55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, ON

Phase Two Environmental Site Assessment

March 5, 2021

City of Guelph

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Acronyms and Abbreviations

°C	degree(s) Celsius
µg/g	microgram(s) per gram
µg/L	microgram(s) per litre
µm	micrometre(s)
Aardvark	Aardvark Drilling Inc.
ABN	acid, base, and neutral compound
ALS	ALS Canada Limited
APEC	area of potential environmental concern
ARA	Archeological Research Associates Ltd.
BTEX	benzene, toluene, ethylbenzene, and xylenes
CALA	Canadian Association for Laboratory Accreditation Inc.
City	City of Guelph
cm	centimetre(s)
COA	certificate of analysis
COC	contaminant of concern
COPC	contaminant of potential concern
D&F	dioxin and furan
DO	dissolved oxygen
DQE	data quality evaluation
EC	electrical conductivity
ESA	environmental site assessment
eV	electron-volt
F	fraction
FD	field duplicate
FIP	fire insurance plan
ha	hectare(s)
HWS boron	hot-water-soluble boron
ID	identification
Jacobs	Jacobs Engineering Group Inc.
K	hydraulic conductivity
km	kilometre(s)
L	litre(s)
LCS	laboratory control sample
m	metre(s)

m/m	metre(s) per metre
m/s	metre(s) per second
m/y	metre(s) per year
masl	metre(s) above sea level
mbgs	metre(s) below ground surface
MECP	Ontario Ministry of the Environment, Conservation and Parks
mg/L	milligram(s) per litre
mm	millimetre(s)
MS	matrix spike
mS/cm	milliSiemen(s) per centimetre
NAPL	nonaqueous phase liquid
O. Reg.	Ontario Regulation
OnSite	OnSite Locates Inc.
ORP	other regulated parameter
PAH	polycyclic aromatic hydrocarbon
PCA	potentially contaminating activity
PCB	polychlorinated biphenyl
Phase Two Property (or Site)	55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the right-of-way known as Park Lane in Guelph, Ontario
PHC	petroleum hydrocarbon
PID	photoionization detector
Plan	Grand River Source Protection Plan
ppm	part(s) per million
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
QPESA	Qualified Person for ESA
RA	risk assessment
RL	reporting limit
RPD	relative percent difference
RSC	Record of Site Condition
SAP	Sampling and Analysis Plan
SAR	sodium adsorption ratio
SCS	Site Condition Standard

Site (or Phase Two Property)	55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the right-of-way known as Park Lane in Guelph, Ontario
SOP	standard operating procedure
Table 2 SCS	*Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for coarse grained soil and residential/parkland/institutional land use*
VOC	volatile organic compound

1. Executive Summary

The City of Guelph (City) retained CH2M HILL Canada Limited (CH2M), now Jacobs Engineering Group Inc. (Jacobs), to provide environmental services for the properties located at 55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the right-of-way known as Park Lane in Guelph, Ontario (Phase Two Property or Site). Jacobs understands the current plan is to redevelop the Site for a mix of residential, commercial, community, and institutional use.

The Site is in downtown Guelph, southwest of the Speed River (Figures 2-1 and 2-2a). It is approximately 1.14 hectares (ha) in size, is currently used as a commercial parking lot, and includes one laneway. There are no buildings onsite; however, buildings were historically present and associated with the use of portions of the Site for parkland, commercial, and industrial purposes. From approximately 1827 to 1879, the parcel associated with 55 Baker Street was used as a public burial ground (community land use) (Pinchin 2018).

Jacobs developed the field program for the Phase Two Environmental Site Assessment (ESA) based on the results of the Phase One ESA (Pinchin 2018), as well as the results of previous environmental investigations (Kewen 2001; XCG 2008), to provide general spatial coverage across the Site. The field components of the project included utility locates, archaeological clearances, drilling and monitoring well installation, soil and groundwater sampling, surveying, and water level elevation measurements. Jacobs and its subcontractors completed these field components, which are documented in this report.

This report was completed to summarize Phase Two investigations conducted at the Site, and to complete the following tasks:

- Meet current Ontario Regulation (O. Reg.) 153/04 (MECP 2011a), regulatory requirements to support Record of Site Condition (RSC) filing.
- Investigate or further investigate areas of potential environmental concern (APECs) identified during the Phase One ESA (Pinchin 2018).
- Provide data to support a potential risk assessment (RA).

According to Section 168.3.1 of the *Environmental Protection Act* (MECP 1990a), an RSC is required because the land use will be changed from commercial to a mixed land use that includes more sensitive uses (that is, residential or institutional, or both).

To assess the subsurface conditions, Jacobs examined the lithologies recorded from 27 investigative locations (that is, boreholes and monitoring wells) advanced as part of the current Phase Two ESA activities. Geological conditions, as characterized from the dataset at the Phase Two Property, include the following:

- Asphalt at ground surface (extending to 0.15 metres below ground surface [mbgs]).
- Fill materials (mainly sand, sand and gravel or silty sand) to a maximum depth of 3.91 mbgs, with an average thickness of 1.87 metres (m).
- Native overburden (sand) that exists roughly from the bottom of fill to the bedrock, with interbedded layers of gravel and silt.
    - A silt layer was encountered in the northern portion of the Site. The depth to silt ranged from 2.13 to 3.94 mbgs and the average thickness of the layer was 3.58 m. In most locations where the silt was encountered, it underlay a layer of sand and directly overlies bedrock.
    - A small silt lens, observed in the southern portion of the Site, was disconnected from the larger silt layer in the northern portion of the Site. The depth to this silt layer ranged from 2.21 to 3.72 mbgs, with an average thickness of 1.37 m.

  - A gravel and sand layer was encountered in the southern portion of the Site. The depth to this gravel and sand layer ranged from 1.52 to 5.94 mbgs, and the average thickness of the layer was 2.16 m. Generally, the sand and gravel extends to the bedrock, but in the southeastern portion of the Site it terminates above a layer of sand.
  - A clay lens was encountered in the middle of the Site (MW109). The clay was encountered from 1.14 to 2.44 mbgs, which is generally consistent with the depth of the fill layer and is expected to be very small laterally.
- Guelph Formation dolostone with a top of bedrock contact ranging from 4.57 to 8.46 mbgs (average depth at 5.99 mbgs); the bedrock was described as being highly weathered and fractured within the first 0.3 to 0.6 m, and was noted to be vuggy, with calcite mineralization.

Local groundwater is expected to flow eastward, toward the Speed River. The Site-specific groundwater was interpreted to flow radially, from a high elevation on the western boundary of the Site towards the north, and east to southeast. The higher groundwater elevations at the western portion of the Site appear to be correlated with higher bedrock elevation. Perched groundwater is also observed at the northern end of the Site, above the low-permeability silt aquitard layer. The full extent of the perched groundwater is currently not fully understood but may have a similar extent to the silt layer.

Based on the available information, Jacobs selected the Table 2 Site Condition Standards (Table 2 SCS), as outlined in the Ontario Ministry of the Environment, Conservation and Parks' (MECP's) *Soil, Groundwater, and Sediment Standards* for Use under Part XV.1 of the *Environmental Protection Act* adopted under Ontario Regulation 153/04 (MECP 2011c) for a potable groundwater, residential/parkland/institutional property use for coarse-textured soil to apply to the Site.

Most of the soil beneath the Phase Two Property was found to be impacted with salt-related parameters (electrical conductivity [EC] and sodium adsorption ration [SAR] in soil; and sodium and chloride in groundwater). Limited localized metal impacts were also present (lead and mercury in soil; cadmium in groundwater).

The presence of elevated EC and SAR in soil and sodium, as well as chloride in groundwater, is widespread across most of the Site and is interpreted to be related to the application of deicing materials on the parking lot surfaces (APEC-4). Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Environmental Protection Act when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Therefore, at the discretion of the Qualified Person for Environmental Site Assessment (QPESA) and based on the revised regulation, these parameters were not considered to be contaminants of concern (COCs) at the Phase Two Property.

Metals exceedances in soil were identified in the southeastern portion of the Phase Two Property at one location (MW101), and were limited to lead and mercury. These impacts are likely limited to the fill in the existing laneways, based on results and observations during drilling and test-pitting activities, and extend to an estimated maximum of 3.0 mbgs based on fill depth in this area. The poor-quality fill was not observed at other locations.

Metals exceedances in groundwater were limited to cadmium. Cadmium exceedances were noted in two monitoring wells along the western property boundary (MW107 and MW113) with maximum concentrations found at MW113 screened in the bedrock aquifer (at 5.3 to 8.4 mbgs). The cadmium exceedances at these locations were not shown to extend vertically to MW107B (screened in the deep bedrock, at 13.7 to 15.5 mbgs). Groundwater moves from these locations towards the southeastern portion of the Site. Sampling results from downgradient wells from the identified cadmium exceedances (MW110A and MW101, both less than the Table 2 SCS) indicate the cadmium impacts in groundwater are not anticipated to migrate offsite. Cadmium impacts may

be related to the APECs associated with offsite and upgradient potentially contaminating activities (to the west) (for example, APEC-11 for Industrial Operations and APEC-12 for Historical Automotive Garage) or other unknown sources.

Based on extensive sampling over the Phase Two Property, it has been concluded that the horizontal and vertical extents of soil and groundwater impacts have been sufficiently defined for Phase Two purposes, as well as to support the RA and evaluation of risk management measures.

Jacobs completed an RA (Jacobs 2020) to assess the existing concentrations of COCs on Site, develop property-specific standards, and determine what risk management measures would need to be implemented. The RA (MGRA1896-20, IDS# 7882-BRYP6L) was accepted by the MECP on December 21, 2020.

Based on the results of the Phase Two ESA, as of the certification date of April 29, 2020, the concentrations of contaminants in soil and groundwater at the Phase Two Property meet the property-specific standards as defined in the RA (Jacobs 2020). An RSC can be developed and submitted to the MECP, to permit the proposed change in land use for the Site.

2. Introduction

The City of Guelph (City) retained Jacobs Engineering Group Inc. (Jacobs), to provide environmental services for the properties located at 55 Baker Street, 160 Wyndham Street North (including the former 152 Wyndham Street North), and the right-of-way known as Park Lane in Guelph, Ontario (Phase Two Property or Site) (Figure 2-1).

The Site is in downtown Guelph, southwest of the Speed River (Figure 2-1). The Site is approximately 1.14 hectares (ha) and is currently in use as a commercial parking lot and one laneway. There are no buildings onsite; however, buildings were historically present and associated with the use of portions of the Site for parkland, commercial, and industrial purposes. Figures 2-2a and 2-2b show building outlines and identified utilities, respectively, on the Phase Two Property. From approximately 1827 to 1879 the parcel associated with 55 Baker Street was used a public burial ground (community land use) (Pinchin 2018).

The Site underwent various subsurface environmental investigations between 1993 and 2019. The objectives of the Phase Two Environmental Site Assessment (ESA) are to:

- Meet current Ontario Regulation (O. Reg.) 153/04, (MECP, 2011a), regulatory requirements to support Record of Site Condition (RSC) filing.
- Investigate or further investigate areas of potential environmental concern (APECs) identified during the Phase One ESA (Pinchin 2018).
- Provide data to support a potential risk assessment (RA).

This report is also intended to support the future redevelopment of the Phase Two Property. Jacobs understands the current plan is to redevelop the Site for a mix of residential, commercial, community, and institutional use (City 2019).

2.1 Site Description

The Phase Two Property is approximately 1.14 ha, and is surrounded by a mix of commercial, institutional, and residential land uses. The Site is south of Woolwich Street, east of Baker Street, north of Quebec Street, and west of Wyndham Street North. Exhibit 2-1 identifies the municipal address, property identifier numbers, and legal descriptions of the parcels that form part of the Phase Two Property.

Exhibit 2-1. Property Information

Municipal Address	Property Identification Number	Legal Description
55 Baker Street	71287-0119 (LT) [a]	Part Burying Ground; Plan 8; Part Lane through Burying Ground; Plan 8, Closed by MS80255; as in MS78644, MS20082, CS58221; subject to Interest, if any, in CS58221; Part Burying Ground, Plan 8 as in CS51962; City of Guelph
N/A (Park Lane)	71287-0099 (LT)	Unnamed Lane, Plan 8, (AKA Park Lane, Plan 8) lying south of Part Closed by CS31228, Save and Except RO755787, ROS546721 & ROS220056; Guelph

Exhibit 2-1. Property Information

Municipal Address	Property Identification Number	Legal Description
160 Wyndham Street North (includes former 152 Wyndham Street North)	71287-0118 [b]	Part Lots 73 And 74, Part of Burying Ground and Part of Lane at the rear of Lots 73 And 74 (aka Park Lane), Closed by CS31228, Plan 8, Designated as Parts 1, 2, 3 and 4, Reference Plan 61R-21815, subject to and together with ROS557919 and ROS573090, City of Guelph

Notes:

N/A = not applicable

[a] Recently consolidated from former PIN numbers 712870038 (LT) and 71287-0058 (LT)

[b] Recently consolidated from former PIN numbers 712870044 (LT) and 712870045 (LT); the latter being associated with former municipal address 152 Wyndham Street North

Appendix A includes the Plan of Survey for the Site.

2.2 Property Ownership

The City currently owns the Phase Two Property; Exhibit 2-2 presents contact information for the owner.

Exhibit 2-2. Contact Information for Owner of Phase Two Property

Agency	Role	Contact Information
City of Guelph	Owner Representative	Prasoon Adhikari, M.Sc., P.Eng., PMP Environmental Engineer City of Guelph, Engineering and Transportation Services, Infrastructure, Development and Environmental Engineering 1 Carden Street Guelph, Ontario, N1H 3A1 Ph: 519.822.1260 ext. 2946 Email: Prasoon.Adhikari@guelph.ca

2.3 Current and Proposed Future Uses

The Phase One ESA (Pinchin 2018) provides current and historical information about the Phase Two Property. The Site currently consists of a paved municipal parking lot and a paved laneway. Most of the Site is currently operating as a paid parking lot. Jacobs understands the current plan is to redevelop the Site for a mix of residential, commercial, community, and institutional use.

According to Section 168.3.1 of the *Environmental Protection Act* (MECP 1990a), an RSC is required because the land use will be changed from commercial to a mixed land use that includes more sensitive uses (that is, residential or institutional, or both).

2.4 Applicable Site Condition Standards

O. Reg. 153/04 (MECP 2011a), under Part XV.1 of the *Environmental Protection Act*, addresses the assessment, cleanup, and filing of an RSC for brownfield sites in Ontario and applies to the Phase Two Property. Jacobs evaluated the Site based on several criteria to decide which of the generic standards in the Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act* (MECP 2011b) applied for a comparison of soil and groundwater results from the Phase Two ESA investigation.

The items in Exhibit 2-3 were considered during the selection of the standards, as outlined in O. Reg. 153/04 (MECP 2011a).

Exhibit 2-3. Items Considered for Site Condition Standards Selection

Condition	Evaluation
Land use	The current land use is commercial and community. The proposed future land use is a mix of residential, commercial, community, and institutional.
Potable or non-potable groundwater	The Site and adjacent properties within 250 m are serviced by a municipal water source. However, as the City relies on groundwater for its water supply (City 2018), the potable groundwater condition will be applied.
Proximity to surface water body	No waterbodies are located on the Site. The Speed River is the nearest downgradient waterbody, and is located approximately 130 m northeast of the Site.
Proximity to areas of natural significance or environmentally sensitive areas	The Site is not considered an area of natural significance or to be within the proximity of an area of natural significance, based on the information reviewed as part of the Phase One ESA (Pinchin 2018, Jacobs 2021).
Depth to bedrock	A property is considered a shallow soil property if one-third or more of the area consists of soil depths of 2 mbgs or less, excluding nonsoil surface treatment (that is, asphalt, concrete, or aggregate) (MECP 2011a). The depth to bedrock is greater than 2 m, as bedrock was encountered between 4.93 mbgs and 8.43 mbgs.
pH of soil	Jacobs' investigations included 45 soil samples analyzed for pH from 17 locations across the Phase Two Property and reported soil pH ranged from 7.37 to 9.46 (Figure 2-3). Soil pH was within the MECP's acceptable range for samples collected in both surface soil (from between surface and 1.5 mbgs, with a pH value in surface soil less than 5 or greater than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil less than 5 or greater than 11). Historical investigations identified elevated pH (greater than 9) in surface soil; however, many of the borehole logs reported brick fragments or concrete present in the soil descriptions where samples with elevated pH were collected. This information suggests that nonsoil materials may have been sampled, potentially biasing the historical soil pH results. Therefore, the historical results may not be representative of actual soil pH conditions. Considering this information, Jacobs has relied solely on the soil pH data collected during recent investigation to determine the applicable SCS for soil pH. On this basis, soil pH is within the MECP's acceptable range.

Exhibit 2-3. Items Considered for Site Condition Standards Selection

Condition	Evaluation
Soil texture	The soil condition standards for coarse-grained soils were used, based on the grain-size results, to be conservative and to account for the extensive presence of heterogeneous fill materials across the surface of the Site.

Notes:

m = metre(s)
mbgs = metre(s) below ground surface

MECP = Ontario Ministry of the Environment, Conservation and Parks

SCS = Site Condition Standard

Based on this information, which has been reviewed by the Qualified Person for ESA (QPESA), the Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for coarse grained soil and residential/parkland/institutional land use (Table 2 SCS), as outlined in the MECP's Soil, Groundwater, and Sediment Standards for use under Part XV.1 of the Environmental Protection Act adopted under O. Reg. 153/04 (MECP 2011b) was applied to the Site.

3. Background Information

3.1 Physical Setting

The topography over most of the Phase Two Property is moderately flat, with ground surface elevations ranging from 328.34 metres above sea level (masl) (MW113) at the southwestern corner of the Site to 330.16 masl (BH201) in the west. The Site slopes slightly from the western border towards the south, north, and east. Surface runoff at the Phase Two Property is expected to flow radially from the west in these directions, but is directed towards onsite catchbasins. Figure 3-1 shows the regional topography and surface water drainage features.

The Phase Two Property is not within 30 m of a water body. The Speed River is the nearest downgradient waterbody, approximately 130 to 150 m north-northeast of the Site, and ground surface tends to slope north towards the river. Groundwater from the region is likely to eventually discharge to Speed River. Based on the information reviewed as part of the Phase One ESA (Pinchin 2018, Jacobs 2021), the Site is not considered part of an area of natural significance or to be within the proximity of an area of natural significance.

The City categorizes regions of Guelph within Wellhead Protection Areas (City 2012). The Site is within Wellhead Protection Area B (2-year travel time) for several of the City's municipal water supply wells.

The nearest municipal groundwater supply wells to the Site include the Water Street, Edinburgh, Membro, and Dean Wells (approximately 1.4 to 2.0 kilometres [km] south of the Site past the Eramosa River), and the Park and Emma Wells (approximately 1.3 to 1.5 km north of the Site past the Speed River).

The municipal groundwater resource is drawn primarily from the Gasport Formation, estimated to occur at least 45 mbgs. A lower-permeability Reformatory Member and Vinemount Member of the Eramosa Formation are generally understood to serve as a regional aquitard, situated above the Gasport and limestone formations of the Goat Island Formation (Brunton 2009). The source of some of the water in the Gasport Formation is through slow recharge across the aquitard from the shallow bedrock groundwater.

The City is also part of the Grand River Source Protection Plan (Plan) (Lake Erie Region Source Protection Committee 2019). The Plan assigns Drinking Water Threat Vulnerability Scores across the region based on various risk factors, and the Phase Two Property is assigned a Vulnerability Score of 10, the highest possible. According to the Plan mapping (Figure 3-2), the Site is also in a highly vulnerable aquifer and issues-contributing area, but is not in a significant groundwater recharge area or in a source water intake protection zone.

3.2 Past Investigations

Before the current Phase Two investigation, three subsurface investigations took place at the Site in 1993 (XCG), 2001 (Kewen), and 2008 (XCG). Table 3-1 summarizes the following tasks associated with each investigation:

- Completion of field program associated with each historical subsurface investigation, including the analyses conducted in soil, groundwater, or both.
- Comparison of the historical subsurface investigation results to the current SCS.
- Evaluation of whether data or information from the historical subsurface investigation are considered reliable for inclusion in the current Phase Two ESA for RSC purposes.
- Completion of tasks to confirm or update data or information not considered reliable.

In general, Jacobs noted the following observations during this evaluation:

- Parameters, such as benzene, toluene, ethylbenzene, and xylenes (BTEX); and volatile organic compounds (VOCs), were characterized more adequately by current standards, using appropriate sample collection and laboratory analysis methods. BTEX and VOC analyses from before 2004 are considered unreliable because of changes in analytical methods.
- Historical laboratory scans for metals did not include complete parameter group analyses in accordance with the current requirements of O. Reg. 153/04. Missing metal parameters have the potential to be contaminants of concern (COCs) on the Site.
- Groundwater concentrations older than 10 years from the commencement of the Phase Two ESA activities were considered not representative of current conditions.
- The results from previous investigations in areas reported to be remediated (specifically, polychlorinated biphenyls [PCBs] in the transformer area) may not represent current conditions.

Where these observations were noted, a portion of the historical data could not be fully relied upon to reflect current environmental conditions at the Site. Therefore, Jacobs used these data for screening purposes during the Phase Two ESA to focus on certain areas to resample and assess the possible presence of contaminants (refer to Section 6.6). The screening data were not used in the final Phase Two ESA dataset to confirm concentrations meeting the applicable standards in APECs, nor were they used to confirm maximum concentrations on the Phase Two Property.

