacturing, Processing, and Use	On-Site	Polychlorinated Biphenyls (PCBs), Petroleum Hydrocarbons (PHCs), Including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)	Soil
APEC 3: Automotive Repair Facility (PCA Identifier 3)	South portion of Site	PCA#52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems	Off-Site	Petroleum Hydrocarbons (PHCs), Including Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), and Metals	Groundwater

Notes: Area of Potential Environmental Concern means the area on, in or under a phase one study area where one or more contaminants are potentially present, as determined through the PI ESA, including through (a) identification of post or present uses on, in or under the phase one property, and (b) identification of potentially contaminating activities.
(1) Potentially contaminating activity means a use or activity set out in Column A of Table 2 of Schedule D (O.Reg.153/04, as amended) that is occurring or has occurred in a phase one Study area.

Refer to Figures 4 for the location of APECs on the Site. A boreholes/monitoring well advanced on the Site to investigate the identified APEC are shown on Figures 5B.

2.3 Underground Utilities

The Site utilities and services were identified at the Site based on information provided in environmental records, relevant utility infrastructure observed during the Site reconnaissance. The Site utilities are summarized in the table below and noted on Figure 3, where available. It is noted that the precise underground location of the utilities cannot be determined without professional locate services. The underground utilities may pose potential migration pathways at the Site, however; no contamination was identified in soil and groundwater during the Phase Two ESA.

Utility	Source	Location	Site Entry
Natural Gas	Union Gas	Underground	Enters the Site via Lundy's Lane
Sanitary Sewer	Niagara Region	Underground	Unknown
Storm Sewer	Unknown	Underground	Several catch basins observed in parking lot south of the motel
Water	N/A	Underground	Potable Water Well and Cistern
Electricity	Alectra Utilities	Overhead	Enters Site buildings via the south, along Lundy's Lane
Telecommunications	Unknown	Unknown	Unknown

2.4 Areas Where Access Soils Have Been Brought from Another Property

No excess soils have been brought to the Site (RSC Property), from another property.

3. Physical Site Description

3.1 Geological and Hydrogeological Conditions

The Site is expected to consist of Glaciolacustrine deposits that predominantly consist of silt and clay, minor sand, basin and quiet water deposits from the Pleistocene era. The bedrock in the general area of the Site is part of a group belonging to the Guelph Formation consisting of sandstone, shale, dolostone and siltstone.

According to the topographic map from Natural Resources of Canada (Toporama), the elevation of the Site is 185 m above sea level and is relatively flat.

An unnamed tributary is located approximately 125 m west of the Site, and flows west towards the Welland Canal, located approximately 2.32 km west of the Site. Based on local topography, the anticipated groundwater flow direction is to the west.

Based on the review of available resources from the Ministry of Natural Resources and Forestry website on October 20th, 2021, the Site and areas within 30 m of the Site were identified for a woodland was noted on the western boarder of the Site.

At each of the boreholes (BH/MW101 and BH102), a surficial layer of asphalt with a thickness of 0.04m was encountered. A surficial layer of topsoil was encountered at the test pit location with a thickness of 0.15 m. The asphalt was underlain by granular material at all borehole locations to 1.52 m bgs. The underlying native soil consisted predominantly of clayey silt at borehole and test pit locations, which extended to a maximum depth of the investigation at 6.10 m below grade.

3.1.1 Surface Material

A surficial layer of asphalt with a thickness of 0.04m was encountered at each of the borehole locations.

A surficial layer of topsoil was encountered at the test pit location (TP1) with a thickness of 0.15 m.

3.1.2 Granular and Re-worked Native Material

Granular material with a thickness of 0.03m was encountered beneath the asphalt at each of the borehole locations. The granular material was underlain by re-worked native material consisting of silty sand to a maximum depth of 1.52 m bgs at each of the borehole locations.

3.1.3 Native Material

Native reddish-brown clayey silt was encountered at each of the borehole locations and the test pit location below the surficial topsoil and granular / re-worked native material. The clayey silt was moist to wet.

3.1.4 Bedrock

During the Phase Two ESA, bedrock was not encountered during the advancement of boreholes to a maximum depth of 6.10 m bgs. The depth of bedrock is between 10.9 and 12.2 mbgs based on the geotechnical investigation (Soil-Mat, 2021).

3.2 Hydrogeology

A minimum of three (3) monitoring wells, screened within the sample geological formation, is required to estimate groundwater flow direction. Groundwater water levels were measured at the Site on November 29th and 30th, 2021. Based on the groundwater contour map delineated for the Site, the groundwater is anticipated to flow in a northeasterly direction. Refer to Table 4 for the Site hydrogeology characteristics based on groundwater monitoring observations.

Table 4: Site Hydrogeology Characteristics

Location	Observation
Depth to Groundwater	0.266 m bgs to 1.145 m bgs
Groundwater Elevation	184.014 m to 184.590 m asl
Horizontal Hydraulic Gradient	0.005 m/m (between BH/MW101 and MW-9) 0.758 m/m (between BH/MW101 and MW-1)

Monitoring wells were installed at depths based on observations made during field activities (i.e., moisture observations of soil core, and evidence of water table due to colour change). During drilling and sampling activities, the collected soil cores did not contain evidence of the presence of Petroleum Hydrocarbons (PHCs; no odours or evidence of Non-aqueous phase liquids [NAPL]) ,and thus; the newly installed well (MW101) was screened based on the lack of noted impacts (NPALs) in the field. No evidence of NAPLs and/or odours were observed during groundwater sampling activities, and monitoring well MW101 was installed to assess an off-Site PCA, located approximately 35 m south of the Site, opposite Lundy's Lane (two lane road). It is of the opinion of the QP^{ESA} that the newly installed monitoring well (MW101) was screened at an appropriate depth and screen interval.