As Table 3-1 specifies, the following soil and groundwater data from the historical investigations were unreliable for RSC purposes:

- Elevated concentrations of PCBs in the former transformer area (XCG 1993) had been reported by Kewen (2001) to have been remediated in 1998. Documentation, including the confirmatory sampling of these activities, was not provided to Jacobs. The 1993 PCB data were therefore excluded from the Phase Two ESA dataset, but used for the focus of the Phase Two ESA investigations (the location was resampled in November 2019).
- Soil data from 2001 (Kewen 2001) are not considered valid for RSC purposes due to historical laboratory methods and incomplete parameter group analyses. Data were used for screening purposes for the Phase Two ESA investigations, and areas of historical impacts were resampled to confirm the presence or absence of contaminants.
- Soil pH data from the XCG (2008) investigation were not considered valid, because a review of borehole logs indicates concrete or brick fragments may have been included in soil samples submitted for pH. Therefore, soil pH results may be biased high and not representative of actual conditions. Additional soil analysis across the Site for pH was included as part of the Phase Two ESA investigations.
- Historical groundwater data (Kewen 2001; XCG 2008) were not considered representative of current Site conditions and, therefore, not reliable for RSC purposes. Additional groundwater sampling was conducted across the Site as part of the current investigation, including areas where historical groundwater exceedances were reported.

The soil data from the XCG (2008) investigation are considered valid for RSC purposes. Sampling and laboratory analyses were conducted in accordance with the requirements of O. Reg. 153/04 at the time, which did not include uranium. Uranium has not been specifically identified as a COC for the Site; as such, the remaining metals analyses from the XCG (2008) investigation are considered usable and reliable. Additional soil sampling for metals, including uranium, took place across the Site as part of the Phase Two ESA investigation.

4. Scope of Investigation

4.1 Overview of Site Investigation

Jacobs conducted Phase Two ESA field activities between July 2019 and April 2020 to evaluate the subsurface environmental conditions at the Phase Two Property, and to investigate the APECs identified in the Phase One ESA (Pinchin 2018). As part of the Phase One ESA, Pinchin identified areas where potentially contaminating activities (PCAs) have occurred on the Phase Two Property and on lands within 250 m of the Phase Two Property. PCAs occurring on the Phase Two Property were subsequently carried through the investigation as APECs, as required by O. Reg. 153/04. Jacobs has reinterpreted some of the APECs identified by Pinchin and also identified additional APECs based on a review of fire insurance plans (FIPs). These changes were documented in an update to the Phase One ESA report (Jacobs 2021), completed to support RSC filing. Further details on the PCAs and APECs are provided in Section 6.10.

The Pinchin (2018) Phase One ESA and Jacob (2021) Phase One ESA Update identified 22 APECs on the Phase Two Property, eight of which are attributed to onsite PCAs and 14 which are attributed to offsite PCAs. These APECs and PCAs were the focus of the Phase Two ESA activities. Figures 4-1a and 4-1b show the onsite and offsite PCAs, respectively, along with the resulting APECs on the Phase Two Property. Figure 4-2 shows the APECs identified in the Phase One ESA for the Phase Two Property, as well as the Phase Two ESA investigation locations.

The principal objective of the Phase Two ESA is to enable the assessment and update of current Site conditions, to identify general and current subsurface impacts that will need to be managed during Site redevelopment. The Phase Two ESA activities included the following main tasks:

- Arrange for public and private underground utility locates.
- Arrange for related to the historical use of the Site as a burial ground.
- Develop a Sampling and Analysis Plan (SAP) based on Phase One ESA findings and historical subsurface investigations.
- Drill boreholes during several field events:
    - July to August 2019 – Jacobs advanced 17 boreholes (BH200 through BH206 and MW100, MW101, MW102A, MW102B, MW103 through MW105, and MW107 through MW109) to a maximum depth of 13.64 mbgs. Soil samples were collected for chemical analysis. Ten boreholes were completed as monitoring wells.
    - September to December 2019 – Jacobs advanced eight boreholes (BH208 through BH211 and MW107B, MW110A, MW110B, MW111) to a maximum depth of 15.54 mbgs. Soil samples were collected from 5 of the locations. Four boreholes were completed as monitoring wells.
    - April 2020 – Jacobs advanced two boreholes (BH2017 and MW113) to a maximum depth of 8.38 mbgs. Soil samples were collected and one borehole was completed as a monitoring well.
- Collect at least two rounds of groundwater samples from the newly installed monitoring wells for COCs to address identified APECs.
- Conduct single-well hydraulic tests on five monitoring wells to improve the understanding of the subsurface materials' hydraulic properties across the Phase Two Property.
- Determine the applicable SCS.
- Survey the monitoring wells to a geodetic benchmark.

Figure 4-2 shows the locations of the borings and wells advanced as part of this Phase Two ESA, as well as during historical investigations. The results of historical environmental studies were used as a screening method to focus the current Phase Two ESA work. Where reliable (refer to Section 3.2), the historical results were used to supplement the Phase Two ESA results. In general, the historical soil data from 2008 were considered valid for inclusion in this Phase Two ESA.

4.2 Media Investigated

Soil and groundwater were the only media investigated during this Phase Two ESA work. The investigation of sediment was not applicable due to the absence of surface water bodies on the Site.

Soil quality at the Site was determined using various sampling techniques, including test-pitting and conventional hollow-stem drilling methods. The selected method was determined based on sample depth, likely subsurface conditions, overhead access, and space for drilling equipment. Section 5 provides further detail regarding soil sampling methods. Section 6 provides soil sampling results.

Groundwater samples from newly installed monitoring wells, as well as existing monitoring wells, were collected and submitted for analysis. The sampling method for groundwater used low-flow purging and sampling techniques (for example, peristaltic pump, water quality meter, and dedicated tubing) based on the turbidity of the samples and analysis required. Section 5 provides further detail regarding groundwater sampling methods. Section 6 provides results of the groundwater sampling.

4.3 Phase One Site Conceptual Model

Table 4-1 summarizes the Phase One conceptual site model from the Pinchin (2018) Phase One ESA, supplemented with additional information from Jacobs. An update to the Phase One ESA will be required before the RSC is filed. Table 4-2 summarizes the identified APECs and the COCs associated with each APEC used as the basis for the Phase Two ESA investigation.

4.4 Deviations from Sampling and Analysis Plan

Before the investigation at the Phase Two Property was completed, a detailed SAP was prepared. Appendix B provides the SAP that applies to the work Jacobs has completed at the Site. No deviations occurred from the project SAP over the course of the Phase Two ESA activities.

4.5 Impediments

The main impediment during the Phase Two ESA was the presence of utilities, both overhead and underground, in areas where borings and wells were planned. As such, borehole and monitoring well locations were adjusted to maintain safe distances from overhead power and cable lines, and underground sanitary and storm sewer locations. Figure 2-2b shows identified utilities on the Phase Two Property. However, all borings and wells were installed in the areas where sampling was planned.

In addition, as the Site is an active parking lot, including laneways, managing vehicle traffic required additional planning during the investigation; however, all planned investigation locations was completed.

5. Investigation Method

5.1 General

Various environmental field and subsurface investigation methods were used to assess soil and groundwater quality during the Phase Two ESA, including:

- Test pits for archeological investigation and soil sampling, including field screening measurements and observations
- Drilling with soil sampling, including field screening measurements and observations
- Installing groundwater monitoring wells and groundwater sampling
- Analytical testing of soil and groundwater samples
- Managing investigation-derived waste
- Implementing quality assurance (QA) and quality control (QC) measures, including the collection and analysis of field duplicate (FD) and trip blank samples

The Phase Two ESA activities were guided by individual SAPs for each investigation (Appendix B). The SAP was designed to investigate the contaminants of potential concern (COPCs) within of the APECs identified as a part of the Phase One ESA (Pinchin 2018) review.

Figure 4-2 shows the sampling locations associated with the Phase Two investigation.

Jacobs retained third-party contractors to conduct or assist with field investigations. Jacobs field staff, under the direction of the project QPESA, supervised field activities and recorded field activities, soil characteristics, groundwater sampling results, and other general field investigation notes.

Jacobs developed standard operating procedures (SOPs) and field forms to comply with O. Reg. 153/04 (MECP 2011a). The SOPs guided Jacobs staff in conducting, performing, and documenting Phase Two ESA investigative work. The following is a list of Jacobs SOPs relevant to the Phase Two ESA activities at the Site:

- Decontamination of Heavy Equipment
- Decontamination of Field Sampling Equipment
- Logging of Soil Borings
- Measurement of Soil Vapour Headspace
- Soil Sampling for VOCs using Methanol Preservation
- Installation of Shallow Monitoring Wells
- Water Level Measurements
- Aquifer Testing – Slug Tests
- Monitoring Well Development
- Groundwater Purging and Measurement of Field Parameters
- Low Flow Groundwater Purging and Sampling
- Sample Packaging, Storage, and Transport to Laboratory

The methods employed did not deviate from the SOPs and are described in detail in the following subsections.

5.2 Drilling and Excavating

Before drilling activities, borehole and monitoring well locations required archeological clearance of the upper soils to confirm the absence of items of archeological significance. As areas of the Site had previously been used

as a burial ground, the clearances were required to confirm human remains or artifacts were not present in the drilling locations before drilling activities. Archeological Research Associates Ltd. (ARA) was present onsite to complete the archeological investigation alongside Jacobs staff who collected samples of the fill (and upper native soils, where present) during excavations. ARA prepared a report noting the items found during the archeological excavations and clearing the locations for further drilling work (ARA 2020).

Drilling was conducted at the Site to facilitate the evaluation of subsurface conditions via the collection of environmental samples. Jacobs retained Aardvark Drilling Inc. (Aardvark) of Guelph, Ontario, to undertake drilling activities at the Site for the field program. Aardvark is an MECP-licensed driller. A CME truck-mounted hollow-stem auger rig was used to advance boreholes. Drilling activities were completed under the supervision of Jacobs field personnel. The frequency of soil sample collection for field screening and for submission for chemical analysis is detailed on the borehole logs included in Appendix C. All drilling equipment was decontaminated in accordance with the SOPs.

5.2.1 Utility Locates

Before excavation and drilling activities began for each field event, Jacobs contacted Ontario One Call to arrange clearances of public utility services, including:

- Telephone
- Cable television
- Natural gas
- Hydroelectricity
- Water
- Sanitary lines
- Storm sewers

As an additional precaution, Jacobs also retained OnSite Locates Inc. (OnSite), a private utility contractor located in Newmarket, Ontario, to clear all proposed drilling locations of the same private utility services by using radio detection and electrical isolation for utilities. The resulting locate clearance documents were retained at the Site by Jacobs for the duration of the drilling activities.

5.3 Soil Sampling

Archeological test pits were advanced using a Case 580 backhoe to varying depths at the discretion of ARA representatives. Test pits ranged from approximately 1.0 to 2.2 mbgs. Soils from the test pits were excavated on a layer-by-layer basis to allow for proper sample collection and documentation. Test pits were backfilled, soils compacted, and areas asphalted before drilling. Care was taken to place soils back into the test pit in reverse order of how they were removed. Soil documentation and sampling was completed using the same methods of collection as the drilling investigation.

Soil borings were advanced using a hollow-stem auger CME rig. Boreholes were advanced to bedrock, and rock coring was completed to facilitate monitoring well installation. Final borehole depths completed across the Site were variable and ranged between 4.72 and 13.94 mbgs. Final depths depended on the actual subsurface conditions encountered at the time of drilling.

During the advancement of each soil boring using hollow stem auger methods, samples were collected using 0.61-m-long, 50-millimetre (mm)-outside-diameter split-spoon samplers.

Once the soil sample sleeve was extracted from the hollow-stem auger, a drilling contractor representative opened the split spoon to expose the soil. Once a new soil layer was exposed during excavation, the operator

collected a bucket of soil from the new layer to be examined and sampled. The soil was then examined in the field by Jacobs field staff for:

- Soil type
- Discolouration
- Olfactory evidence or signs of impacts
- General soil properties

Soil samples to be analyzed for petroleum hydrocarbon (PHC) Fraction (F)1 or F2, VOCs, or BTEX were collected using laboratory-supplied soil syringes; the soil core was then placed in vials containing methanol. New, disposable nitrile gloves were used when handling samples from different depths at the same sample location to minimize the potential for sample cross-contamination.

The following soil types were identified during the investigation:

- Fill
- Sand with silt
- Sand
- Sand and gravel
- Silty sand and sandy silt
- Gravelly silty sand
- Clayey sandy silt till

Appendix C provides borehole logs. These logs provide a geological description of overburden samples collected during the investigation.

Collected soil samples were split for field screening and potential laboratory analysis. Field screening was conducted as described in Section 5.4.

5.4 Field Screening Measurements

Collected samples were divided into two portions: one for field vapour screening and the other for laboratory submission (which were immediately placed in the appropriate laboratory-supplied sample containers). The soil samples for field vapour screening were placed in a clean, self-sealing, plastic bag, labelled, and set aside to equilibrate to approximately 15 degrees Celsius (°C) for conducting head space screening using a MiniRAE 3000 photoionization detector (PID). Soil vapour headspace and ambient measurements, as well as instrument calibration, were performed per the SOP.

The frequency of field screening measurements during the intrusive drilling investigation was typically at 0.6-m intervals. During the archeological test pits, field screening measurements were collected at a frequency of at least one per material type. Frequency and results of soil vapour headspace measurements in parts per million (ppm) were also recorded in the borehole logs included in Appendix C, as discussed in Section 6.5.

Field staff used the MiniRAE 3000 PID equipped with an 10.6-electron-volt (eV) discharge lamp for field screening. The MiniRAE 3000 has a detection range of 0 to 2,000 ppm. The accuracy of the unit is ±2 ppm or 10 percent of the reading for readings of 0 to 2,000 ppm. The resolution of this unit is 0.1 ppm for readings less than 99 ppm, and 1.0 ppm for readings between 100 and 2,000 ppm.

Isobutylene, at a concentration of 100 ppm, was used as the calibration gas, and the instruments were calibrated according to the manufacturer's recommendations prior to use each day. Each instrument's calibration was checked by exposing the instrument to the calibration gas with a known concentration and comparing with the actual reading.

Field screening techniques were used during the Phase Two ESA to identify soils impacted by volatile compounds, such as VOCs, certain polycyclic aromatic hydrocarbons (PAHs), and PHCs. The field screening techniques included visual and olfactory observations and the use of a PID to measure soil vapour headspace concentrations. The field screening results guided the selection of soil samples per the SAPs (for example, the collection of worst-case or delineation samples).

Sections 5.1 and 5.3 summarize the measures taken to minimize the potential for cross-contamination during soil sampling.

5.5 Groundwater: Monitoring Well Installation

As part of this investigation, Aardvark installed monitoring wells according to the requirements specified in O. Reg. 903 (MECP 1990b), in a subset of the advanced soil borings, to assess groundwater quality and to assist in determining groundwater flow rates and directions at the Phase Two Property. Section 5.2 describes the drilling equipment used for monitoring well installation.

The monitoring wells were installed so the screened portion straddles and intercepts seasonal fluctuations at the water table, unless otherwise indicated by the SAP (for example, monitoring wells in perched groundwater). The saturated screen thickness of each well did not exceed 3.05 m. Each monitoring well was constructed per the SOP. The monitoring well construction consisted of the following:

- Approximately 5-centimetre (cm)-diameter, Schedule 40 polyvinyl chloride (PVC) risers
- 5-cm-diameter, Schedule 40, No. 10 slot PVC screen with a preferred screen length of 3.05 m (variations in screen length occurred)
- Appropriate sand pack to 0.3 m above top of screen
- 0.6 m of bentonite seal above sand pack composed of a 0.6-cm hydraulic hole plug
- Protective flush mount well casings secured with concrete

Monitoring well installation details are provided in the borehole logs in Appendix C. Monitoring wells onsite were tagged as a Well Cluster. The Well Tag number is pending from Aardvark.

Dedicated Waterra polyethylene tubing with an inertial lift foot valve was installed in each newly installed monitoring well. Wells were developed using this equipment to remove particulates or fluids that may have collected in the screen or sand pack during well installation activities. Well development was considered complete in the field under one of the following conditions:

- Removal of three complete well volumes, including sand pack
- The monitoring well was developed dry three times
- Groundwater was clear and relatively free of particulates

All monitoring wells for each sampling event were examined for nonaqueous phase liquid (NAPL) using an interface probe. The presence or absence of NAPL was recorded in the monitoring well development field form. The monitoring well was then developed in accordance with the SOPs. Once the monitoring well had recovered to static conditions, the monitoring well was examined for NAPL using an interface probe.

5.6 Groundwater: Field Measurement of Water Quality Parameters

The field measurement of water quality parameters was performed during well purging and before the collection of groundwater samples. These measurements were required to provide an indication that the samples collected

were stable and representative of the groundwater in the formation, and to evaluate groundwater quality at the time of sampling.

This task was performed per the SOP. Water quality parameters were measured using the Horiba U-52 water quality meter. This instrument measures: groundwater temperature, pH, oxidation reduction potential, dissolved oxygen (DO), electrical conductivity (EC), and turbidity. Before taking the field measurements, the water quality meters used were calibrated according to the manufacturer's instructions using standard calibration solutions. Water quality meters were calibrated prior to use each day.

Water quality meter readings were collected approximately every 3 to 5 minutes and recorded in the field book and in groundwater sampling field tracking sheets for the following parameters: groundwater temperature, pH, oxidation reduction potential, DO, EC, and turbidity. These field parameters provided an indication of stabilized groundwater conditions before sampling occurred. Indicator parameters were deemed to be stable when an average of three consecutive measurements met the following criteria:

- pH = ±0.1 unit
- Temperature = ±10 percent
- DO = ±10 percent or ±0.1 milligrams per litre (mg/L) if reading is less than 1 mg/L
- EC = ±10 percent
- Oxidation reduction potential = ±10 millivolts

Once stabilization had been reached, samples were collected in the appropriate sample containers for laboratory analysis.

5.7 Groundwater: Sampling

A decontaminated 30-m interface probe was used to measure the depth of groundwater and presence or absence of NAPL below the top of the monitoring well casing or other reference point. To prevent cross-contamination between monitoring wells, the interface probe was decontaminated per the SOP.

Before sampling, the monitoring wells were purged using a low-flow method so representative samples of the water-bearing formation were obtained. Purging was generally conducted using a peristaltic pump and dedicated polyethylene tubing at each well.

The field measurement of water quality parameters was performed routinely throughout the purging process and immediately before the collection of groundwater samples (Section 5.6).

Groundwater samples were collected immediately following the completion of purging and the stabilization of the groundwater parameters, via Waterra inertial foot valves or peristaltic pump and dedicated polyethylene tubing.

New laboratory-supplied containers were used to collect groundwater samples for the parameters of interest. Sampling glassware was prepared by the laboratory with the required preservatives added to the parameter-specific sample bottles. When filling the sample bottles, field staff verified that a minimal level of particulate matter was entrained into the sample. Samples with more than 1-cm of particulate in the sample bottle (after it had settled) were considered unsuitable for chemical analysis and were discarded; groundwater samples were recollected in new laboratory-supplied bottles, confirming that less than 1 cm of particulate was in the sample bottle prior to analysis.

Field filtering was conducted for certain parameters consistent with the SOPs. Field filtering of dissolved metals was conducted using dedicated 0.45 micrometre (µm) filters. PAH groundwater samples were not field-filtered; however, benzo(a)pyrene analysis samples may be filtered by the laboratory (in compliance with MECP [2011c]).

Field-filtering of samples was documented in the groundwater sampling forms. VOC and PHC F1 sample containers were completely filled, with no headspace.

Section 6.7 describes groundwater quality based on the analytical results.

5.8 Sediment: Sampling

The Phase Two Property does not contain a water body as defined under O. Reg. 153/04; therefore, sediment was not present in the investigation area, and no sampling was conducted.

5.9 Analytical Testing

ALS Canada Limited (ALS), a laboratory accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA), provided the offsite laboratory analyses. ALS, and subcontractor labs overseen by ALS, performed the chemical analysis in compliance with the MECP document titled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* (MECP 2011c).

5.10 Residue Management Procedures

Excess soil cuttings generated from the field activities were contained in 200-litre (L) drums, and fluids generated during equipment decontamination, monitoring well development, and groundwater sampling were contained in either 1,000 L totes or 200 L drums, all of which were temporarily stored on the Phase Two Property. A composite soil sample was collected from the soil cuttings generated and submitted for Toxicity Characteristic Leaching Procedure analysis for environmental waste characterization and future waste management purposes. Wastes were managed per the requirements of O. Reg. 347 (MECP 1990c).

Sample results were compared to O. Reg. 347, Schedule 4 (MECP 1990c), which indicated t the investigation-derived waste would be classified as nonhazardous.

Jacobs coordinated the removal of soil and groundwater drums from the Phase Two Property as follows:

- On September 16, 2019, 32 drums of soil and one drum of water were removed from the Phase Two Property, and seven 1,000-L totes were pumped out by Aevitas Inc.
- On February 21, 2020, 21 drums of soil and 1,000 L of water were removed from the Phase Two Property by Aevitas Inc.
- On July 24, 2020, two drums of soil and one drum of water were removed from the Phase Two Property by Aevitas Inc. Appendix D provides the waste management documentation.

5.11 Elevation Surveying

Jacobs contracted West & Ruuska, a licensed Ontario Land Surveyor, of Brantford, Ontario, to perform an elevation survey to a geodetic benchmark following the completion of the subsurface investigations. The survey was performed on September 18, 2019. The survey referencing benchmark number and associated elevation is pending from West & Ruuska.

The elevation survey included the coordinates and elevations of the ground surface and top-of-riser pipe (as applicable) for the monitoring well and borehole locations advanced as part of Jacobs' investigation.

5.12 Quality Assurance and Quality Control Measures

The following sample handling, equipment cleaning, and field QC measures were followed during the Phase Two ESA investigation:

- Soil samples were collected in sample containers provided by the analytical laboratory, which were pre-charged with the appropriate preservatives and sized relevant to the analyses requested.
- Sample container labels included the project No., sample identification (ID), and parameters for chemical analysis. Unique sample IDs were assigned to correspond with the field notes or field forms associated with each sampling location.
- Once labelled, sample containers were placed in ice-filled coolers.
- Samples were transported to an offsite analytical laboratory; a chain-of-custody form was completed and accompanied each sample shipment.
- Deviations from the SAPs were noted and discussed with the QPESA, as applicable. Section 4.4 discusses SAP deviations.
- Equipment decontamination procedures were carried out per Jacobs' SOPs, which were developed in accordance with O. Reg. 153/04, and include (as applicable):
  - Cleaning tools for sample collection by removing particulate matter with a brush (as needed), rinsing with potable water, rinsing with methanol, rinsing with potable water, and drying with clean paper towel
  - Cleaning heavy equipment by removing particulate matter with a brush, pressure washing, or both, as required
- The SAPs included a QA/QC program that specified the following minimum field QC measures:
  - One laboratory-prepared trip blank was included in each cooler shipment containing volatile organics (for example, VOCs, BTEX, or PHC F1) samples.
  - Duplicate soil samples were collected and submitted at a minimum frequency of one duplicate for each 10 samples submitted. Duplicate samples were submitted 'blind' to the laboratory, and field staff documented in their field books each duplicate sample location.
  - Calibration checks on field instruments were completed daily and reported in the field book or SOP calibration forms.
  - Deviations from the QA/QC program were noted and discussed with the QPESA, as applicable. Section 4.4 discusses SAP deviations.

6. Review and Evaluation

6.1 Geology

The drilling program completed during the field investigations included advancing 27 boreholes to a maximum depth of 15.62 mbgs, which provided information about the subsurface materials. Jacobs created three geological cross-sections to show the Site stratigraphy. Figure 6-1 shows the locations of the cross-sections, and Figures 6-1a to 6-1d show the geological cross-sections A-A,' B-B,' C-C,' and D-D,' respectively.

The Site-specific geology generally consisted of the following characteristics:

- A thin layer of asphalt overlies the Site (up to 0.15 mbgs).
- Fill materials were observed from beneath the asphalt to a maximum depth of 3.91 mbgs, with an average thickness of 1.87 m. The fill is variable in composition; however, the majority of fill is sand, sand and gravel, or silty sand. Silty clay and clayey silt were also observed. Anthropogenic materials, such as brick, glass, metal products, and wood were commonly reported, as was iron oxide staining on the soil.
- Native overburden underlying the fill consists of a sand matrix that exists roughly from the bottom of fill to the bedrock, with interbedded layers of gravel and silt; generally, sand directly underlies the fill layer, and gravel and silt layers are found underlying some sand (the gravel and silt are described below). The sand is generally brown, dense, and moist; in the northern portion of the Site, the sand tends to have some silt content (ranging from trace silt to silty sand), and in the southern portion of the Site, the sand generally shows trace gravel. These differences are likely associated with the silt and gravel layers.
- A silt layer was encountered in the northern portion of the Site. The depth to silt ranged from 2.13 to 3.94 mbgs, and the average thickness of the layer was 3.58 m. The silt was generally described as brown or grey, fine to coarse sand, low to high plasticity, with traces of gravel. At two locations (BH201 and BH202), a high sand content was reported for part of the silt layer. In most locations where the silt was encountered, it underlies a layer of sand and directly overlies bedrock. The silt is considered an aquitard due to its low hydraulic conductivity (Section 6.3).
- A second, small silt lens was observed in the southern portion of the Site, characterized by BH203 and BH204. This lens is apparently disconnected from the larger silt layer in the northern portion of the Site. Depth to this silt layer ranged from 2.21 to 3.72 mbgs, with an average thickness of 1.37 m. This silt lens contacts bedrock at one location, and in the other terminates above a sand layer. The silt in this lens was described as brown, hard, and moist, with dolostone bedrock fragments observed.
- A layer of gravel and sand was encountered in the southern portion of the Site. The depth to this gravel and sand layer ranged from 1.52 to 5.94 mbgs, and the average thickness of the layer was 2.16 m. Generally, the sand and gravel extends to the bedrock, but in the southeastern portion of the Site, it terminates above a layer of sand. The material was generally described as brown and dense, with fine to medium sand, trace clay, and occasional cobbles and dolostone fragments. The gravel and sand layer is depicted in cross-sections A-A,' B-B,' and C-C' (Figures 6-1a through 6-1c).
- A clay lens was encountered in the middle of the Site (MW109). The clay was encountered from 1.14 to 2.44 mbgs, which is generally consistent with the depth of the fill layer, and is expected to be very small laterally. As some other fill materials were described as being clayey, it is possible this is layer is also anthropogenic.
- Bedrock at the Site is Guelph Formation dolostone. Depth to the overburden/bedrock contact ranged from 4.57 to 8.43 mbgs, with an average depth at 5.99 mbgs. The highest bedrock elevations were encountered along an approximate southwest-to-northeast transect of the Site (MW107, MW100, BH202, MW109, BH206; see Figure 6-1 for plan of borehole locations). Bedrock is described as being generally highly

weathered and fractured within the first 0.3-0.7 m of bedrock. It was also noted to be vuggy, with calcite mineralization.

A detailed description of geology encountered during the drilling program is included in the borehole logs provided in Appendix C.

6.2 Groundwater: Elevations and Flow Direction

The Phase Two Property is interpreted to consist of a predominantly sandy overburden overlying Guelph Formation dolostone bedrock. Within the northern portion of the Site, there is a thick silt deposit. There are two main hydrogeological units encountered at the Site: (1) perched groundwater above a silt strata in the northern portion of the Site, and (2) a shallow unconfined aquifer generally in the upper bedrock, but extending in places up into the overburden soil. These two hydrogeological units are referred to as 'the perched groundwater' and 'the bedrock aquifer,' respectively. The Site has been paved as a parking lot and is likely to receive low groundwater recharge from precipitation.

Groundwater conditions and characteristics were assessed using 18 monitoring wells (15 wells installed as part of the field investigation for the Phase Two Property, and three existing historical monitoring wells):

- Three of these wells (BH17-MW5S, MW102A and MW103) are screened entirely within the overburden in the northern portion of the Site and were used to evaluate the perched groundwater.
- Twelve wells are screened within the upper bedrock to delineate the water table, two of which (MW104 and MW105) straddle the overburden and bedrock contact.
- Three wells (MW107B, MW110B, and MW111) are installed in the deeper in the bedrock aquifer.

Table 6-1 provides the construction details for the newly installed and historical groundwater monitoring wells.

Groundwater elevations were measured in various wells during the Phase Two investigation as follows:

1) September 11, 2019: All 11 wells were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.45 to 8.48 mbgs (321.19 to 322.72 masl). Depth to the perched groundwater in the overburden wells ranged from 4.11 to 4.31 mbgs (325.19 to 325.41 masl).
2) September 18, 2019. All 11 wells were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.48 to 8.56 mbgs (321.14 to 322.69 masl). Depth to the perched groundwater in the overburden wells ranged from 4.14 to 4.48 mbgs (325.12 to 325.38 masl).
3) December 18, 2019. All 15 wells and one historical well were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.46 to 8.66 mbgs. Depth to the perched groundwater in the overburden wells ranged from 4.0 to 4.45 mbgs.
4) April 15, 2020. All 15 wells and one historical well were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.27 to 8.33 mbgs. Depth to the perched groundwater in the overburden wells ranged from 3.78 to 3.92 mbgs.

Table 6-2 presents a record of the available groundwater elevations. Figures 6-2a, 6-2b, and 6-2c present the September 2019, December 2019, and April 2020, interpreted groundwater elevation contours and flow directions within the bedrock aquifer for the Phase Two Property, respectively.

The bedrock aquifer water table elevation was observed to vary by 1.77 m in elevation across the Site. Local groundwater is expected to flow east, toward the Speed River; however, Site specific groundwater flow was interpreted to be radial, from a high elevation on the west boundary of the Site towards the north, and east to

southeast. The higher groundwater elevations at the western portion of the Site appear to be correlated with higher bedrock elevation.

The perched groundwater was observed at BH17-MW-5S, MW102A, and MW103 above a low-permeability silt aquitard layer. The full extent of the perched groundwater is currently not fully understood but may have a similar extent to the silt layer.

The bedrock was observed to have a variable hydraulic conductivity and water-bearing capacity during Site investigations (refer to Section 6.3.1).

The minimum depth to groundwater observed at the Site was 3.78 mbgs (perched) and 5.82 (bedrock). Underground utilities are not expected to extend to that depth (refer to Figure 2-2b; depths of utilities are unknown), and therefore not expected to significantly influence the groundwater flow directions.

6.3 Groundwater: Hydraulic Gradients

6.3.1 Horizontal and Vertical Gradients

Jacobs estimated the hydraulic conductivity (K) of the low-permeable silt layer and bedrock units based on slug testing in five wells (MW102A and MW103 for the silt; MW101, MW107 and MW109 for the bedrock). Table 6-3 presents the hydraulic conductivity values collected on Site. The K for the silt layer ranged from 3.6×10^{-8} to 7.4×10^{-7} metres per second (m/s), with a geometric mean of 1.6×10^{-7} m/s. The K for the bedrock unit ranged from 4.6×10^{-7} to 2.0×10^{-4} m/s, with a geometric mean of 6.0×10^{-6} m/s.

The horizontal hydraulic gradient within the bedrock aquifer was estimated for the September 18, 2019, December 18, 2019, and April 15, 2020 monitoring events. The horizontal hydraulic gradient within the bedrock aquifer was similar in September and December 2019, with estimated average gradients of 0.018 metres per metre (m/m) and 0.017 m/m, respectively. The range of hydraulic gradients for these two events were between 0.016 m/m and 0.025 m/m.

The horizontal hydraulic gradients for April 2020 were lower across the Site, estimated between 0.009 m/m and 0.015 m/m, and had an average gradient of 0.013 m/m. The maximum groundwater elevations within the bedrock aquifer were measured during this monitoring event, likely associated with increased precipitation and runoff in the spring. Elevated groundwater levels may have "flattened" the gradient compared to fall and winter. Horizontal hydraulic gradient calculations are presented in Appendix E, Table E-1a.

The horizontal linear groundwater flow velocity was estimated for the bedrock aquifer using the calculated geomean K value of 6.0×10^{-6} m/s, the estimated horizontal hydraulic gradient range of 0.009 to 0.025 m/m, and an estimated porosity of 0.1 representing bedrock. The horizontal groundwater velocity within the bedrock aquifer was estimated between 24 and 47 metres per year (m/y). Calculations are presented in Appendix E, Table E-2.

Vertical gradients were calculated at three nested monitoring well sets using the September 18, 2019, December 18, 2019, and April 15, 2020 groundwater snapshots. All calculated vertical gradients were downward. The vertical hydraulic gradients observed at two nested well pairs (MW107/MW107B, and MW110A/MW110B) ranged between 0.042 and 0.063 m/m. Stronger vertical gradients were observed at MW102A and MW102B, ranging between 0.621 and 0.634 m/m, likely due to the influence of the perched groundwater above the silt layer observed at this well nest. Calculations are presented in Appendix E, Table E1-b.

6.4 Fine-to-medium Soil Texture

Under O. Reg. 153/04, "coarse textured soil" contains more than 50 percent by mass of particles that are 75 µm or larger in mean diameter (MECP 2011a). According to the regulation, if one-third of the soils at the Phase Two Property are coarse-grained, the more-stringent coarse-textured soil standards apply to the Site; otherwise, the medium-/fine-grained soil standards may apply.

Grain-size analysis was performed on twenty soil samples. Of these, 11 samples were classified as coarse-grained and 9 samples were classified as fine- to medium-grained. Grain size curves for the selected samples are provided at the end of Appendix F. The soil condition standards for coarse-grained soils were used at Phase Two Property, to account for the extensive presence of heterogeneous fill materials across the surface of the Site.

6.5 Soil: Field Screening

Field screening techniques were used during the Phase Two ESA to identify soils impacted by VOCs. PID measurements were performed during the investigation using the procedures and equipment described in Section 5.4.

PID results from the current investigation (by soil unit) are summarized as follows:

- Fill: PID readings from the fill material onsite were generally less than 10 ppm, except for BH204 and BH205. The maximum PID reading from this unit was measured at BH205 (40.2 ppm).
- Sand: PID readings from this unit were generally less then 10 ppm with some greater values detected. The maximum PID reading from this unit was measured at BH200 (75.3 ppm).
- Silt: The PID readings from this unit (located in the northern portion of the Site) were generally less than 10 ppm. The maximum PID reading from this unit was measured at BH201 (9.9 ppm).
- Sand and Gravel: The PID readings from this unit (in the southern portion of the Site) were generally less than 10 ppm, with some greater values detected. The maximum PID reading from this unit was measured at BH205 (64.5 ppm).

Visual and olfactory observations and soil vapour headspace measurements (in ppm) were recorded in the borehole logs provided in Appendix C.

6.6 Soil Quality

Through current and historical investigations, the nature and extent of potential soil contamination were investigated for each identified APEC and for the Phase Two Property in its entirety. Figure 4-2 shows the APECs and associated sample locations. Investigative locations, including the analysis completed at each location, are summarized on an APEC-by-APEC basis in Table 6-4. Figure 6-3 presents historical data that were considered unreliable for RSC purposes, but used to direct the Phase Two ESA investigations. Table 6-5 provides the analytical results of the Phase Two ESA investigation, along with sampling depth, and compares these to the Table 2 SCS (MECP 2011b). Figures 6-4 through 6-12 present the distribution of soil concentrations exceeding the Table 2 SCS by analytical group in plan view for all stratigraphic units.

The inferred horizontal extent of soil concentrations greater than the Table 2 SCS are also shown. Where there are exceedances of the applicable SCS (except for parameters relying on an exemption [Section 6.10.7.7]), Jacobs has prepared at least one cross-section by analytical group, which follows the plan view figure. The cross-sections present the inferred vertical extent of soil concentrations greater than the Table 2 SCS. Maximum concentrations of each detected parameter are provided in Table 6-6 and shown in red text on the respective plan view and cross-sectional figures.

Soil quality across the Site was evaluated using a total of 95 soil samples collected from various depths from 36 sampling locations across the Site. Samples were submitted for laboratory analysis for one or more of the following analytes:

- Other regulated parameters (ORPs) (hot-water-soluble boron [HWS boron], hexavalent chromium, cyanide, mercury, EC, and sodium adsorption ratio [SAR])
- Metals and hydride-forming metals
- BTEX
- PHCs
- PAHs
- VOCs
- Acid, Base, Neutral Compounds (ABNs)
- PCBs
- Dioxins and furans (D&Fs)

Soil at the Phase Two Property was found to be generally impacted with ORPs; specifically, salt-related analytes (that is, EC and SAR). Localized impacts of metals, specifically lead and mercury, were also identified. The following subsections provide details about the frequency, distribution, and identification of COCs.

6.6.1 Other Regulated Parameters (Electrical Conductivity, Sodium Adsorption Ratio, Hot-water-soluble Boron, and Cyanide)

SAR and EC exceedances in soil were widespread across the Site, with 56 of 64 samples (88 percent) from 15 of 17 locations (88 percent) exceeding the Table 2 SCS. Exceedances of EC and SAR were identified to a maximum depth of 7.92 mbgs (MW102B) and were present at depths extending from the ground surface to the bedrock surface. Maximum concentrations were identified at MW102B (2.95 milliSiemens per centimetre [mS/cm]) and MW113 (108) for EC and SAR, respectively. At MW102B, EC concentrations decreased with depth, but were still above the Table 2 SCS in the sample collected just above the bedrock surface. At MW113, the maximum concentrations of SAR were found at 1.98 to 2.59 mbgs. SAR and EC exceedances were present across all areas of the parking lot, except for the northeastern portions of the 152 and 160 Wyndham Street North parcels. The presence of EC and SAR are likely a result of the application of deicing materials (that is, road salts) on the parking lot surfaces (APEC-4). At the discretion of the QPESA and based on the revised regulation, these parameters are not considered to be COCs at the Phase Two Property.

Correlated ORP parameters in groundwater, sodium and chloride, were also identified at the Phase Two Property, indicating that these parameters in soil are likely acting as a contaminant source contributing to groundwater.

Cyanide and HWS-boron were analyzed in 48 samples collected from 17 locations at the Site, with no exceedances of the Table 2 SCS.

Figure 6-4 presents (in plan view) the locations and sample depths for the ORP soil samples at the Phase Two Property, showing the horizontal extent of impacts.

6.6.2 Metals, Hydride-forming Metals, and Select ORPs (Mercury, Methylmercury, and Hexavalent Chromium)

Metals, hydride-forming metals, and select ORPs were assessed across the Site using data from the current investigation, supplemented with data from 2008 (XCG 2008). Metals data from 1993 and 2001, not considered

reliable for the Phase Two ESA (samples were not collected or analyzed using O. Reg. 153/04 protocols, or may not represent current condition; refer to Section 3.2), were used as screening data to plan the Phase Two ESA investigation.

Historical metals exceedances (for cadmium, copper, lead, and zinc) were identified from data collected in 1993 and 2001, reported in the central portion of the Site at BH-K3, SA9, and BH-K2 see Figure 6-3) within the surficial fill. One sample from BH-06, collected in 2008, exceeded the Table 2 SCS for lead with a concentration of 199 µg/g at 3.1 to 3.7 mbgs.

Jacobs collected an additional 20 samples for metals during the current investigation to expand on the distribution of metals at the Site, and included reanalysis at select historical locations where the historical exceedances were identified (Figure 6-3). A total of 69 samples from 33 locations were analyzed for metals at the Phase Two Property. Samples met the Table 2 SCS across the Site, except for one location: elevated concentrations of lead and mercury were identified in a sample collected from MW101 (0.46 to 0.61 mbgs), located in the existing laneway in the southeastern portion of the Site. Based on observations during the drilling and test-pitting activities, the exceedances were estimated to be localized to the poor-quality fill in this area. Exceedances extended to a maximum depth of 3.0 mbgs, based on a deeper sample meeting the Table 2 SCS. Maximum concentrations of lead and mercury of 207 and 0.889 µg/g, respectively were reported at MW101. The poor quality fill was not observed at other locations within the Phase Two Property.

The exceedance at BH-06 was reinvestigated by collecting a sample during the current investigation (BH211), from within 2 m of the original location at the same depth of the previous exceedance. A concentration of 18.7 µg/g was reported, and therefore the soil at this location was determined to meet the Table 2 SCS, with an averaged concentration of 109 µg/g.

Metals exceedances were determined to be isolated to the fill materials in the southeastern portion of the Site. All samples collected from native materials met the Table 2 SCS. Metals impacts are potentially related to historical industrial activities associated with the manufacture of sewing machine accessories and wire coils/springs (APEC-1) or general impacts associated with the fill identified on Site (APEC-2).

Apart from cadmium, metal exceedances of Table 2 SCS were not identified in groundwater, indicating that the metal impacts in soil (that is, lead and mercury) are not currently acting as a contaminant source contributing to impacts in groundwater.

Figure 6-5 presents (in plan view) the locations and sample depths for the soil samples collected for metals, hydride-forming metals, and select ORPs at the Phase Two Property, showing the horizontal extent of impacts. Figures 6-5a and 6-5b present the cross-sections, showing the vertical extent of metals impacts on the Phase Two Property.

6.6.3 Benzene, Toluene, Ethylbenzene, and Xylenes

BTEX was analyzed in soil in 53 samples from 20 locations, with no exceedances of the Table 2 SCS identified. BTEX were COPCs associated with various APECS across the Site associated with onsite PCAs, including APEC-3 (Historical Transformers), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), and APEC-21 (Former Garage).

Figure 6-6 presents (in plan view) the locations and sample depths for the BTEX soil samples collected at the Phase Two Property.

6.6.4 Petroleum Hydrocarbons

PHCs were analyzed in soil in 61 samples from 27 locations, with no exceedances of the Table 2 SCS identified from the current investigation. Historical PHC exceedances were identified in a surficial sample collected from BH-10 (0.0 to 0.6 mbgs) in 2008, which exceeded the Table 2 SCS for PHC F3 and F4 (Figure 6-3). Concentrations exceeded the free phase threshold for PHC F4 (MECP 2011d) however, no odours or staining were noted in the borehole log for this historical location. A borehole (BH207) was installed at this location during the current investigation, and no petroleum odours or staining were noted during the drilling activities. Samples from this location reported concentrations less than the Table 2 SCS, confirming the absence of PHCs where historical exceedances were identified. Based on the available information, the historical exceedance is likely related to the potential presence of asphalt in the soil sample and not representative of the current conditions on the Site; therefore, the PHC results were considered to be unreliable and were removed from the Phase Two ESA dataset.

PHCs as COPCs were associated with various APECs across the Site associated with onsite and offsite PCAs, including APEC-2 (Unknown Fill Quality), APEC-3 (Historical Transformers), APEC-14 (Historical Gasoline Spill), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), and APEC-21 (Former Garage).

Figure 6-7 presents (in plan view) the locations and sample depths for the PHC soil samples collected at the Phase Two Property.

6.6.5 Polycyclic Aromatic Hydrocarbons

PAHs were analyzed in 55 samples from 22 locations, with no exceedances of the Table 2 SCS from the current investigation. One historical sample from 2008, located in the west-central portion of the Site, exceeded the Table 2 SCS for dibenzo(a,h)anthracene (BH-14) with a concentration of 0.13 µg/g, from a depth of 0.8 to 1.4 mbgs. This exceedance was reinvestigated during the current investigation (BH208), from within 2 m of the original location. A concentration of 0.05 µg/g was reported from a depth of 0.91 to 1.07 mbgs; therefore, soils in this location were determined to meet the Table 2 SCS, with an averaged concentration of 0.09 µg/g. It is the QPESA's opinion that the exceedance was most likely related to the asphalt at the surface of the sampling location and is not been considered representative of current site conditions.