3.3 Site Sensitivity

The Site Sensitivity classification with respect to the conditions set out under Section 35, Section 41 and 43.1 of O.Reg.153/04 were evaluated to determine if the Site is sensitive, as presented below in Table 5.

Table 5: Site Sensitivity

Sensitivity	Classification	Does Sensitivity Apply to Site?
Section 35 applies if	(i) The full depth generic site condition standards in a non-potable groundwater condition	No
	(ii) The stratified site condition standards in a non-potable groundwater condition	No
	(iii) The property, and all other properties located, in whole or in part, within 250 metres of the boundaries of the property, are supplied by a municipal drinking water system	No
	(iv) The record of site condition does not specify agricultural or other use as the type of property use	No
	(v) The property is located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater	No
	(vi) The property or one of the properties in the Phase One Study Area has a well, used or intended for use as a source of water for human consumption or agriculture.	Yes

Sensitivity	Classification	Does Sensitivity Apply to Site?
	(vii) A person authorized by the owner of a property has given the clerk of the municipality a written notice of intention to apply the standards in preparing a record of site condition for the property; A. the single tier municipality has given written notice that it does not object to the application of the standards	No
Section 41 applies if	(i) property is within an area of natural significance	No
	(ii) property includes or is adjacent to an area of natural significance or part of such an area	No
	(iii) property includes land that is within 30 m of an area of natural significance or part of such an area	No
	(iv) soil at property has a pH value for surface soil less than 5 or greater than 9	No
	(v) soil at property has a pH value for sub-surface soil less than 5 or greater than 11	No
	(vi) a qualified person is of the opinion that, given the characteristics of the property and the certifications the qualified person would be required to make in a record of site condition in relation to the property as specified in Schedule A, it is appropriate to apply this section to the property	No
Section 43.1 applies if	(i) property is a shallow soil property	No
	(ii) property includes all or part of a water body or is adjacent to a water body or includes land that is within 30 m of a water body	No

3.3.1 Soil Importation

Based on the reviewed information, a re-worked native material with a thickness of about 1.52 m bgs was encountered at each of the borehole locations. This material is anticipated to have originated on the Site, and consists of brown silty sand.

3.4 Land Use

It is understood that the Site is intended to be re-developed for mixed property use (residential/commercial/employment).

4. Contaminants of Concern

For assessment purposes, EXP selected MECP (2011) Table 2: Full Depth Background Site Condition Standards in a Potable Ground Water Condition – Residential/Parkland/Institutional Property Use for medium/fine textured soils. The criteria was considered applicable for determining contaminants of concern (COCs), based on the rationale presented below in Table 6.

Table 6: Site specific Condition

Description	Site Specific Condition
Section 35 Site Sensitivity	Not Applicable
Section 41 Site Sensitivity	Not Applicable • The soil at the Site has pH values between 5 and 9 for surficial soil; and, between 5 and 11 for subsurface soil.

Description	Site Specific Condition
	• The Site is not located within a Significant Area, and/or located adjacent to an area of natural significance/an environmentally sensitive area.
Section 43.1 Site Sensitivity	Applicable • The Site is not considered a shallow soil property, based on the recovered soil cores, which indicated that more than two-thirds of the Site has an overburden thickness in excess of 2 m.
Ground Water	Potable • The Site and some surrounding properties within 250 m of the Site are supplied by potable well water.
Land Use	Residential/Commercial/Employment • The proposed future use of the Site is for residential/commercial/employment use.
Soil Texture	Fine textured • The predominant texture of soils at the Site is considered to be medium to fine textured, based on soil characteristics identified in the borehole logs and 75 micron sieve.

4.1 Soil and Groundwater Impacts

A chemical constituent was selected as a COC if it was detected in soil or groundwater samples obtained from the Site at a concentration in excess of the applicable Table 2 SCS.

Soil samples were submitted for the analysis of Petroleum Hydrocarbons (PHCs) including Benzene, Toluene, Ethylene, Xylene (BTEX)), Polychlorinated Biphenyls (PCBs), Organochlorine Pesticides (OCPs), and pH.

All soil parameters analyzed met Table 2 SCS and/or were non-detected at the laboratory Reporting Detection Limits (RDLs). The laboratory RDLs were below the Table 2 SCS.

Groundwater samples were submitted for the analysis of PHCs including BTEX and metals.

All groundwater parameters analyzed met Table 2 SCS and/or were non-detected at the laboratory RDLs. The laboratory RDLs were below the Table 2 SCS.

Analytical results of soil samples collected on the Site are presented for soil in a plan view on Figures 7 to 10. Analytical results of groundwater samples collected on the Site are presented in a plan view on Figures 11 to 12. Stratigraphical cross sections are presented on Figures 13 and 14.

5 Exposure Pathways

5.1 Human Health Receptors and Exposure Pathways

The soil and groundwater analytical results indicated that all tested parameters were non-detect at the laboratory RDLs. The laboratory RDLs were below the Table 2 SCS, thus; information regarding human health receptors and exposure pathways is not required.

5.2 Ecological Receptors and Exposure Pathways

The soil and groundwater analytical results indicated that all tested parameters were non-detect at the laboratory RDLs. The laboratory RDLs were below the Table 2 SCS, thus; information regarding ecological receptors and exposure pathways is not required.