PAHs were COPCs associated with various APECs onsite, including APEC-2 (Unknown Fill Quality), APEC-3 (Historical Transformers), APEC-14 (Historical Gasoline Spill), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), APEC-20 (Former Coke Storage), and APEC-21 (Former Garage).

Figure 6-8 presents (in plan view) the locations and sample depths for the PAH soil samples collected at the Phase Two Property.

6.6.6 Volatile Organic Compounds

VOCs (excluding BTEX) in soil were investigated at the Site via 53 samples from 20 locations, with no exceedances of the Table 2 SCS identified. VOCs were COPCs associated with various APECS across the Site, including APEC-1 (Former Industrial Property Use), APEC-2 (Unknown Fill Quality), APEC-3, APEC-14 (Historical Gasoline Spill), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), APEC-20 (Former Coke Storage), and APEC-21 (Former Garage).

Figure 6-9 presents (in plan view) the locations and sample depths for the VOC soil samples collected at the Phase Two Property.

6.6.7 Acid, Base, Neutral Compounds

ABN compounds at the Site were investigated via four samples from one location, with no exceedances of the Table 2 SCS identified. ABNs were COPCs associated with APEC-20 (Former Coke Storage).

Figure 6-10 presents (in plan view) the locations and sample depths for the ABN soil samples collected at the Phase Two Property.

6.6.8 Polychlorinated Biphenyls

PCBs in soil were investigated via nine samples from five locations, with no exceedances of the Table 2 SCS identified. One historical sample along the eastern property boundary (SA9) exceeded the Table 2 SCS from 0.0 to 0.15 mbgs (XCG 1993). As Section 3.2 discussed, these data were excluded for use in the Phase Two ESA, but were used to direct the current investigation. PCBs were resampled (BH209) at this historical location at two separate intervals between ground surface and 1 mbgs, and all results were reported as nondetect concentrations of 0.02 µg/g.

Kewen (2001) indicated the transformer area (APEC-3) may have been previously remediated. Although additional documentation has not been provided to Jacobs, based on the recent soil samples collected in the vicinity of SA9, PCB exceedances were not identified at the Site.

Figure 6-11 presents (in plan view) the locations and sample depths for PCB soil samples collected at the Phase Two Property.

6.6.9 Dioxins and Furans

D&Fs in soil at the Site were investigated via two samples collected from two locations at the Site, with no exceedances of the Table 2 SCS. D&Fs were potentially associated with 152 and 160 Wyndham Street North, where a historical fire was reported to have occurred; however, no impacts were identified onsite during the Phase Two investigation.

Figure 6-12 presents (in plan view) the locations and sampling depths for the dioxins and furans soil samples collected at the Phase Two Property.

6.6.10 Contaminants of Concern in Soil

O. Reg. 153/04 (MECP 2011a) defines COCs as chemicals with concentrations that exceed the applicable SCS or chemicals with no applicable SCS that are associated with a PCA. The MECP document entitled *Procedures for Use of Risk Assessment under Part XV.1 of the Environmental Protection Act* (Procedures Document) (MECP 2005) indicates at the discretion of the QPESA, chemicals without an applicable SCS may be included or excluded as COCs based on an understanding of geoscience, the potential for the chemical to limit the use of the Site, or both.

Maximum concentrations (Table 6-6) of each chemical analyzed in soil at the Phase Two Property were screened against the Table 2 SCS (Table 6-7a). In general, where concentrations were found detected greater than the Table 2 SCS, the parameters were retained as a COC to be evaluated in the RA.

Additional review was conducted for parameters, specifically sodium, which has no Table 2 SCS, but has an available Ontario Typical Range value, and was found at elevated concentrations. SAR assesses the risks of sodium in soil; therefore, at the discretion of the QPESA, sodium was not specifically assessed or carried forward as a COC. The rational for the removal of sodium in soil is presented in Table 6-7b. Parameters that were not

considered as COCs based on averaging from additional sampling or exceptions in Section 49.1 of O. Reg. 153/04 are presented in Table 6-10c.

All analytes with a Table 2 SCS that were reported as nondetect had laboratory reporting limits (RLs) less than the SCS. No analytes associated with a PCA and without a MECP SCS were reported as detected in onsite soils.

Table 6-7d summarizes the chemicals retained as COCs in soil for the Phase Two Property based on the evaluation provided.

6.7 Groundwater Quality

The nature and extent of potential groundwater contamination was investigated for the identified APECs. Figure 4-2 shows the APECs and associated sample locations. Table 6-8 summarizes the analytical results of the investigation, along with the well screen interval, and compares these to the applicable Table 2 SCS (MECP 2011b). Figures 6-13 through 6-19 present the groundwater concentrations exceeding the applicable Table 2 SCS by analytical group in plan view for all groundwater units. For this report, cross-sections showing the inferred vertical extent of groundwater concentrations greater than the Table 2 SCS have been produced for the metals analytical group only (cadmium).

Groundwater across the Site was evaluated using a total of 39 groundwater samples collected from 15 groundwater monitoring wells. Samples were submitted for laboratory analysis for one or more of the following analytes:

- ORPs (chloride, cyanide, and sodium)
- Metals (field filtered)
- BTEX
- PHCs
- PAHs
- VOCs
- ABNs

Groundwater impacts at the Phase Two Property associated with sodium and chloride were widespread across the Site. Cadmium exceedances were noted in two monitoring wells along the western property boundary. Sample results were compared to the MECP Table 2 SCS.

6.7.1 Other Regulated Parameters (Chloride, Sodium, and Cyanide)

Chloride and sodium exceedances in groundwater were widespread across the Site, with 24 of 32 samples (75 percent) from 13 of 15 locations (87 percent) exceeding the Table 2 SCS. Maximum concentrations of chloride and sodium were identified at the northern end of the Site in MW102B, with reported values of 9,610,000 micrograms per litre (µg/L) and 6,100,000 µg/L, respectively. Based on the soil results for EC and SAR in soil, these soil impacts are likely acting as a source of contaminant mass contributing to the groundwater at the Phase Two Property. Chloride and sodium are associated with APEC-4 (Use of Road Salts). Changes to O. Reg. 153/04 include exceptions for exceedances of the SCS for salt-related substances; specifically, Section 49.1 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act when a substance that has been applied to surfaces for the safety or vehicular or pedestrian traffic under conditions of snow or ice or both exceeds the SCS. Refer to Table 6-10c and Section 6.10.9 (Reliance on Exemption on SCS Exceedances) for additional details and rationale.

Cyanide was analyzed in 25 samples collected from 11 locations at the Site, with no detected exceedances of the Table 2 SCS. Cyanide was not identified at concentrations greater than the Table 2 SCS in soil; therefore, there is no source in soil to act as a source contaminant mass to the groundwater at the Phase Two Property.

Figure 6-13 presents (in plan view) the locations and screen depths for the ORP groundwater samples collected at the Phase Two Property.

6.7.2 Metals, Hydride-forming Metals, and Select ORPs (Mercury and Hexavalent Chromium)

Metals parameters, including hydride-forming metals, mercury, and hexavalent chromium, were analyzed in groundwater at the Site. The detected concentrations met the Table 2 SCS, apart from cadmium, with 7 of 36 samples (19 percent) from 2 of 15 locations (13 percent) exceeding the Table 2 SCS.

Cadmium exceedances in groundwater were found at MW107 and MW113, both screened from 5.3 to 8. 4 mbgs and located along the southwestern property boundary. The maximum concentration was reported at MW113, which has been vertically delineated by MW107B (13.5 to 15.4 mbgs), with concentrations less than the Table 2 SCS. Wells located downgradient towards the east (MW110A, MW110B and MW101) reported concentrations of cadmium less than the Table 2 SCS. Additionally, available data from MW106 (5.5 to 8.5 mbgs), which is located offsite on adjacent City-owned property to the south, had reported concentrations of cadmium five times less than the Table 2 SCS. This along, with reported concentrations less than the Table 2 SCS at MW101 and MW110A/B, indicates onsite exceedances in groundwater are not likely migrating offsite.

The RLs for nondetect concentrations were greater than the Table 2 SCS for one or more parameters (antimony, beryllium, cobalt, silver, and vanadium) in samples from four locations (MW100, MW102A, MW102B, and MW110A). The laboratory Certificate of Analysis (COA) indicates the following for each of these samples: "Detection Limit Raised: Dilution required due to high concentration of test analyte(s)." The RLs were likely elevated due to the elevated concentrations of sodium and chloride in the samples. These metals are, therefore, not considered COCs for the Site. Refer to Table 6-10b for additional details and rationale.

Metals as COPCs were associated with 15 of the 21 APECs across the Phase Two Property; however, limited impacts were identified in groundwater at the Site (cadmium), which do not correspond with the shallow metal impacts in soil (lead and mercury). Therefore, it is unlikely that metals impacts in soil are acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property. Given the location of the onsite cadmium impacts and no cadmium exceedances found in soil at the Site, the elevated concentrations may be related to offsite and upgradient PCAs (to the west) (for example, APEC-11 for Industrial Operations, APEC-12 for Historical Automotive Garage) or other unknown sources.

Figure 6-14 presents the plan view for metals groundwater sample locations and screen depths at the Phase Two Property. Figures 6-14a through 6-14c present the cross-section views of the cadmium impacts in groundwater.

6.7.3 Benzene, Toluene, Ethylbenzene, and Xylenes

BTEX parameters in groundwater were analyzed using 27 samples collected from 11 locations at the Site, with no detected exceedances of the Table 2 SCS. BTEX was associated with 7 of the 21 APECs across the Phase Two Property; however, no impacts were identified in groundwater at the Site, and no areas of BTEX impacted soil were identified. Therefore, for BTEX, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-15 presents (in plan view) the locations and screen depths for the BTEX groundwater samples collected at the Phase Two Property.

6.7.4 Petroleum Hydrocarbons

PHCs in groundwater were analyzed using 25 samples collected from 11 locations at the Site with no detected exceedances of the Table 2 SCS. PHCs are associated with 16 of the 21 APECs across the Phase Two Property;

however, no impacts were identified in groundwater at the Site, and concentrations in soil were confirmed to not be present based on the current investigation. Therefore, for PHCs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-16 presents (in plan view) the locations and screen depths for the PHC groundwater samples collected at the Phase Two Property.

6.7.5 Polycyclic Aromatic Hydrocarbons

PAHs in groundwater were analyzed using 25 samples collected from 11 locations at the Site, with no exceedances of the Table 2 SCS. PAHs as COPCs were associated with 16 of the 21 APECs across the Phase Two Property; however, no impacts were identified in groundwater at the Site, and PAHs in soil were determined not to be present based on the resampling of historical locations as part of the current investigation. Therefore, for PAHs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-17 presents (in plan view) the locations and screen depths for the PAH groundwater samples collected at the Phase Two Property.

6.7.6 Volatile Organic Compounds

VOCs (excluding BTEX) in groundwater were investigated at the Site using 27 samples collected from 11 locations. The detected concentrations of VOCs met the Table 2 SCS, except chloroform. Concentrations of chloroform were greater than the Table 2 SCS in 12 samples from 5 locations; however, the chloroform exceedances are believed to be attributable to the introduction of municipal water during the subsurface drilling activities. Changes to O. Reg. 153/04 includes exemptions relating to contaminants related to municipally-treated water; specifically, Section 49.1 (2) states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act when the QPESA has determined, based on a Phase One ESA of Phase Two ESA, that there has been a discharge of drinking water. Chloroform is, therefore, not considered a COC for the Site. Refer to Table 6-10c and Section 6.10.9 (Reliance on Exemption on SCS Exceedances) for additional details and rationale. VOCs were associated with 18 of the 21 APECs across the Site; however, no impacts were identified in groundwater (or soil) at the Site. Therefore, for VOCs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-18 presents (in plan view) the locations and screen depths for the VOC groundwater samples collected at the Phase Two Property.

6.7.7 Acid, Base, Neutral Compounds

ABNs in groundwater were analyzed in four samples from one location associated with APEC-20 (Former Coke Storage), with no exceedances of the Table 2 SCS. ABN impacts were not identified in soil at the Site, and therefore, could not act as a contaminant source mass for impacts in groundwater.

Figure 6-19 presents (in plan view) the locations and screen depths for the ABN groundwater samples collected at the Phase Two Property.

6.7.8 Polychlorinated Biphenyls

As PCBs in soil were confirmed to be absent within the one associated APEC (APEC-3: Historical Transformers), PCBs were not analyzed in groundwater. Therefore, for PCBs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

6.7.9 Dioxins and Furans

D&Fs were not identified in soil at the Site, and therefore, could not act as a contaminant source mass for impacts in groundwater. D&Fs were not sampled in groundwater, considering the soil results and the physical/chemical properties of these compounds (that is, they tend to sorb to soils and are unlikely to be found in groundwater in the absence of a soil source).

6.7.10 Contaminants of Concern in Groundwater

O. Reg. 153/04 (MECP 2011a) defines COCs as chemicals with concentrations that exceed the applicable SCS or chemicals with no applicable SCS associated with a PCA. The MECP Procedures Document (MECP 2005) indicates that at the discretion of the QPESA, chemicals without an applicable SCS may be included or excluded as COCs based on an understanding of geoscience, the potential for the chemical to limit the use of the Site, or both.

Maximum concentrations (Table 6-9) of each chemical analyzed in groundwater at the Phase Two Property were screened against the Table 2 SCS (Table 6-10a). In general, where concentrations were found detected greater than the Table 2 SCS, the parameters were retained as a COC and evaluated in the RA.

An additional review was conducted for parameters that were reported as nondetect with laboratory RLs greater than the Table 2 SCS. At the discretion of the QPESA, some of these parameters were not carried forward as COCs if there was enough evidence to indicate the chemical was likely not present onsite at concentrations greater than the SCS, or would not interfere with the use of the Site, and should not be retained as a COC for carrying through to the RA. The rationale for the exclusion of these individual parameters in groundwater is presented in Table 6-10b. Parameters that were not considered as COCs based on the exceptions in Section 49.1 of O. Reg. 153/04 are presented in Table 6-10c.

Table 6-10c summarizes the chemicals retained as COCs in groundwater for the Phase Two Property based on the evaluation provided.

6.8 Sediment Quality

The Phase Two Property does not include a water body within its boundary as defined under O. Reg. 153/04. Therefore, sediment was not present in the investigation area.

6.9 Quality Assurance and Quality Control Results

As part of the field QA/QC program, the types of QA/QC samples collected included duplicate samples and trip blanks (for groundwater volatile analytes). Blind duplicate soil and groundwater samples were collected at a frequency of 1 duplicate sample for each 10 field samples submitted. Trip blanks for VOCs were submitted to the laboratory for chemical analysis with each VOC groundwater batch submittal. These QA/QC samples are important in determining whether field, transport, or analytical activities/conditions may have biased the reported soil and groundwater results (for example, cross-contamination). Accurate soil and groundwater results are required to appropriately evaluate the Phase Two Property for the applicable SCS.

Jacobs received soil and groundwater COAs from the laboratory electronically to reduce the possibility of transcription errors. Each sample collected by Jacobs as part of this Phase Two ESA investigation has an associated COA. Table F-1 in Appendix F provides a list that correlates each sample ID with a laboratory COA number. The COAs received from the analytical laboratory comply with the reporting requirements outlined in Section 47(3) of O. Reg. 153/04 and are provided in Appendix F.

For the current investigations, results were evaluated though a data quality evaluation (DQE) by the Jacobs project chemist. All samples were handled in accordance with the MECP *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* related to the following considerations:

- Holding times
- Preservation method
- Storage requirement
- Container type

In combination with the field QA/QC program, the laboratory QA/QC program was evaluated to verify the accuracy, precision, and validity of the data reported by the laboratory. Various elements of the laboratory QA/QC program are used to evaluate the data:

- Blanks are analyzed to detect laboratory contaminations that can cause data to be biased high.
- Laboratory control samples (LCS) are used to evaluate the laboratory performance.
- Laboratory duplicates are used to measure precision in the laboratory.
- Matrix spikes (MS) are used to identify high or low bias caused by matrix interference.
- Surrogate spikes are used to evaluate the method performance that can cause high or low bias in the data.

The laboratory QA/QC program was evaluated by examining blanks, LCS, MS, and surrogate spike samples.

The precision of the data was verified through the review of the laboratory and field data quality indicators that include laboratory duplicate and field duplicate relative percent differences (RPDs). All field (FD) and laboratory duplicate RPDs calculated for the Baker Street samples were within the acceptable limits (below 30% for groundwater and 50% for soil) except the following:

- Three FD pairs due to RPD exceedances for three metal analytes; 6 results were qualified.
- One FD pair due to RPD exceedance for moisture; 2 results were qualified.

Detected results associated with the RPD exceedance were flagged "J" and are considered estimated.

The accuracy of the data was verified through the review of the LCS, MS and surrogate recoveries, as well as the evaluation of laboratory method blanks, trip blank data, and other method specific criteria. The overall accuracy reported in this DQE is considered acceptable but was affected by the following:

- Three PAH and five D&F sample results in a combined three samples from COAs L2318180, L2320007, and L2328062 were flagged due gas chromatography/mass spectrometry (GC/MS) qualifier ion ratio not meeting criteria
- Eleven D&F results were flagged due to concentrations less than the calibration range but greater than the EDL; the estimated maximum concentrations are reported
- Four SAR results were flagged due to nondetection for both calcium and magnesium; the lowest possible concentration is reported as a minimum value
- Nineteen SAR result were flagged due to nondetection for sodium or one of calcium or magnesium; the highest possible concentration is reported as a maximum
- Two sample results for n-hexane from COA L2336718 were flagged due to LCS recovery less than the lower control limit
- Four sample results for dichlorodifluoromethane were flagged due to LCS recovery less than the lower control limit; two samples each from COA L2320007 and COA L2436005
- Three F1 (C6-C10) result from COA L2333129 were flagged due to surrogate recoveries less than the lower control limit

- Two D&F sample results in sample MW108-5-6' from COA L2318180 were flagged due to associated laboratory blank contamination

Detected and nondetected results associated with these QC issues were flagged "J" and "UJ," respectively, and are considered estimated. There were also two sample results that were flagged "U" and are considered nondetected due to detections in the laboratory blank.

The representativeness of the data was verified through the samples' collection, storage, and preservation procedures and the verification of holding-time compliance. The samples shipped to the laboratory arrived below the recommended 10°C and were analyzed within the required holding time, except for a moisture result in sample BH203-0.5-2, which was analyzed beyond the recommended holding time. This result was flagged "J" and is considered estimated.

The comparability of the data was verified using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Valid data are defined as all data that are not rejected for project use. No data have been rejected. All data are considered valid.

The soil and groundwater analytical data evaluated as part of the DQE are considered valid and can be used to support the project decision-making process.

6.10 Phase Two Conceptual Site Model

Based on recent and historical Phase Two ESA work completed at the Phase Two Property, this section provides a Phase Two conceptual site model, as required by O. Reg. 153/04 (MECP 2011a). The Site is in downtown Guelph, southwest of the Speed River (Figure 2-1) and is approximately 1.14 ha in size. The Site is currently in use as a commercial parking lot and includes one laneway.

There are no buildings onsite; historical buildings (Figure 2-2a) were associated portions of the Site being used for parkland, commercial, and industrial purposes. From approximately 1827 to 1879 the parcel associated with 55 Baker Street was used a public burial ground (community land use). In 1892, a curling club was completed on the southern portion of the Site, and between the late 1890s and early 1900s, an industrial building (sewing machine and accessory manufacturer) was constructed in the central western portion of the Site. The industrial building and curling club were demolished in the early to mid-1960s and mid- to late 1960s, respectively. Subsequently, the Site was redeveloped into an asphalt parking lot (Pinchin 2018).

Historically, 152 and 160 Wyndham Street North were developed with commercial buildings during the mid-1800s. The northern portion of the parcel contained the American Hotel and a movie theatre, and an undertaker used the southern portion of the parcel. These properties were redeveloped for commercial retail use between 1916 and 1938, and remained so until between 2009 and 2013, at which point the buildings were demolished and replaced with an asphalt parking lot (Pinchin 2018).

6.10.1 Potentially Contaminating Activities

The Phase One ESA (Pinchin 2018) identified several PCAs within and outside the Site. Based on Jacobs' review of Pinchin 2018, as well as available historical environmental reports, aerial photographs, and FIPs, the following PCAs were identified on the Site, and resulted in an APEC (Figure 4-1a):

- 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles
- 28 - Gasoline and Associated Products Storage in Fixed Tanks
- 30 - Importation of Fill Material of Unknown Quality
- 34 – Metal Fabrication
- 48 - Salt Manufacturing, Processing and Bulk Storage
- 55 - Transformer Manufacturing, Processing and Use

The following PCAs were identified in the Phase One ESA (Pinchin 2018) and Phase One ESA Update (Jacobs 2021) outside the Phase Two Property, but on lands within 250 m the Site (that is, Phase Two Study Area) (Figure 4-1b):

- 27 - Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles
- 28 - Gasoline and Associated Products Storage in Fixed Tanks
- 31 – Ink Manufacturing, Processing and Bulk Storage
- 34 – Metal Fabrication
- 37 - Operation of Dry Cleaning Equipment (where chemicals are used)
- 55 – Transformer Manufacturing, Processing and Use

The specific descriptions of each PCA are provided in Table 4-2, including a rationale for whether the PCA results in an APEC on the Phase Two Property.

6.10.2 Areas of Potential Environmental Concern

Table 4-3 identifies the 8 APECs identified from onsite PCAs and the 14 APECs identified from offsite PCAs at the Phase Two Property. The following 22 APECs were identified within the Phase One ESA (Pinchin 2018) and supplemented by Jacobs as part of the Phase One ESA Update (Jacobs 2021) for the Phase Two Property (note, these are grouped by area, rather than in numerical order).

- **APECs from Onsite PCAs**
  - APEC-1: Historical Industrial Property Use: Coil wire springs, sewing machines, and accessories were historically manufactured at 55 Baker Street. (PCA 1)
  - APEC-2: Unknown/Poor Quality Fill Material: – The XCG Phase II ESA (XCG 2008) identified fill material to 3.0 mbgs at 55 Baker Street, and this is also likely located for the Wyndham properties, based on when they were developed (1862) after historical buildings had been demolished. (PCA 2)
  - APEC-3: Historical Transformers: The 1960 FIP depicted an area of 55 Baker Street labelled as 'transformers.' (PCA 3)
  - APEC-4: Use of Road Salts at the Property: The Site is currently used as a parking lot, and road salts are applied for vehicular and pedestrian safety. (PCA 56)
  - APEC-18: Former Oil Shed: The 1911 FIP showed a small oil shed in the southwestern corner of the White Sewing Machine of Canada parcel of land on 55 Baker Street. (PCA 57)
  - APEC-19: Former Oil House: The 1911 FIP showed a small oil house on the former White Sewing Machine of Canada parcel, now the western portion of 152 Wyndham Street. (PCA 58)
  - APEC-20: Former Coke Storage: The 1911 FIP showed a garage located on the northeastern portion of 55 Baker Street. (PCA 59)

- APEC-21: Former Garage: The 1960 FIP showed a garage located on the northeastern portion of 55 Baker Street. (PCA 60)

- **APECs from Offsite PCAs to the North**
  - APEC-5: Historical Dry Cleaning: Potential dry cleaners were identified at 164 Woolwich Street. (PCA 5)
  - APEC-6: Historical Retail Fuel Outlet and Automotive Repair/Servicing: identified at 160 Woolwich Street (PCA 4 and PCA 79); Historical Iron Foundry (PCA 78); Historical USTs: two gasoline USTs at 164-166 Woolwich (PCA 80)
  - APEC-7: Historical Dry Cleaning: Potential dry cleaners were identified at 152 Woolwich Street. (PCA 12); Historical Garage: the 1929 FIP identified a garage at 166 Wyndham Street North (PCA 76); Historical UST: The 1929 FIP showed a gasoline UST at 168 Wyndham Street North (PCA 77)
  - APEC-8: Historical Dry Cleaning: Potential dry cleaners were identified at 172 Wyndham Street North. (PCA 52)
  - APEC-9: Historical Fuel Oil Underground Storage Tank: A historical underground storage tank was identified at 176 Wyndham Street North. (PCA 13)
  - APEC-10: Historical Automotive Repair: A former automotive repair shop was identified at 176 Wyndham Street. (PCA 53)
  - APEC-17: Historical Service Station: the 1946 and 1960 FIPs showed a service station with 3 associated gasoline USTs at 25 Suffolk (PCA 50); Historical Dry Cleaning: identified at 84 Yarmouth Street in 1955 (PCA 51); Historical Automotive Repair: identified at 27 Suffolk Street East (PCA 55); Historical Coach and Body Manufacturing: The 1946 FIP identified operations at 9-21 Suffolk Street East (PCA 81); Historical Industrial Property Use: sewing machine manufacturing was identified on the 1878 and 1892 FIPs at the corner of Suffolk and Yarmouth Streets (PCA 82).
- **APECs from Offsite PCAs to the East**
  - APEC-13: Historical Automotive Garage: A former garage was identified at 146 Wyndham Street North from 1930 to 1949. (PCA 18)
  - APEC-15: Historical Dry Cleaning: Former dry cleaning operations were identified at 108 Wyndham Street North from 1917 to 1922. (PCA 19)
- **APECs from Offsite PCAs to the South**
  - APEC-14: Historical Gasoline Spill: Based on database searches, a historical gasoline spill at the intersection of Chapel Lane and Baker Street occurred, with possible environmental impacts to land and water. The quantity and exact location are unknown. (PCA 27)
  - APEC-16: Historical Aboveground Storage Tank: Vent and fill pipes associated with an aboveground storage tank were observed at the corner of 20 Quebec Street (PCA 43); Historical UST: the 1946 FIP identified one UST under the roadway at 7 Quebec Street (PCA 25).
- **APECs from Offsite PCAs to the West**
  - APEC-11: Historical Offsite Industrial Operations: Cooke & Denison Machine and Tool Works was identified at 40 Baker Street from 1946 to 1960 (PCA 8); Historical UST: one UST identified on the 1946 FIP at 40 Baker Street (PCA 9); Historical Fuel Oil Tank: identified between 25 Yarmouth and 32-34 Baker Street properties on the 1960 FIP (PCA 71).
  - APEC-12: Historical Automotive Garage: A former garage was identified at 45 Baker Street from 1946 to 1960 (PCA 6); Historical USTs: two USTS identified on Yarmouth Street (behind 45 Baker Street) on the 1929 and 1946 FIPs (PCA 7); Historical Industrial Operations: sewing machine manufacturing was identified between Yarmouth and Baker Streets on the 1878m 1892 and 1911 FIPs (PCA 70).

- APEC 22: Historical Dry Cleaning: Potential dry cleaning operations were identified at 2 Quebec Street in 1975 (PCA 11); Historical UST: identified at 2 Baker Street on the 1946 FIP (PCA 10); Former Coal Yard: identified on the 1892 FIP on the northwest corner of Quebec and Baker Streets (PCA 72).

Figure 4-2 shows the locations of the APECs and the current and historical borehole and monitoring wells. Table 6-4 shows, the Phase Two Property APECs have been investigated for the associated COPCs. Figure 2-2b shows several underground and overhead utilities are present in this area, including a gas line, water line, storm sewer, and several overhead hydro lines.

6.10.3 Subsurface Utilities and Construction Features

Utilities (including sanitary and storm sewers and water lines) were active and connected during the Phase Two ESA investigation, and are still present in the subsurface. Based on these utility connections, there is potential for the preferential flow of COCs within utility corridors. However, based on the following factors, COCs are most likely to be transported (that is, to migrate) via groundwater:

- Depth of groundwater (at least 3.78 mbgs [perched] and 5.82 mbgs [bedrock])
- Suspected depth of underground utilities (1.5 mbgs or deeper)
- Presence of permeable materials onsite (fill, sand, and sand and gravel identified from surface to bedrock at an average depth of 5.99 mbgs)

Figures 2-2a and 2-2b show building outlines and identified underground utilities, respectively, on the Phase Two Property.

6.10.4 Physical Setting

The topography over the Phase Two Property is moderately flat, with ground surface elevations ranging from 328.34 masl (MW113 in the south) to 330.16 masl (BH201 in the west). The Site slopes slightly from the western border towards the south, north, and east. Surface runoff at the Phase Two Property is expected to flow radially from the west in these directions but is directed towards onsite catchbasins. Figure 3-1 shows the regional topography and surface water drainage features. The Speed River is the nearest downgradient waterbody, located approximately 130 to 150 m north-northeast of the Site, and ground surface tends to slope north towards the river. Groundwater from the region is likely to eventually discharge to Speed River.

The City categorizes regions of Guelph within Wellhead Protection Areas (City 2018). The Site is within Wellhead Protection Area B (2-year travel time) for several of the City's municipal water supply wells. The nearest municipal wells to the Site include the Water Street, Edinburgh, Membro, and Dean Wells (approximately 1.4 to 2.0 km south of the Site past the Eramosa River), and the Park and Emma Wells (approximately 1.3 to 1.5 km north of the Site past the Speed River).

The municipal groundwater resource is primarily drawn from the Gasport Formation, estimated to occur at least 45 mbgs. A lower-permeability Reformatory Member and Vinemount Member of the Eramosa Formation are generally understood to serve as a regional aquitard, situated above the Gasport and limestone formations of the Goat Island Formation (Brunton 2009).

The City is also part of the Plan (Lake Erie Region Source Protection Committee 2021). The Plan assigns Drinking Water Threat Vulnerability Scores across the region based on various risk factors; the Phase Two Property is assigned a Vulnerability Score of 10, the highest possible, indicating it is susceptible to potential contamination. The Site is also in a highly vulnerable aquifer and issues contributing area but is not in a significant groundwater recharge area or in a source water intake protection zone. Figure 3-2 shows the Plan mapping and location of nearest municipal wells.

6.10.4.1 Stratigraphy

The Site is interpreted to consist of a predominantly sandy overburden overlying Guelph Formation dolostone bedrock. Within the northern portion of the Site, there is a thick silt deposit. Exhibit 6-1 summarizes the geological units encountered beneath the Site during the Phase Two ESA activities.

Exhibit 6-1. Site Stratigraphy

Geological Unit	Approximate Depth (mbgs)	Average Thickness (m)	Lithology
Asphalt	Up to 0.15		A thin layer of asphalt was observed.
Fill	0.15 to 3.91	1.87	Sand, sand and gravel, or silty sand were encountered. Silty clay and clayey silt were also observed. Anthropogenic materials such as brick, glass, metal products, and wood were commonly reported, as was iron oxide staining on the soil.
Native Overburden	0.81 to bedrock	See below	A sand matrix was encountered with interbedded layers of gravel and silt (described here), extending to bedrock. The sand is generally brown, dense, and moist.
Silt Layer	2.13 to bedrock	3.58	A silt layer was encountered in the northern portion of the Site. The silt was generally described as brown or grey, fine to coarse sand, low to high plasticity, with traces of gravel.
Silt Lens	2.21 to 3.72	1.37	A smaller silt lens was observed in the southern portion of the Site and is disconnected from the larger silt layer in the north of the Site. The silt in this lens was described as brown, hard and moist, with dolostone bedrock fragments observed.
Gravel and Sand	1.52 to 5.94	2.16	A layer of gravel and sand was encountered in the southern portion of the Site. The material was generally described as brown, dense, with fine to medium sand, trace clay, and occasional cobbles and dolostone fragments.
Clay Lens	1.14 to 2.44	1.30	A clay lens was encountered at a single location in the middle of the Site. As some other fill materials were described as being clayey, it is possible this is layer is also anthropogenic.
Guelph Formation dolostone	4.57 to 8.46 (top of bedrock range)	N/A	Generally, this dolostone was highly weathered and fractured within the first 0.3 to 0.6 m of bedrock contact. It was also noted to be vuggy, with calcite mineralization. The average depth to bedrock is 5.99 mbgs for the Site.

Geological cross-sections were prepared to show the Site stratigraphy. Figure 6-1 presents cross-section locations, and Figures 6-1a to 6-1d present cross-sections A-A,' B-B,' C-C,' and D-D,' respectively.

Based on the Site-specific geology, the main units investigated during the Phase Two ESA were an overburden composed of sand and interbedded silt and gravel, and bedrock.

6.10.4.2 Hydrogeological Characteristics

There are two main hydrogeological units encountered at the Site: (1) perched groundwater above a silt strata in the northern portion of the Site, and (2) a shallow unconfined aquifer generally in the upper bedrock, but extending in places up into the overburden soil (the 'perched groundwater' and 'bedrock aquifer,' respectively).

Twenty-one monitoring wells (18 wells from the current investigation and 3 historical wells) were used at the Phase Two Property to investigate conditions associated with the perched groundwater and the bedrock aquifer:

- Eighteen are installed in the bedrock aquifer.
- Three are installed to access the perched groundwater.

The bedrock monitoring wells are further defined as 'bedrock wells' for the 15 wells installed across or near the water table, and 'deep bedrock wells' for the three wells installed approximately 8 m into the bedrock, from 4.6 to 6.9 m below the water table for site characterization purposes. The site has been paved as a parking lot and is anticipated to receive low recharge from precipitation.

Figures 6-2a, 6-2b, and 6-2c present the interpreted groundwater elevation contours and flow directions within the bedrock (water table) using groundwater elevations collected during the monitoring events on September 11 and 18, 2019; December 18, 2019; and April 15, 2020, respectively.

Exhibit 6-2. Hydrogeological Characteristics

Groundwater Unit	Characteristic	Summary
Bedrock	Flow Direction	Groundwater flows radially from a high elevation on the western boundary of the Site towards the north, and east to southeast. The higher groundwater elevations in the western portion of the Site appear to be correlated with higher bedrock layer elevation, as well as the topographical elevation and regional flow direction towards the Speed River.
	Average Horizontal Hydraulic Conductivity	Range between September 18, 2019 and April 15, 2020: 4.6×10^{-7} to 2.0×10^{-4} m/s Geometric mean: 6.0×10^{-6} m/s The K of the bedrock was estimated based on slug testing in three wells (MW101, MW107, and MW109).
	Average Horizontal Hydraulic Gradient	Estimated range between September 18, 2019 and April 15, 2020: 0.009 to 0.025 m/m Estimated average between September 18, 2019 and April 15, 2020: 0.016 m/m The maximum groundwater elevations within the bedrock aquifer were measured during the April 2020 monitoring event and were likely associated with snow melt and increased precipitation in the spring. Elevated groundwater levels may have "flattened" the gradient compared to fall and winter.
	Groundwater Velocity	The horizontal linear groundwater flow velocity was estimated for the bedrock aquifer using the calculated geomean K value of 6.0×10^{-6} m/s, the estimated horizontal hydraulic gradient range of 0.009 to 0.025 m/m, and an estimated effective porosity of 0.1 for the weathered and fractured rock. The groundwater velocity within the bedrock is estimated to be approximately 24 to 47 m/y.

Exhibit 6-2. Hydrogeological Characteristics

Groundwater Unit	Characteristic	Summary
Bedrock (cont'd)	Vertical Hydraulic Gradients	Vertical hydraulic gradients in the bedrock were calculated at two nested monitoring well sets: (1) MW107 and MW107B, and (2) MW110A and MW110B. The vertical hydraulic gradients observed were downwards and ranged from 0.062 m/m to 0.063 m/m at MW107 and MW107B and 0.042 m/m at MW110A and MW110B.

Notes:

cm/y = centimeters per year
COC = contaminant of concern

The perched groundwater was observed at BH17-MW-5S, MW102A, and MW103 above a low-permeability silt aquitard layer. The K ranging from 3.6×10^{-8} to 7.4×10^{-7} m/s, with a geometric mean of 1.6×10^{-7} m/s. Vertical hydraulic gradients observed in this unit (MW102A and MW102B) were downward, ranging between 0.621 and 0.634 m/m, due to the influence of the perched groundwater above the silt layer observed at this well nest. The flow direction, horizontal hydraulic gradient, and groundwater velocity were not calculated because the perched groundwater was not present across the entire Site. The full extent of the perched groundwater is currently not fully understood but may have a similar extent to the silt layer.

6.10.4.3 Depth to Bedrock

The Guelph Formation Dolostone that underlies the Site was encountered between 4.57 and 8.43 mbgs (321.62 to 324.96 masl), with an average depth to bedrock of 5.99 mbgs (323.46 masl). The highest bedrock elevations were encountered along an approximate southwest-to-northeast transect of the Site (MW107, MW100, BH202, MW109, BH206). Note, higher groundwater elevations are also associated with these locations, and the groundwater contours presented on Figures 6-2a, 6-2b, and 6-2c appear to show a radial flow outward from this bedrock high, following the topography and moving towards the Speed River.

6.10.4.4 Depth to Water Table

The water table within the Phase Two Property is within the Guelph Formation dolostone bedrock unit; in the northern portion of the Site, perched groundwater is associated with a low-permeability silt layer.

The depth to the bedrock aquifer and the perched groundwater were assessed based on three groundwater level monitoring events (September 18, 2019; December 18, 2019; and April 15, 2020).

The depth to the bedrock aquifer ranged from 5.82 to 8.66 (322.90 to 321.13 masl). The depth to the perched groundwater ranged from 3.78 to 4.43 (325.74 to 325.04 masl) based on the three monitoring events.

6.10.4.5 Applicable Site Condition Standards

O. Reg. 153/04 (MECP 2011a), under Part XV.1 of the *Environmental Protection Act,* addresses the assessment, cleanup, and filing of a Record of Site Condition for brownfield sites in Ontario, and applies to the Phase Two Property. Jacobs evaluated the Site based on a number of criteria to decide which of the generic SCS provided in the *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MECP 2011b) applied for a comparison of soil and groundwater results from the Phase Two ESA investigation.

Exhibit 2-3 outlines the items Jacobs considered when selecting the SCS, as outlined in O. Reg. 153/04 (MECP 2011a), discussed here.

The special conditions for environmentally sensitive areas under Sections 41 or 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property:

- The Site is not considered an area of natural significance or to be within the proximity of an area of natural significance, based on the information reviewed as part of the Phase One ESA (Pinchin 2018).
- Jacobs analyzed 45 soil samples for pH from 17 locations across the Phase Two Property (Figure 2-3). Based on the results of the Jacobs investigation, soil pH was found to range from 7.37 to 9.46. Soil pH was within the MECP's acceptable range for samples collected in both surface soil (from between surface and 1.5 mbgs, with a pH value in surface soil less than 5 or greater than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil less than 5 or greater than 11). Historical investigations reported elevated pH (greater than 9) in surface soil samples; however, brick fragments or concrete were present in the stratigraphy where samples with elevated pH were collected based on a review of the borehole logs. This information suggests nonsoil materials may have been sampled, potentially biasing the historical soil pH results. Therefore, the historical results may not be representative of actual soil pH conditions. Based on this information, Jacobs has relied solely on the soil pH data collected during the recent investigation to determine the applicable SCS, and soil pH is within the MECP's acceptable range.
- The special conditions for land within 30 m of a water body under Section 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property; no waterbodies are located on the Site or within 30 m of the Site. The Speed River is the nearest downgradient waterbody, located approximately 130 to 150 m north-northwest of the Site.
- The special conditions for shallow soil properties cited under Section 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property; the depth to bedrock is greater than 2 m, as bedrock was encountered between 4.93 mbgs and 8.43 mbgs.

The adjacent properties within 250 m are serviced by a municipal water source. Since the groundwater near the Phase Two Property does and will serve as a raw water supply for a drinking water system (understood to be the Gasport Formation as the primary reservoir), the potable groundwater condition was applied.

The current land use is commercial and community (roads), and the proposed future land use may include residential/community and commercial uses, provided an RSC acknowledged by the MECP is obtained. Due to the extensive presence of heterogeneous fill materials across the Site, the standards for coarse-grained soils were considered applicable.

Based on this information reviewed by the QPESA, the Table 2 SCS was applied to the Site.

6.10.4.6 Imported Soil

Fill materials were identified across the Site to a maximum depth of 3.91 mbgs, or between 326.32 masl and 329.47 masl, with an average thickness of 1.68 m. The fill is variable in composition; however, the majority of fill is sand, sand and gravel, or silty sand.

The Phase One ESA (Pinchin 2018) reports that "significant quantities of fill material" have been identified onsite through previous Phase Two ESA investigations.

No soil was imported to the Site as part of Jacobs' recent Phase Two ESA activities.

6.10.4.7 Proposed Buildings and Other Structures

The City (2019) indicates the Site's redevelopment will include the following components:

- New Guelph Public Library
- Residential housing
- Commercial/institutional buildings
- Parking
- Urban square

The buildings' configuration is not known at this time.

6.10.5 Contaminants

6.10.5.1 Contaminants Exceeding Applicable Site Condition Standards in Soil and Groundwater

The Phase Two Property was found to be primarily impacted with salt-related analytes (that is, EC and SAR in soil; sodium and chloride in groundwater). Localized metal impacts were identified in soil, and localized cadmium impacts were identified in groundwater. PAH impacts identified from a historical investigation (Kewen 2001) were resampled and determined not to be representative of Site conditions. Elevated concentrations of chloroform in groundwater were attributed to well installation activities and not with PCAs or APECs.

Although identified as COPCs at the Site, the following parameters were not identified with exceedances of the Table 2 SCS onsite, either in soil or groundwater:

- BTEX
- VOCs
- PHCs
- ABNs
- D&Fs

Tables 6-5 and 6-8 summarize the analytical results of the investigation for soil and groundwater, respectively, and compare these compare to the Table 2 SCS. Figures are provided that present the locations of soil samples (Figures 6-4 through 6-12) and groundwater samples (Figures 6-13 through 6-19) analyzed and a comparison to the Table 2 SCS by analytical group. Where exceedances of the Table 2 SCS are present, at least one cross-section has been prepared presenting the inferred vertical extent of impacts by analytical group, and follows the plan view figure. Maximum concentrations of the parameters exceeding Table 2 SCS are shown in red text on the respective plan view and cross-sectional figures.

The following subsections discuss the soil and groundwater conditions found exceeding the Table 2 SCS on the Phase Two Property.

Other Regulated Parameters

EC and SAR exceedances of the Table 2 SCS were identified in soil across most of the Site, apart from the northeastern portions of the 152 and 160 Wyndham Street North parcels. Exceedances of the Table 2 SCS were also identified in groundwater for sodium and chloride across most of the Site (all monitoring wells were sampled, apart from MW109).

Exceedances of EC and SAR in soil were identified to a maximum depth of 7.92 mbgs (MW102B) and were present at depths extending from the ground surface to the bedrock surface. Maximum concentrations were identified at MW102B (EC) and MW113 (SAR) in the fill. Maximum concentrations of chloride and sodium in groundwater were identified at the northern end of the Site in MW102B.

Figures 6-4 and 6-13 show the detected exceedances and locations analyzed for other regulated parameters for soil and groundwater, respectively.

The presence of EC and SAR in soil and sodium and chloride in groundwater is likely a result of the application of deicing materials on the parking lot surfaces (APEC-4). Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Environmental Protection Act when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Results are details in Tables 6-7c and 6-10c; at the discretion of the QPESA and based on the revised regulation, these parameters are not considered to be COCs at the Phase Two Property.

Metals (including Mercury, Methylmercury, and Hexavalent Chromium)

Based on the current investigation, metals exceedances of the Table 2 SCS in soil were identified within the southeastern portion of the Phase Two Property at one location (MW101; Figure 6-5) and were limited to lead and mercury. These impacts are likely limited to the fill in the existing laneways, based on results and observations during drilling and test pitting activities, and extend to an estimated maximum of 3.0 mbgs based on fill depth in this area (Figures 6-5a and 6-5b). The poor-quality fill was not observed at other locations.

Metals exceedances in groundwater were limited to cadmium. Exceedances occurred in two wells (MW107 and MW113) in the southwestern corner of the site (Figure 6-14), with maximum concentrations (6.16 µg/L) found at MW113 (screened in the bedrock aquifer at 5.3 to 8.4 mbgs). The cadmium exceedances at these locations have been vertically delineated by MW107B (screened in the deep bedrock, at 13.7 to 15.5 mbgs), where concentrations were less than the Table 2 SCS (Figures 6-14a, 6-14b, and 6-14c).

Based on groundwater flow around monitoring wells MW107 and MW113, groundwater moves from these locations towards the southeastern portion of the Site. MW110A and MW101, located downgradient from the identified cadmium exceedances, have cadmium concentrations less than the Table 2 SCS. The identified cadmium impacts in groundwater are therefore not anticipated to migrate offsite.

Additional available downgradient data from MW106 (5.5 to 8.5 mbgs), which is located offsite, on adjacent City-owned property to the south, had reported concentrations of cadmium five times less than the Table 2 SCS. This, along with reported concentrations less than the Table 2 SCS at MW101 and MW110A, indicate onsite exceedances in groundwater are not likely migrating offsite to the nearest downgradient human receptors.

Metals exceedances in soil (lead and mercury) were identified within the fill (that is, not within native soils) and are potentially associated with historical industrial activities associated with the manufacturing of sewing machine accessories, and wire coils and springs (APEC-1) or general impacts associated with the fill identified onsite (APEC-2). Limited impacts were identified in groundwater at the Site (cadmium), which do not appear to correlate to the identified shallow metal impacts in soil. Therefore, it is unlikely that metal impacts in soil are acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property. The onsite cadmium impacts may be related to the APECs associated with offsite and upgradient PCAs (to the west) (for example, APEC-11 for Industrial Operations, APEC-12 for Historical Automotive Garage) or other unknown sources.

Polycyclic Aromatic Hydrocarbons

PAH exceedances of the Table 2 SCS in soil were identified at one sample (historical BH-14, at 0.8 to 1.4 mbgs) within the west-central portion of the Site, containing an elevated concentration of dibenzo[a,h]anthracene within the fill materials. No exceedances of the Table 2 SCS were identified in native soils or in groundwater at the Site.

BH208 was advanced and sampled in the same location as historical BH-14, with PAH samples collected at 0.91-1.07 mbgs and 2.29 to 2.44 mbgs. The results were less than the Table 2 SCS, resulting in the combined average of the samples collected at the same depth interval also meeting the Table 2 SCS. It is the QPESA's opinion that the historical exceedance was likely related to the presence of asphalt directly above the sampling location and is not considered representative of soil conditions on the Site (Table 6-7c). PAHs are not considered a COC on the Phase Two Property.

Figures 6-8 and 6-17 show locations investigated for PAHs in soil and groundwater, respectively, in plan view.

Volatile Organic Compounds

Concentrations of chloroform in groundwater samples were reported exceeding the SCS, and the source of the exceedance was believed to be related to the municipal water that was used during the bedrock coring process. Jacobs encountered similar issues during a previous drilling program in Guelph in 2018. For that project, two samples (one from the water truck and one from the water truck hose that was used during the coring activities) were analyzed for VOCs. The VOCs were nondetect in the municipal water samples, apart from bromodichloromethane (12.5 to 12.9 µg/L), dibromochloromethane (11.5 to 11.8 µg/L), and chloroform (9.8 to 10.1 µg/L). These analytes are trihalomethanes that are typically present in municipally treated water, substantiating that municipal water introduced during drilling activities was the likely source of trihalomethanes in groundwater. For the current project, VOCs were nondetect in groundwater apart from the same three analytes, and from one sample with low detections of 1,1-dichloroethane less than the Table 2 SCS.

Based on the available information, the QPESA determined there was a discharge of drinking water (within the meaning of the *Safe Drinking Water Act* [2002]), resulting in chloroform exceeding the SCS. Under Paragraph 2 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act. Results are detailed in Table 6-10c, and at the discretion of the QPESA and the revised regulation, chloroform was not considered to be a COC for the Phase Two ESA.

6.10.5.2 Migration of Contaminants of Concern

COCs in soil were limited to lead and mercury in the fill unit, with no exceedances of the Table 2 SCS identified below approximately 3.7 mbgs (Figure 6-5b). As the minimum water table in the bedrock at the Site was measured at 5.82 mbgs, soil impacts are above the water table (Figure 6-5b); therefore, the potential for migration is limited.

Groundwater exceedances of the Table 2 SCS were limited to cadmium in two locations (MW113 and MW107) along the southern and western boundaries, respectively, where a groundwater high is located with radial groundwater flow from this area. Cadmium meets the Table 2 SCS at MW107B, providing vertical delineation for MW107 and MW113, along with two other wells (MW110B and MW111) screened in the deeper unconfined bedrock. Cadmium impacts have not been identified in downgradient or cross-gradient locations (MW105, MW100, MW110, and MW101 [Figure 6-14]), including available data from an offsite well (MW106) located adjacent to the southern edge of the property boundary. Based on this information, it is unlikely that the impacts are migrating off the Phase Two Property and the Site therefore meets the MECP drinking water component value (GW1) at the nearest offsite human receptors.

As there is no apparent soil source of the cadmium impacts onsite and groundwater impacts are found in the most upgradient locations onsite, these may be a result of migration from offsite sources from the west, or other urban fill (offsite); however, there is currently no direct evidence to confirm.

6.10.5.3 Climatic Conditions

Climatic or meteorological conditions that may have influenced the distribution and migration of COCs at the Phase Two Property include temporal fluctuations in groundwater levels. No atypical weather events that would be expected to influence COC transport are known to have occurred during Jacobs' investigation of the Phase Two Property. Changes in water elevations can affect the migration of contaminants.

6.10.5.4 Soil Vapour Intrusion

Vapour intrusion was not evaluated during this Phase Two ESA. No buildings are currently located on the Site. Buildings are planned as part of the redevelopment, but Jacobs understands all soil at the Phase Two Property will be removed to bedrock to facilitate the creation of underground parking. Therefore, soil vapour related to the existing concentrations in soil onsite will not be a concern under these future conditions.

Current or abandoned utilities may be a preferential pathway for potential contaminants, if present; however, as the utilities would be expected to be found in the depths corresponding to the presence of permeable fill and native sand and gravel (as discussed), the utility corridors are not expected to function as preferential pathways at the Phase Two Property.

6.10.6 Distribution of Contaminants

As Section 3 discussed, only metals in soil and groundwater exceeded the Table 2 SCS. As Figure 6-5 shows, soil exceedances for lead and mercury are limited to the southeastern corner of the Site. Similarly, groundwater exceedances of cadmium are localized to the southwestern portion of the Site (Figure 6-14). Cross-section Figures 6-5a and 6-5b for soil, and Figures 6-14a through 6-14c for groundwater, provide the vertical distribution of the metal exceedances at the Site and the water table elevations. In soil, metals exceedances are inferred to extend to approximately 3.5 mbgs within the fill, while in groundwater exceedances are inferred to extend to approximately 14.0 mbgs.

Figures 2-2a and 2-2b show building outlines and identified underground utilities on the Phase Two Property, respectively. As depth to utilities are unknown, these were not included on the applicable cross-section figures.

6.10.7 Contaminant Exposure Assessment

Figures 6-20a-b and 6-21a-b present the human health and ecological contaminant pathway and receptor models, respectively, based on current and potential future Site conditions. Figures 6-20a and 6-20b present the human health CSMs, with and without risk management measures, respectively. Figures 6-21a and 6-21b present the ecological conceptual site models, with and without risk management measures, respectively. The proposed future land use of the Site is residential, commercial, community, and institutional. The models present preliminary assessments of the exposure pathways that were further investigated as part of the risk assessment completed for the Phase Two Property (Jacobs 2020).

These figures identify the following five exposure pathways:

1) **Release mechanisms** – The Phase Two Property became impacted as a result of historical Site operations (refer to the discussion on PCAs and APECs), when COCs were released to the ground (for example, via a spill or leak) or when contaminated soil was imported to the Site and placed as fill.
2) **Contaminant transport pathways** – COCs released to soil may adsorb to soil or infiltrate deeper into the soil column. COCs in soil may also desorb and leach to groundwater or migrate vertically to the water table. COCs in soil can also be transported in the following ways: they can become airborne via wind or traffic erosion, be eroded by overland water flow, be taken up by vegetation planted in the soil, or volatilize to

outdoor air or indoor enclosed spaces. COCs in groundwater can be transported via vertical or horizontal groundwater flow, volatilization to outdoor air or indoor enclosed spaces, and uptake by vegetation.

3) **Human and ecological receptors located on, in, or under the Phase Two Property** – Receptors currently present or expected to be present in the future at the Phase Two Property include:
   - Human Receptors – residents, visitors, indoor workers, outdoor workers, construction workers, and utility workers
   - Ecological Receptors - soil organisms, terrestrial plants, birds, and mammals
4) **Receptor exposure points** – COCs can be contacted directly in soil or indirectly in outdoor and indoor air. COCs were not identified in groundwater.
5) **Routes of exposure** – The primary routes of exposure by receptor type include:
   - Human Receptors
     - Direct contact with potable groundwater (ingestion or direct contact)
     - Direct contact with either soil or groundwater (incidental ingestion and dermal contact)
     - Inhalation of particulates (dust)
     - Inhalation of volatiles originating from a soil or groundwater source (indoor and outdoor air)
     - Ingestion of garden produce
   - Ecological Receptors
     - Direct contact with either soil or groundwater (ingestion and dermal)
     - Terrestrial plant root uptake from either soil or groundwater
     - Ingestion via terrestrial biota and prey

6.10.8 Nonstandard Delineation

Nonstandard delineation per O. Reg. 153/04 Schedule E, Section 7.1, was not conducted at the Site. Delineation was conducted to the requirements of O. Reg. 153/04 Schedule E, Section 7, for all COCs identified at the Site in soil and groundwater.

6.10.9 Reliance on Exemption on Site Condition Standard Exceedances

EC, SAR, sodium, chloride, and chloroform exceeded the Table 2 SCS; however, were not considered to be COCs at the Property based on the exemptions in Section 49.1 of O. Reg. 153/04 for meeting the site condition standards.

EC, SAR, chloride, and sodium were found widespread across the majority of the Site, at elevated concentrations. As the Site currently is in use as a commercial parking lot and laneway, the presence of EC, SAR, chloride, and sodium are related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Paragraph 1 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* should a substance be applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, EC and SAR were not considered to be COCs for the Phase Two Property.

Concentrations of chloroform in groundwater exceeded the SCS, and the source of the exceedance was believed to be related to the municipal water that was used during the bedrock coring process. Based on a similar issue for a separate City project in 2018, water samples from the water truck and hose used during the coring activities reported elevated trihalomethanes: bromodichloromethane (12.5 to 12.9 µg/L), dibromochloromethane (11.5 to 11.8 µg/L), and chloroform (9.8 to 10.1 µg/L). These analytes are trihalomethanes that are typically

present in municipally treated water, substantiating that municipal water introduced during drilling activities was the likely source of trihalomethanes in groundwater.

Based on the available information, the QPESA determined there was a discharge of drinking water (within the meaning of the *Safe Drinking Water Act*, 2002), resulting in chloroform exceeding the SCS. Under Paragraph 2 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act. Therefore, at the discretion of the QPESA, chloroform was not considered to be a COC for the Phase Two ESA.

6.10.10 Reliance on Exemption Related to Excess Soils

Jacobs did not rely on Paragraph 3 of Section 49.1 of the revised O. Reg. 153/04.

7. Conclusions

Jacobs offers the following conclusions, based on the findings of the Phase Two ESA.

7.1 Site Characterization

Most of the soil beneath the Phase Two Property was found to be impacted with salt-related parameters (EC and SAR in soil; sodium and chloride in groundwater). Limited localized metal impacts were also present (lead and mercury in soil; cadmium in groundwater).

The presence of elevated EC and SAR in soil and sodium and chloride in groundwater is widespread across the majority of the Site, and is related to the application of de-icing materials on the parking lot surfaces (APEC-4). Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Therefore, at the discretion of the QPESA and based on the revised regulation, these parameters were not considered to be COCs at the Phase Two Property.

Metals exceedances in soil were identified within the southeastern portion of the Phase Two Property at one location (MW101) and were limited to lead and mercury. These impacts are likely limited to the fill in the existing laneways, based on results and observations during drilling and test pitting activities, and extend to an estimated maximum of 3.0 mbgs based on fill depth in this area. The poor-quality fill was not observed at other locations.

Metals exceedances in groundwater were limited to cadmium. Exceedances occurred in two wells (MW107 and MW113) in the southwestern corner of the site, with maximum concentrations found at MW113 screened in the bedrock aquifer (at 5.3 to 8.4 mbgs). The cadmium exceedances at these locations were not shown to extend vertically to MW107B (screened in the deep bedrock, at 13.7 to 15.5 mbgs). Based on groundwater flow around monitoring wells MW107 and MW113, groundwater moves from these locations towards the southeastern portion of the Site. Results from MW110A and MW101 (less than the Table 2 SCS), located downgradient from the identified cadmium exceedances, indicate the cadmium impacts in groundwater are not anticipated to migrate offsite.

Cadmium impacts may be related to the APECs associated with offsite and upgradient PCAs (to the west) (for example, APEC-11 for Industrial Operations and APEC-12 for Historical Automotive Garage) or other unknown sources.

Based on extensive sampling over the Phase Two Property, it has been concluded that the horizontal and vertical extents of soil and groundwater impacts have been sufficiently defined for Phase Two purposes, as well as to support the RA and an evaluation of risk management measures.

7.2 Phase Two Property Certification

Based on the results of the Phase Two ESA, concentrations of contaminants in soil and groundwater at the Phase Two Property did not meet the applicable standards. Property-specific standards were developed as part of an RA for the Phase Two Property (MGRA1896-20, IDS# 7882-BRYP6L), which was accepted by the MECP. Therefore, as of the certification date of April 29, 2020, the concentrations of contaminants in soil and groundwater at the Phase Two Property meet the property-specific standards as defined in the RA (Jacobs 2020). An RSC can be developed and submitted to the MECP, to permit the proposed change in land use for the Site.

7.3 Signatures

7.3.1 Report Preparation Procedures

This report was prepared by Ms. Victoria Peters, B.A.Sc., GIT, under the supervision of Ms. Tania McCarthy, P.Eng. QPESA. Senior technical review was conducted by Mr. Ed Taves, M.Sc., P. Geo. (Limited), QPESA.

The findings and conclusions of this report were supervised and reviewed by the undersigned QP.

As QPESA, I (Tania McCarthy) confirm I have supervised the carrying out of the Phase Two ESA, findings, and conclusions of this report.

As Senior Technical Reviewer for this report, I (Ed Taves) confirm I have completed a technical review of the Phase Two ESA and concur with the findings and conclusions of this report.

Sincerely,

Victoria Peters, B.Sc.Env., GIT
Site Assessor

Tania McCarthy, P.Eng., QPESA
Site Assessor

Ed Taves, P.Geo. (Limited), QPESA
Project Manager and Senior Technical Reviewer

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9. Limitations

This Phase Two ESA for the property municipally identified as 55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the right-of-way known as Park Lane in Guelph, Ontario, was prepared for the City's exclusive use. Third parties cannot rely upon the findings and conclusions presented in this report without the express written consent of Jacobs and the City through an extension of reliance using a reliance letter signed by both parties. Jacobs accepts no responsibility for damages, if any, incurred by any third party as a result of decisions made or actions based on this report.

Note, Phase Two ESAs completed in accordance with the O. Reg. 153/04 have inherent limitations. The findings and conclusions regarding impacts at the Site are based solely on the extent of observations and information gathered during the Phase Two ESA.

The environmental characterization data were collected in general accordance with O. Reg. 153/04 – following the Phase One and Two ESA procedures. The sampling work was completed using standard engineering and scientific judgement, principles, and practices. The findings and conclusions regarding the contamination of the property are based solely on the extent of observations and information gathered during the Phase Two investigations. There are inherent limitations to this type of investigation.

The soil, groundwater, and environmental conditions, events, and observations described in this report are those observed at the time of the investigation. Environmental Site conditions vary. Interpretations of groundwater levels and flow direction are based on water level measurements at selected monitoring well locations and are expected to fluctuate. Borehole and monitoring well observations indicate the approximate subsurface conditions at those locations only. Boundaries between zones are often not distinct; rather, they may be transitional and were interpreted. Subsurface conditions between boreholes, monitoring wells, and sampling locations were inferred and may vary significantly from conditions encountered at those locations.

The City should be aware that, with the nature of this type of work, there are inherent limitations, as outlined in the CSA Group Standard (CAN/CSA-Z769-00), Section 3.9.2:

> *Even when Phase II work is executed with an appropriate standard of care, certain conditions such as substances of concern that are under buildings or of low mobility, can present especially difficult detection problems.*
>
> *It shall be recognized that samples taken represent one discrete portion of any Site at any given time, and may or may not be representative of the entire Site or the portion in question.*

The findings of these characterization activities are based on observations and findings recorded by Jacobs during Site visits and reconnaissance, and also on data and information provided by the City and third parties; this information was not independently verified by Jacobs, and Jacobs has assumed this information to be accurate, complete, reliable, noninfringing, and fit for the intended purpose.

This is a technical report and is not a legal representation or interpretation of environmental laws, rules, regulations, or policies of governmental agencies.

The investigation activities were formed on historical reports and the information gathered during the Phase One ESA activities. However, Jacobs cannot warrant or guarantee that the information provided in this summary is absolutely complete or accurate beyond current environmental engineering consulting standards. Jacobs assumes no responsibility for conditions that it was not authorized to investigate or that were not within its specific scope of work.

Jacobs believes this report to be accurate; however, Jacobs disclaims any warranty of the completeness or accuracy of information supplied to Jacobs that was relied upon in the preparation of this report.

All findings and conclusions stated in this summary are based on facts and circumstances as they existed during the investigation. Any changes in fact or circumstances upon which the summary was based may change the findings reported. Jacobs cannot report on, or accurately predict, events that may change the Site conditions after the described investigation was completed.

Other considerations and limitations applicable to this Phase Two ESA also include the following.

9.1 Standard of Care and Limitation of Liability

a) Jacobs' services are governed by the negligence standard for professional services, measured as of the time those services are performed.

b) Jacobs shall not be liable to the City for any damages where it has exercised a reasonable standard of care.

9.2 No Third-party Beneficiaries

a) This Phase Two ESA Report gives no rights or benefits to anyone other than the City and Jacobs and has no third-party beneficiaries. All work products prepared are for the sole and exclusive use of the City for specific application to the property described in the Agreement, is not for the benefit of any third party, and may not be distributed to, disclosed in any form to, used by, or relied upon by any third party without the prior written consent of Jacobs, which consent may be withheld in its sole discretion.

b) No warranty, expressed or implied, is made regarding the services performed.

c) If the City requests Jacobs' consent for a third party to depend upon an ESA Report as part of the City's financing efforts or in connection with decisions regarding redevelopment, sales, or acquisitions, such consent will be considered given upon the third party's execution of a Reliance Letter as provided by Jacobs.

9.3 Existing Site Conditions

a) Any opinions or recommendations presented apply to Site conditions existing when services were performed. Jacobs cannot report on or accurately predict events that may change the Site conditions after the described services are performed, whether occurring naturally or caused by external forces.

b) Jacobs assumes no responsibility for conditions we are not authorized to investigate, or which are not in our specific Scope of Work. Unknown contamination may be exposed during excavation.

c) Jacobs' services shall not include an independent verification of the quality of work conducted and information provided by independent laboratories or other independent contractors retained by Jacobs in connection with Jacobs' services.

In preparing this Phase Two ESA, Jacobs relied, in whole or in part, on data and information provided by the City and third parties, which information was not independently verified by Jacobs, and which Jacobs has assumed to be accurate, complete, reliable, and current. Therefore, while Jacobs has utilized its best efforts in preparing this Phase Two ESA, Jacobs does not warrant or guarantee the conclusions set forth in this Phase Two ESA that are dependent or based upon data, information, or statements supplied by third parties or the City.

Tables

Table 3-1. Summary of Environmental Reports

55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

Summary	Field Program	Field Program Results and Other Observations	Data or Information Relied Upon?	Steps Take to Ensure Data or Information is Reliable or Updated (Screening Data)
XCG Environmental Services Inc. 1993. Guelph Hydro Phase I/Phase 2 Environmental Audits of Five Transformer Station Properties. Prepared for Guelph Hydro. November.				
Soil samples were collected from within transformer compounds specifically between transformer bases or between the transformer base and entrance gates. Transformer Station MS12 is associated with the Phase Two Property.	▪ One soil sample (SA9) analyzed for PCBs and Metals	▪ PCBs in soil exceed the current Table 2 SCS ▪ Metals (Cd, Cu, Zn) exceed the current Table 2 SCS	▪ PCB data may not represent current conditions as Kewen report (2001) indicates "cleanup" activities. Data used for screening only. ▪ Metals soil data is not considered suitable for RSC purposes. Data used for screening only.	▪ Additional soil samples collected at and in the vicinity of SA9 (BH200 and BH209) and analyzed for PCBs. ▪ Additional soil samples collected at and in the vicinity of SA9 (BH200 and BH209) and analyzed for metals to update previous results.
Kewen Environmental Limited. 2001. Baker Street Parking Lot, City of Guelph, Ontario, Phase II Environmental Site Assessment. Prepared for The City of Guelph. August 7.				
Investigation in follow-up to a Phase One ESA. Eleven boreholes and three monitoring wells were advanced. Report indicates that the transformer station was removed in 1989 and that "cleanup" activities were completed around the former transformers in 1998. Two of the three monitoring wells installed were dry.	▪ Two soil samples analyzed for VOCs ▪ Eleven soil samples analyzed for pH, EC, and metals ▪ One groundwater sample analyzed for metals, sodium, chloride, and general chemistry	▪ VOCs in soil meet the current Table 2 SCS ▪ Soil pH greater than 9 in five surface samples ▪ EC in soil exceed the current Table 2 SCS (9 samples) ▪ Pb and Zn in soil exceed the current Table 2 SCS (2 samples) ▪ Metals in groundwater met the current Table 2 SCS, with the exception of antimony; sodium and chloride exceed the current Table 2 SCS (1 sample)	▪ VOC soil data is not considered suitable for RSC purposes. Data used for screening only. ▪ Soil pH and EC data is not considered suitable for RSC purposes. Data used for screening only. ▪ Metals soil data is not considered suitable for RSC purposes. Data used for screening only. ▪ Groundwater data from 2001 is not considered suitable for RSC purposes as it is not representative of current conditions. Data used for screening only.	▪ Additional soil analysis for VOCs, pH, EC, and metals has been conducted across the Site to confirm the presence or absence of historical impacts under current conditions using O. Reg. 153/04 protocols. ▪ Additional groundwater analysis for metals, sodium, and chloride has been conducted across the Site to confirm the presence or absence of historical impacts under current conditions using O. Reg. 153/04 protocols.
XCG Consultants Limited. 2008. Phase II Environmental Site Assessment, Baker Street Redevelopment Site, Guelph, Ontario. Prepared for The City of Guelph. December 19.				
Investigation in follow-up to a Phase One ESA. Twenty boreholes and seven monitoring wells were advanced.	▪ Eight soil samples analyzed for BTEX and VOCs ▪ Twenty soil samples analyzed for metals (excluding uranium) ▪ Four soil samples analyzed for PAHs and PCBs ▪ Sixteen samples analyzed for PHCs ▪ Nineteen soil samples analyzed for pH ▪ Eleven groundwater samples for BTEX, VOCs, Metals, sodium, and PHCs ▪ One groundwater sample for PCBs	▪ BTEX and VOCs in soil meet the current Table 2 SCS ▪ Lead in soil exceed the current Table 2 SCS (2 samples) ▪ PAHs in soil exceed the current Table 2 SCS (1 sample) ▪ PCBs in soil meet the current Table 2 SCS ▪ PHCs in soil exceed the current Table 2 SCS (1 sample) ▪ Soil pH greater than 9 in two surface samples ▪ BTEX and VOCs in groundwater meet the current Table 2 SCS ▪ Ba (1 location), Cd (1 location), and Co (1 location) in groundwater exceed the current Table 2 SCS ▪ Sodium (9 locations) in groundwater exceed the current Table 2 SCS ▪ PHC F4 in groundwater (1 location) exceed the current Table 2 SCS ▪ PCBs in groundwater meet the current Table 2 SCS	▪ All soil data from this investigation, apart from the pH data, is considered suitable for RSC purposes. ▪ Metals data is missing uranium analysis, but is considered suitable for RSC purposes. ▪ Groundwater data from 2008 is not considered suitable for RSC purposes as it is not representative of current conditions. Data used for screening only.	▪ Review of borehole logs indicates that concrete or brick fragments may have been included in soil samples submitted for pH. Therefore, soil pH results may be biased high and not representative of actual conditions. Additional soil analysis for pH has been conducted across the Site as part of the current investigation. ▪ COAs are available for all soil samples. ▪ All soil analysis was completed using O. Reg. 153/04 protocols applicable at the time of the investigation. Uranium was not regulated under O. Reg. 153/04 at the time of investigation and is missing from the Metals analysis suite. Uranium has not been specifically identified as a COC for the Site. As such, the Metals analysis from the 2008 investigation is considered usable and reliable. Additional soil sampling for uranium has been conducted across the Site as part of the current investigation. ▪ Additional groundwater analysis for metals, sodium, and PHCs has been conducted across the Site to confirm the presence or absence of historical impacts under current conditions using O. Reg. 153/04 protocols.

Notes:

Ba = barium
BTEX = benzene, toluene, ethylbenzene, and xylenes
Cd = cadmium
COA = certificate of analysis
COC = contaminant of concern
Cu = copper
EC = electrical conductivity
ESA = environmental site assessment
mbgs = metre(s) below ground surface
MECP = Ontario Ministry of the Environment, Conservation and Parks
O. Reg. = Ontario Regulation
PAHs = polycyclic aromatic hydrocarbons
Pb = lead
PCBs = polychlorinated biphenyls
PHCs = petroleum hydrocarbons
RSC = Record of Site Condition
SCS = site condition standard
VOCs = volatile organic compounds
Zn = zinc

Table 4-1. Phase One Conceptual Site Model

Phase One ESA Summary, 55 Baker Street, 152, 160 Wyndham Street North and Park Lane, Guelph, Ontario

Phase One CSM Element	Summary
Existing Buildings and Structures	No buildings exist on the Phase One Property. The Site consists of two asphalt parking lots (55 Baker Street, 152 and 160 Wyndham) and an asphalt laneway (Park Lane).
Identify Water Bodies in the Phase One Study Area	The Speed River is located approximately 130 to 150 m north-northeast of the Phase One Property.
Areas of Natural Significance	No areas of natural significance were identified within the Phase One Study Area.
Presence of Drinking Water Wells	No drinking water wells were identified on the Phase One Property. The Site and surrounding properties are serviced with potable water obtained from municipal groundwater supply wells located within the City of Guelph. Water wells within 500 m of the Site listed in the Ontario Water well records database are shown on Figure 6 of the Phase One ESA Update (Jacobs, 2021).
Identify Roads within the Phase One	Figure 7 of the Phase One ESA Update (Jacobs, 2021) presents the roadways and land uses within the Phase One Study Area.
Adjacent Property Uses	Figure 7 of the Phase One ESA Update (Jacobs, 2021) and Figure 3 of the Phase One ESA (Pinchin 2018) presents the adjacent property use: • To the north: commercial/industrial and residential • To the east: commercial/industrial and mixed use residential/commercial • To the south: residential, commercial/industrial and mixed use residential/commercial • To the west: residential, commercial/industrial and mixed use residential/commercial
Identify PCAs in the Phase One Study Area	A total of 129 PCAs were identified in the Phase One Study Area and are shown on Figure 4-1a and 4-1b along with approximate locations of historical USTs. Details and descriptions of the PCAs are provided in Table 4-2, and indicate which PCAs result in an APEC.
Identify APECs	The Phase One ESA (Pinchin, 2018) and Jacobs identified twenty-two APECs for the Phase One Property, eight attributable to onsite PCAs, and 14 attributable to offsite PCAs. APECs and are listed in Table 4-3 and shown on Figure 4-2.
COPCs	The COPCs identified by Jacobs from a review of the Phase One ESA (Pinchin, 2018) include metals (including hydride-forming metals), other regulated parameters (hot water soluble (HWS) boron, cyanide, EC, SAR, sodium, chloride, mercury, hexavalent chromium), VOCs, BTEX, PHCs, PAHs, dioxins/furans and ABNs.
Presence of Underground Utilities	Underground utilities on the Phase One Property provide electrical services to the light standards and pay meters, in addition to storm sewers which provide the drainage to the parking lots. The Site Representative indicated that a parking attendant building was recently demolished in 2016 on the west central portion of the property. The building was serviced by municipal water and was connected to the sanitary sewer system. Additionally, several buildings were historically present on the Phase One Property as shown on Figure 2-2a. It is unclear if utilities associated with these former buildings remain on the Phase One Property. Estimated depths of the utilities are 1 mbgs for electrical utilities, and 3 mbgs for storm sewers. Previous reports indicate that groundwater was encountered at depths of approximately 3.5 to 8.9 mbgs, therefore utility corridors are expected to be present above the water table and would not act as a preferential pathway for contaminant distribution and transport. It is unclear if historical utilities resulting from the historical industrial use on the Phase One Property are still present. Known utilities are presented on Figure 2-2b.
Regional/Local Geology	The Phase One Property and surrounding properties are located within the physiographical area identified as the Guelph Drumlin Field. Glacialfluvial outwash deposits of sands and gravel occur, underlain in places by fine-graines silts and clays, overlying dolostone bedrock. Native subsurface materials encountered during previous investigations (XCG, 2008), consisted of silty sand, silt and gravel, cobbles, sand and silt. No bedrock outcrops were observed on Site or in the surrounding area. Based on information provided in previous investigations (XCG, 2008), the overburden thickness ranges between approximately 4.3 and 7.3 m.
Regional/Local Hydrogeology	The Phase One Property is relatively flat, with a slight slope to the south. The surrounding area slopes gradually to the south and east towards the Speed River as shown on Figure 3-1. The Speed River is located 130 m north-northeast and 440 m east of the Site, and flows southeast and discharges into the Grand River located approximately 19 kilometres south of the Site. Based on an elevation survey completed as part of previous investigations (XCG, 2008) the groundwater at the Site flows in an east-southeast direction towards the Speed River.
Uncertainties Affecting the Validity of Phase One CSM	On the basis of the uncertainties presented within the Phase One ESA report, it is possible that a PCA/APEC or land use has not been identified within the individual components of the Phase One ESA. Information was gathered from numerous sources (that is, aerial photographs, City Directories, database searches, historical reports, interviews, and site reconnaissance), which decreases the chance that a major PCA or land use was not identified in this Phase One ESA. Many aspects of the CSM have been previously studied and verified through subsurface investigations (for example, groundwater flow direction); these aspects are not directly affected by the noted uncertainties: • Quality of aerial photographs may not allow some features to be clearly identified, and professional judgment was used to relate the historical features identified in the aerial photographs to present day locations • Municipal addresses are known to change • Information provided by interviewed individuals, could be based on hearsay or personal opinion

Notes:

This Phase One Conceptual Site Model was prepared by Jacobs based on the Phase One Environmental Site Assessment prepared by Pinchin (2008) and the information reviewed as part of the Phase One ESA (Jacobs 2021) Update.

ABN = Acid base neutral
APEC = Areas of Potential Concern
BTEX = benzene, ethylbenzene, toluene and xylenes
COPC = Contaminant of Potential Concern
CSM = Contaminated Sites Model
EC = electrical conductivity
ESA = Environmental Site Assessment
masl = metre(s) above sea level
masl = metre(s) above sea level
mbgs = metre(s) below ground surface
PAH = Polycyclic aromatic hydrocarbon
PCA = Potentially Contaminating Activity
Phase One Property = 55 Baker Street, 152 and 160 Wyndham Street N, Park Lane
PHC = Petroleum hydrocarbon
SAR = sodium adsorption ratio
UST = underground storage tanks
VOC = volatile organic compound(s)
VOC = volatile organic compound(s)

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

Potentially Contaminating Activity (PCA) (1)		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale (4)	Information Source
34	Metal Fabrication	1	Historical Industrial Property Use - Coil wire springs (J. Steele Ltd. / Steele's Wire Spring Ltd.) sewing machines (Raymond Manufacturing Co. Ltd./ White Sewing Machine Co. of Canada), and accessories were historically manufactured at 55 Baker Street.	North and Central Portions of Parcel A	Onsite	YES	APEC-01	PCA on the Phase One Property	FIP
30	Importation of Fill Material of Unknown Quality	2	Unknown/Poor Quality Fill Material – Fill material to 3.0 metres below ground surface (mbgs) was identified at 55 Baker Street in the XCG Phase II ESA (XCG 2008), and is also likely located at the Wyndham properties from demolition of historical buildings, based on when it was developed (1862).	Entire Phase One Property	Onsite	YES	APEC-02	PCA on the Phase One Property	HER
55	Transformer Manufacturing, Processing and Use	3	Historical Transformers – The 1960 FIP identified an area of 55 Baker Street labelled as 'transformers.'	East-Central Portion of Parcel A	Onsite	YES	APEC-03	PCA on the Phase One Property	FIP
48	Salt Manufacturing, Processing and Bulk Storage	56	Use of Road Salts at the Property – The Site is currently used as a parking lot and road salts are known to be applied for vehicular and pedestrian safety.	Entire Phase One Property	Onsite	YES	APEC-04	PCA on the Phase One Property	SR
37	Operation of Dry Cleaning Equipment (where chemicals are used)	5	Historical Dry Cleaning - Potential dry cleaners were identified at 164-166 Woolwich Street on FIPs (1929, 1946). The building is labeled as "Cleaning & Dyeing" on the 1929 FIP with a small area in the back labeled "Dry Cleaning. The 1946 FIP has the building relabeled as "Clothes Cleaning". City directories list Card, JM Co. Cleaners and Dyers and Woolwich Cleaners and Tailors at 164-166 Woolwich between 1917 and 1955.	164-166 Woolwich Street	Offsite	YES	APEC-05	Hydraulically downgradient, but adjacent to the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	4	Historical Retail Fuel Outlet – operations were identified at 160 Woolwich Street and showed four associated gasoline USTs fronting on Woolwich on the 1929 FIP, and two gasoline USTs on the 1960 FIP.	160 Woolwich Street	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
32	Iron and Steel Manufacturing and Processing	78	Historical Iron Foundry - The 1878 FIP shows W.H. Mills Stove Mfg at the southwest corner of Woolwich and Wyndham	Corner of Woolwich and Wyndham Streets	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	79	Historical Garage - a building labeled 'Garage & Repairs' is identified on the 1929 and 1946 FIPs at 160 Woolwich Street. Newstead and Nicholas Garage (automotive repair/servicing) is listed in the city directories in 1930.	160 Woolwich Street	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	80	Historical UST - two gasoline USTs are identified on Baker Street, on the west side of the building at 164-166 Woolwich (Cleaning & Dyeing) on the 1929 FIP	164-166 Woolwich Street / Baker Street	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	12	Potential Historical Dry Cleaning - "Chinese Laundry" was located at 152 Woolwich Street from at least 1911 to 1946 based on FIPs (1911, 1929, 1946) and city directories (Lee, Lee Laundry from 1917 to 1936). It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not	152 Woolwich Street	Offsite	YES	APEC-07	Hydraulically downgradient, but adjacent to the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	52	Historical Dry Cleaning - Potential dry cleaners (Langley's Ltd. Cleaners) were identified at 172 Wyndham Street North between at least 1930 and 1939 based on city directories.	172 Wyndham Street North	Offsite	YES	APEC-08	Hydraulically downgradient, but adjacent to the Phase One Property	CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	76	Historical Garage - a building labeled 'Garage & Repairs' is identified on the 1929 FIP at 166 Wyndham Street North	166 Wyndham Street North	Offsite	YES	APEC-08	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	77	Historical UST - a gasoline UST is identified at 168 Wyndham Street North on the 1929 FIP, in the front of an building for auto accessories.	168 Wyndham Street North	Offsite	YES	APEC-08	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	13	Historical Fuel Oil Underground Storage Tank (UST) – A historical UST was identified at 176 Wyndham Street North along the west exterior wall (beside the garage and repairs building) on the 1960 FIP.	176 Wyndham Street North	Offsite	YES	APEC-09	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	53	Historical Automotive Repair – A historical automotive repair shop was identified at the back of 176 Wyndham Street on the 1960 FIP.	176 Wyndham Street North	Offsite	YES	APEC-10	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
34	Metal Fabrication	8	Historical Offsite Industrial Operations - Industrial manufacturing and potential metal fabrication was noted along Yarmouth Street from as early as 1929. Cooke & Denison Machine and Tool Works was identified at 40 Baker Street on FIPs from 1929 to 1960.	40 Baker Street	Offsite	YES	APEC-11	Hydraulically upgradient and adjacent to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	9	Historical UST - One UST identified on the 1946 FIP on the southwest portion of 40 Baker Street.	South of #29-40 Baker Street	Offsite	YES	APEC-11	Hydraulically upgradient and adjacent to the Phase One Property	FIP

Table 4-2. Potentially Contaminating Activities

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Potentially Contaminating Activity (PCA) (1)		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale (4)	Information Source
28	Gasoline and Associated Products Storage in Fixed Tanks	71	Historical Fuel Oil Tank – A historical above ground fuel oil tank was identified on the 1960 FIP between the Cooke & Denison and Austin Laboratories properties between 25 Yarmouth and 32-34 Baker Street.	25 Yarmouth Street / 32-34 Baker Street	Offsite	YES	APEC-11	Hydraulically upgradient and adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	6	Historical Automotive Garage – An automotive garage (Swanston L B Auto Repair and Heffernon Motor Car Co. Garage) was identified at 45 Yarmouth Street from approximately 1929 to 1960 based on FIPs and City directories. A Record of Site condition record was noted to have been filed in July 2020 for a change from	45 Yarmouth Street / 52 Baker Street	Offsite	YES	APEC-12	Hydraulically upgradient and adjacent to the Phase One Property	FIP, ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	7	Historical USTs - Two USTs identified on Yarmouth Street on the 1929 and 1946 FIPs were associated with the historical automotive repair/servicing operations at 45 Baker Street.	On Yarmouth Street/ behind 45 Yarmouth / 52 Baker Street	Offsite	YES	APEC-12	Hydraulically upgradient and adjacent to the Phase One Property	FIP
34	Metal Fabrication	70	Historical Industrial Operations - C. Raymond Sewing Machine Mfg./White Sewing Machine Co. of Canada is present between Yarmouth and Baker Streets on the 1878, 1892 and 1911 FIPs. Buildings include moulding shop, machine shop, iron storage, polishing and plating (3rd floor). Bridge and tunnels noted across Baker Street when operations expanded to the Site.	between Yarmouth and Baker Streets	Offsite	YES	APEC-12	Hydraulically upgradient and adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	18	Historical Automotive Repair - Heffernan Motors, a historical garage, was identified at 146 Wyndham Street North (from approximately 1930 until 1946) based on city directories.	146 Wyndham Street North	Offsite	YES	APEC-13	Hydraulically upgradient/ transgradient and adjacent to the Phase One Property	CDL
other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	27	Historical Gasoline Spill – Base on database searches, a historical gasoline spill (80 Litres) at the intersection of Chapel Lane and Baker Street occurred in 2003, with possible environmental impact to land and water.	intersection of Chapel Lane and Baker Street	Offsite	YES	APEC-14	Hydraulically upgradient and adjacent to the Phase One Property	ELE
37	Operation of Dry Cleaning Equipment (where chemicals are used)	19	Potential Historical Dry Cleaning - potential dry cleaning operations were identified at 108 Wyndham Street North from 1917 to 1922 based on city directories (Gemmel & Co. Dyers and Cleaners).	108 Wyndham Street North	Offsite	YES	APEC-15	Hydraulically downgradient, but adjacent to the Phase One Property	CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	25	Historical UST - the 1946 FIP identified one UST under the roadway at 7 Quebec Street.	7 Quebec Street	Offsite	YES	APEC-16	Hydraulically upgradient/ transgradient to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	43	Historical Aboveground Storage Tank (AST): - Vent and fill pipes associated with an AST were observed at the corner of 20 Quebec Street, a southern adjacent property to the Site during the Pinchin Site Visit (in 2018).	20 Quebec Street	Offsite	YES	APEC-16	Hydraulically upgradient and adjacent to the Phase One Property	SR
28	Gasoline and Associated Products Storage in Fixed Tanks	50	Historical Service Station - A service station with 3 associated gasoline USTs is identified at the southwest corner of Suffolk and Yarmouth Streets (25 Suffolk) on the1946 and 1960 FIPs. City directories list Regent C&H Service Station, at 27 Suffolk Street East in 1955.	27 Suffolk Street East	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	51	Historical Dry Cleaning Operation - Reliable Cleaners, a potential dry cleaning facility was listed at 84 Yarmouth Street in 1955 in city directories.	84 Yarmouth Street	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	55	Historical Automotive Repair - City directories list Hasting Motors, an automotive repair/servicing facility at 27 Suffolk Street East in 1955.	27 Suffolk Street East	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	CDL

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Potentially Contaminating Activity (PCA) (1)		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale (4)	Information Source
57	Vehicles and Associated Parts Manufacturing	81	Historical Coach and Body Manufacturing - Guelph Coach & Body is located at 9-21 Suffolk Street East on the 1946 FIP. Buildings include Auto accessories, glazing, upholstering, office, glass storage and printing.	9-21 Suffolk Street East	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	FIP
34	Metal Fabrication	82	Historical Industrial Property Use - Sewing machine manufacturing (Chas Raymond's Sewing machine Mfg) was indicated on the 1878 and 1892 FIP, located at the southeast corner of Suffolk and Yarmouth.	Suffolk and Yarmouth Street	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	57	Former Oil Shed – The 1911 FIP showed a small oil shed in the southwestern corner of the White Sewing Machine of Canada parcel of land on 55 Baker Street.	Southwest portion of 55 Baker Street	Onsite	YES	APEC-18	PCA on the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	58	Former Oil House – The 1911 FIP showed a small oil house on the former White Sewing Machine of Canada parcel, now the western portion of 152 Wyndham Street.	Western portion of 152 Wyndham Street North	Onsite	YES	APEC-19	PCA on the Phase One Property	FIP
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	59	Former Coke Storage – The 1911 FIP showed a garage located on the northeastern portion of 55 Baker Street.	Northeast portion of 55 Baker Street	Onsite	YES	APEC-20	PCA on the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	60	Former Garage – The 1960 FIP showed a garage located on the northeastern portion of 55 Baker Street.	Northeast portion of 55 Baker Street	Onsite	YES	APEC-21	PCA on the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	10	Historical UST - One UST identified within the northwest portion of 2 Baker Street (historically 22 Baker Street), in a building labeled 'auto' occupied by Guelph Creamery (1946 FIP).	2 Baker Street	Offsite	YES	APEC-22	Hydraulically upgradient and adjacent to the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	11	Historical Dry Cleaning - Ferguson's Cleaners, a potential dry cleaning operation was listed in the city directories at 2 Quebec Street in 1975.	2 Quebec Street	Offsite	YES	APEC-22	Hydraulically upgradient and adjacent to the Phase One Property	CDL
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	72	Former Coal Yard - A coal yard is identified on the northwest corner of Quebec and Baker Streets.	Quebec and Baker Street	Offsite	YES	APEC-22	Hydraulically upgradient/ transgradient of the Phase One Property	FIP
55	Transformer Manufacturing, Processing and Use	14	Transformer - One pad-mounted oil cooled transformer was identified during the Pinchin Site Visit (in 2018) on the west exterior portion of 138 Wyndham Street North. No staining was observed on the concrete slab in the vicinity of the transformer, and no evidence of leakage was observed during the Site reconnaissance.	Behind 138 Wyndham Street North	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
28	Gasoline and Associated Products Storage in Fixed Tanks	15	Historical Service Station - a former auto servicing and refueling station was located at 145 Woolwich with 4 gasoline USTs located out front, on Woolwich Street. The service station existed from at least 1929 to 1960 based on the FIPs and city directories (Simpson, CT, Service Station).	145 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP, CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	16	Historical Automotive Repair - Auto repair/servicing activities by Muller Bros were present at 135-139 Woolwich Street from at least 1936 until 1960 based on FIPs and city directories.	135-139 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	17	Diesel AST - One emergency diesel-fired emergency generator with an associated belly-tank was identified on the west exterior portion of 138 Wyndham Street North during the Pinchin Site Visit (in 2018). No staining was observed on the concrete slab in the vicinity of the emergency generator and no evidence of leakage was observed during the Site reconnaissance.	Behind 138 Wyndham Street North	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
31	Ink Manufacturing, Processing and Bulk Storage	20	Historical Printing Operation - Printing indicated in back of 90-96 Wyndham Street North on the 1929 and 1946 FIPs. City directories list Kelso Printing Co., at 96 Wyndham Street North in 1936.	96 Wyndham Street North	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	21	Potential Historical Dry Cleaning - "Chinese Laundry" was identified at70 Wyndham Street North on the 1911 and 1916 FIP. Based on city directory searches, these operations were present until approximately 1922 under Young Wong Laundry. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	70 Wyndham Street North	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	FIP, CDL

Table 4-2. Potentially Contaminating Activities

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37	Operation of Dry Cleaning Equipment (where chemicals are used)	22	Potential Historical Dry Cleaning - "Chinese Laundry" was identified at 55-57 Quebec Street from approximately 1910 to 1946 based on FIPs and city directories (Lee Wing Laundry present from 1910 to 1939). It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	55-57 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	23	Potential Historical Dry Cleaning - "Cleaning and Pressing" at 49 Quebec Street on 1911 and 1916 FIPs, and Chas Kutt cleaner listed in the city directories from 1910 to 1916. It is noted that PCE was not being readily used in dry cleaning until the 1930s.	49 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	24	Potential Historical Dry Cleaning - Starkman Cleaning and Pressing, a potential dry cleaning operation was listed at 31 Quebec Street, from 1916 until 1917. It is noted that PCE was not being readily used in dry cleaning until the 1930s.	31-35 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	26	Potential Historical Dry Cleaning - a building labelled 'cleaning and pressing', a potential dry cleaning operation was identified at 17 Quebec Street in the 1946 FIP.	17 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	28	Historical Service Station and USTs - The 1929 and 1946 FIPs identified a gasoline UST at 88 Norfolk Street, in front of the automotive garage on Norfolk Street. The 1960 FIP identifies a gasoline service station in place of the garage, with 3 USTs within the property and an associated address of 90 Norfolk Street.	Norfolk and Commercial Street (88 / 90 Norfolk Street)	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	29	Historical UST - the 1946 FIP identified one gasoline UST at 17 Quebec Street	behind 19-23 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	30	Potential Historical Dry Cleaning - "Chinese Laundry" was indicated at 13 Quebec Street on the 1916 FIP. The city directories indicate Ontario Laundry is present from 1917 to 1930. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	13 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	31	Historical Gasoline Service Station - a refueling station with 3 associated USTs is identified on the 1946 FIP at 46-48 Cork Street East.	46-48 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	32	Historical Automotive Repair - a garage is identified on the 1916 to 1960 FIPs at 23-25 Cork Street East.	23-25 Cork Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	33	Historical UST - the 1929 to 1960 FIPs identify one UST in front of the garage at 23-25 Cork Street East	23 Cork Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	34	Potential Historical Dry Cleaning - "Chinese Laundry" was indicated at 34 Quebec Street on the 1911 FIP. Elm Bros Laundry was identified in the city directories at 34 Quebec Street from 1910 until 1916. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	34 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Based on the nature of the indicated services, the likelihood that the	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	35	Historical Oil Cellar - Bond Hardware Co. Ltd. was located at 42-56 Wyndham Street North. This property was labelled on the 1892, 1911 and 1916 FIPs as containing an 'oil cellar under the sidewalk' at the northwest exterior corner of this building.	St. George Square	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	36	Historical Printing Operation - Clark Printer, a historical printing operation was listed in city directories at 14 Wyndham Street North in 1901.	14 Wyndham Street North	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	CDL

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31	Ink Manufacturing, Processing and Bulk Storage	37	Historical Printing Operation - Turnbull Wright Co. Printers, a historical printing operation was listed in city directories at 13 Wyndham Street North in 1901.	13 Wyndham Street North	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	38	Historical UST - the 1946 FIP identified one UST at 106 Quebec Street	106 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	39	Historical Automotive Repair - 'Garage & Repairs' were identified in the 1946 FIP at 106 Quebec Street.	106 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	40	Historical Printing Operation - Herald Printing, a historical printing operation was identified at 65 Quebec Street in the 1892, 1897, and 1911 FIPs.	65 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	41	Potential Historical Dry Cleaning - Based on city directories Sam Sing Landry, a potential dry cleaning operation was identified at 146 Quebec Street in 1917 until 1939. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	146 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	42	Potential Historical Dry Cleaning - Chinese Laundry, a potential dry cleaning operation was identified at 101 Quebec Street in 1910 until 1944 on city directories and on the 1911 FIP. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	101 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP, CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	44	Historical Automotive Repair - a garage is identified at 169 Woolwich Street on the 1929 FIP, with an 'Auto Ignition and Battery Service' under construction on the 1946 FIP.	173 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	45	Historical Gasoline Service Station - a refueling and auto service station with 4 associated USTs is identified on the 1929 and 1946 FIPs at the southwest corner of Woolwich and Suffolk Streets. City directories indicate service stations (White Rose Service Station, Can Oil Co's Ltd. Service Station and Daley's Tire Shop Ltd & Service Station) present up to 1980.	192 Woolwich Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	46	Dry Cleaning Operations - Dry cleaning operation (4 Raza Inc, Parkers Cleaners, Daniel's Dry Cleaners Ltd.) have been located at 22 Suffolk Street East from 1986 to present based on city directories and MECP waste generator records.	22 Suffolk Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	CDL, ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	47	Historical UST - the CFOT/FST database (ERIS) indicated that a 500 L fuel oil UST (single-wall steel) was installed at 21 Paisley Street in 2005 for Crewgall Properties. A furnace oil spill was reported in 2005 with soil contamination (amount not reported). The tank was delisted in 2013.	21 Paisley Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	ELE
31	Ink Manufacturing, Processing and Bulk Storage	48	Historical Printing Operation - Leaman Printing Co., a historical printing operation was listed in the city directories at 54 Cork Street East, from 1939 until 1944	50 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	49	Historical UST - the CFOT database indicated that a 5,072-L fibreglass reinforced plastic single-wall fuel oil UST was installed at 20 Cork Street East in 1986 for Bell Canada.	20 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
31	*Ink Manufacturing, Processing and Bulk Storage*	*54*	*Historical Printing Operation - a historical printing operation was reported at 90 Woolwich Street in the Pinchin Phase One from the 1946 FIP; however Jacobs reviewed this FIP and did not see any noted operations at this address, and therefore this PCA is noted to be removed.*	*90 Woolwich Street*	*Offsite*	*NO*		*PCA removed, was not found on source material as reported.*	

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27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	61	Historical l Automotive Repair - a building labeled "Garage" is present on the 1911 to 1946 FIPs at 88 Norfolk Street.	Norfolk and Commercial Street (88 Norfolk Street)	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	62	Historical Industrial Property Use - Various industrial companies occupied the southwest intersection of Paisley and Norfolk Streets. The 1878 FIP shows Wilkie & Osborne (Guelph Sewing Machine Co.); the 1892 FIP shows Guelph Enterprise Mfg. Co.; the 1911 FIP identifies Guelph Stove Co. (with associated moulding shop, tin shop, tinsmith, office/shipping, packing, mounting, nickel plating, milling, carpentry, sand shed); the 1916 FIP shows Royal City Stone Co.	Paisley and Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
32	Iron and Steel Manufacturing and Processing	63	Historical Iron Foundry - J. Crowe Iron Works/Crowe's Iron Works identified on the 1878 and 1892 FIPs at the southwest corner of Cambridge (now Commercial) and Gordon (Norfolk)	Norfolk and Commercial Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	64	Historical Printing Operation - a printing company (Central Printing Services) was identified at 72 Norfolk Street based on ERIS Scott's Manufacturing records, indicating an established date of 1961.	72 Norfolk Street	Offsite	No		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	ELE
39	Paints Manufacturing, Processing and Bulk Storage	65	Former Paint Shop - a paint shop was identified on the 1916 FIP at 85 Norfolk Street	85 Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	66	Historical Tinsmith - Tinsmith operation indicated on the 1946 and 1960 FIP at 85 Norfolk Street	85 Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	67	Historical Garage - an auto garage, and later auto trimming was identified on the 1911 and 1929 FIPs at 85 Norfolk Street	85 Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
55	Transformer Manufacturing, Processing and Use	68	Transformer - One pad-mounted transformer was identified during the Jacobs Site Visit (in 2020) on the west exterior portion of 45 Yarmouth Street North. No staining was observed on the concrete slab in the vicinity of the transformer and no evidence of leakage was observed during the Site reconnaissance.	45 Yarmouth Street	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
55	Transformer Manufacturing, Processing and Use	69	Transformer - One pad-mounted transformer was identified during the Jacobs Site Visit (in 2020) on the south exterior portion of 40 Baker Street North. No staining was observed on the concrete slab in the vicinity of the transformer and no evidence of leakage was observed during the Site reconnaissance.	40 Baker Street	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
57	Vehicles and Associated Parts Manufacturing	73	Historical Wagon Shop - Charles Thain Wagon Shop is shown on Wyndham Street on the 1878 FIP.	Wyndham Street	Offsite	NO		Hydraulically downgradient of the Phase One Property, and nature of PCA is shallow soil contamination	FIP
55	Transformer Manufacturing, Processing and Use	74	Transformer - One pad-mounted transformer was identified during the Jacobs Site Visit (in 2020) on the west exterior portion of 146 Wyndham Street North. No staining was observed on the concrete slab in the vicinity of the transformer and no evidence of leakage was observed during the Site reconnaissance.	146 Wyndham Street North	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
28	Gasoline and Associated Products Storage in Fixed Tanks	75	Historical UST - a gasoline UST is identified at 156 Wyndham Street North on the 1929 FIP, on the east side of the building.	156 Wyndham Street North	Offsite	NO		Adjacent to the Phase One Property, however multiple lines of evidence indicate the PCA does not result in an APEC:	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	83	Historical Automotive Repair - an automotive servicing facility is identifies at 22 Suffolk Street East on the 1929 and 1946 FIPs.	22 Suffolk Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	84	Historical Paint Building - "Paint" is indicated on a building on the 1916 FIP at 12 Suffolk Street	12 Suffolk Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

Potentially Contaminating Activity (PCA) (1)		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale (4)	Information Source
28	Gasoline and Associated Products Storage in Fixed Tanks	85	Historical Service Station - A service station with 5 associated gasoline USTs is identified at the southeast corner of Norfolk and Woolwich Streets (234 Woolwich) on the1929 FIP. The 1946 FIP shows 4 gasoline USTs.	Norfolk and Woolwich Streets	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	86	Historical Garage - a garage is identified at 228 Woolwich Street on the 1929 and 1946 FIP	228 Woolwich	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
54	Textile Manufacturing and Processing	87	Textile manufacturing - a former textile manufacturer (Buy the Yard) was identified for 214 Woolwich Street based on ERIS Scott's Manufacturing records in 1989.	214 Woolwich Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
54	Textile Manufacturing and Processing	88	Historical Textile Factory - Royal Knitting Co. is located at 37 - 41 Norwich Street East on the 1911, 1916 and 1929 FIPs, with buildings including factory, storage, stock, dye house.	37-47 Norwich Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
59	Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	89	Historical Varnishing Operations - a building labeled 'Varnishing' is identified at the corner of Norwich Street East and Cardigan Street on the 1911 FIP.	Norwich Street East and Cardigan Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	90	Historical Paint Shop - a paint shop is identified at the corner of Norwich Street East and Cardigan Street on the 1911 FIP.	Norwich Street East and Cardigan Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
57	Vehicles and Associated Parts Manufacturing	91	Vehicle parts manufacturer - a former motor vehicle brakes manufacturer (ABS Friction Corp.) was identified at 199 Woolwich Street based on an ERIS Scott's Manufacturing record for 1996.	199 Woolwich St.	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE
46	Rail Yards, Tracks and Spurs	92	Railway Tracks - Canadian Pacific Railway lines are shown on the west/south side of Speed River. The lines have existed since at least 1908 and are present today.	West/South of Speed River	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	93	Historical Garage - Royal City Garage is identified on Eramosa Street on the 1916 FIP	Eramosa Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
57	Vehicles and Associated Parts Manufacturing	94	Historical Industrial Operations - a blacksmith and carriage shop is indicated on the 1892, 1911 and 1916 FIPs at 135-143 Woolwich Street	135-143 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
34	Metal Fabrication	95	Historical Wire Manufacturing - Wire Tape Manufacturers (National Standard Co. of Canada Limited) are identified on the 1929 to 1960 FIPs at 133 Woolwich Street, with buildings/operations extending behind and to the north of the neighbouring properties.	133 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	96	Historical Paint Shop - a paint shop is indicated on the 1916 FIP at 127 Woolwich Street; possibly associated with the carriage factory.	127 Woolwich Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
57	Vehicles and Associated Parts Manufacturing	97	Historical Carriage, Motorbody and Farm Equipment Manufacturing - Carriage Factory (C. Kloepfer) is indicated on the 1911/1916 FIPs, and Commercial Motor Bodies & Carriages on the 1929 FIP at 121-133 Woolwich. Buildings include woodworking, storage, trimming, shipping, coal shed, blacksmith. On the 1946 FIP W.G. Wood Co. Ltd is identified for manufacturing of farm equipment.	121-133 Woolwich Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	98	Historical Printing Operation - former book publishing operations (Ampersand Printing, ID Magazine, Ribbon Encore Inc.) were identified at 123 Woolwich Street from between 1986 through 2008 based on ERIS waste generator records.	123 Woolwich Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

Potentially Contaminating Activity (PCA) (1)		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale (4)	Information Source
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	99	Historical Garage - a building labeled 'Garage' was identified on the 1929 FIP at 98 Quebec Street.	98 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	100	Historical UST - Two USTs were identified on the 1929 FIP at 98 Quebec Street in front of a building labeled garage.	98 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	101	Historical Printing Operation - a newspaper publisher (Echo Weekly) was identified at 55 Wyndham Street North (Suite T 19B) based on ERIS Scott's Manufacturing records, indicating an established date of 1997 .	55 Wyndham Street North	Offsite	No		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE
57	Vehicles and Associated Parts Manufacturing	102	Historical Carriage Goods Manufacturing - Guelph Carriage Goods Co. (1892 FIP), Penfolds Carriage Factory (1892, 1897 and 1911 FIPs) and J. B. Armstrong Mfg. Co. Ltd, (1897 and 1911 FIPs) were located in what was referred to as the "Armstrong Block", between Quebec and Macdonell Streets. The operations included a spring shop, machine shop, woodworking, storage, blacksmith, warehouse.	between Quebec and Macdonell Streets	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	103	Historical Garage - a building labeled 'Garage' was identified on the 1929 FIP at 82-84 Macdonell Street.	82-84 Macdonell Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	104	Historical Printing Operation - a former printing operation (Kwik Kopy Printing) was identified at 27 Wyndham Street based on ERIS Scott's Manufacturing records (established 1984).	27 Wyndham St N	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	105	Historical UST - a UST was identified on the 1929 FIP at 84 Macdonell Street, in front of a building labeled garage.	84 Macdonell Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	106	Former Paint Shop - Paint shop located on 17 Quebec Street (1911 FIP).	17 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	107	Historical Painting Storage - A building labeled "Paints" was identified on the 1911 and 1916 FIPs at 29 Quebec Street	29 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	108	Historical l Automotive Repair - a building labeled "Garage" and "National Automotive Implements" is present on the 1929 and 1946 FIPs, respectively, at 40 Cork Street East.	40 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	109	Historical Potential Dry Cleaning - 'Cleaning & Pressing' identified on the 1911 FIP at 44 Cork Street East	44 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	110	Historical Printing Operation- a former printing business (The Printery) was identified at 46 Cork Street East (Unit 1), established in1990 based on ERIS Scott's Manufacturing records.	46 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
31	Ink Manufacturing, Processing and Bulk Storage	111	Historical Printing Operation - a former printing operation (Justified Type) was identified at 19 Cork Street East in1987 based on ERIS Scott's Manufacturing records and waste generator records for 2005 to 2012.	19 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
34	Metal Fabrication	112	Historical Blacksmith - Blacksmith identified at 39-41 Cork Street East on the 1911 and 1916 FIP	39-41 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

Potentially Contaminating Activity (PCA) (1)		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale (4)	Information Source
37	Operation of Dry Cleaning Equipment (where chemicals are used)	113	Historical Potential Dry Cleaning - 'Cleaning & Pressing' identified on the 1911 FIP at 45 Cork Street East	45 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	114	Historical Printing Operations - a building labeled printing is identified on the 1911 to 1946 FIPs at 47 Cork Street East	47 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	115	Historical UST - a UST was identified at 34 Wyndham Street North based on ERIS spill report of a leak in 1991 due to corrosion where a reported 450 L of hydraulic oil was released to soil and groundwater.	34 Wyndham Street North	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
37	Operation of Dry Cleaning Equipment (where chemicals are used)	116	Historical Potential Dry Cleaning - 'Chinese Laundry' identified on the 1911 and 1916 FIPs at 36 Macdonell Street, and on the 1929 and 1946 FIPs at 30 1/2 Macdonell Street	36 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	117	Historical USTs - four USTs are identified in front of 20-26 Macdonell Street on the 1929 and the two west USTs remain on the 1946 FIP.	20-26 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	118	Historical Blacksmith - Blacksmith identified at 131 Macdonell Street on the 1911 and 1916 FIP	131 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	119	Historical l Automotive Repair - a series of buildings labeled 'Garage/Repair Shop', 'AutoBody Repairs' are present on the 1929 FIPs at 6-16 Macdonell Street. The 1946 FIP shows the operations with a reduced footprint of just 6-10 Macdonell Street.	6-16 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	120	Historical Printers - The Thompson Co. Ltd. Guelph Daily Mercury was located at 8-14 Macdonell Street as identified on the 1960 FIP. The ERIS report identified Scott's Manufacturing and waste generator records from 1989 to 2014 for paint, pigments, coatings, aromatic solvents, waste oils, and photo processing wastes. In 2002, a spill of 100 Gallons of soy based ink related to a fire was identified based on ERIS spill records.	8-14 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP, ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	121	Historical USTs - four USTs are identified in front of 6-10 Macdonell Street (Garage) on the 1929 and 1946 FIPs.	6-10 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	122	Historical Potential Dry Cleaning - 'Chinese Laundry' identified on the 1911 and 1916 FIPs at 8 Carden Street.	8 Carden Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	123	Potential Historical Dry Cleaning - 'Cleaner & Presser' identified on the 1946 FIP at 21 Macdonell Street	21 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	124	Historical Coal Shed - a coal shed is identified on the 1911, 1916 and 1929 FIPs at 18-20 Carden, extending to Macdonell Street.	18-20 Carden	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	125	Historical Potential Dry Cleaning - Master Cleaners is identified on the 1960 FIP at 18-22 Carden Street	18-22 Carden Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	126	Historical Tinsmith - Tinsmith/Tin Shop indicated on the 1911 to 1946 FIP at 31 Macdonell Street	31 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
10	Commercial Autobody Shops	127	Historical Autobody Shop - Pruss Bros. Body & Fender Works were identified at 37 Macdonell Street on the 1946 FIP	37 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

Potentially Contaminating Activity (PCA) [1]		PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) [2]	Property Address / Location of PCA Onsite	Location of PCA [3]	PCA results in APEC	Resulting APEC	Rationale [4]	Information Source
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	128	Spill - A spill of 200-300 L of anti-freeze to the road an catch basin at 55 Macdonell Street in 2015 was identified based on ERIS spill records.	55 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 200 m from the Phase One Property	ELE
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	129	Historical Coal Shed - A coal shed is shown beside the Canadian Pacific Railway lines on the 1911 to 1946 FIPs	Between Cardigan Street and the Rail Lines	Offsite	NO		Hydraulically transgradient/ downgradient to the Phase One Property	FIP

Notes

[1] PCA – potentially contaminating activity (as defined by O.Reg. 153/04)

[2] PCAs 1 to 56 were identified in the Pinchin Phase One ESA (2018), and descriptions have been updated where applicable for clarity. Additional PCAs (57 and above) were identified by Jacobs.

[3] Refer to Figure 8 and 9 for PCA locations.

[4] Regional groundwater flow was inferred to be towards Speed River (north to north-east); site-specific groundwater flow was shown to be towards the north on the north portion of the Site, and to the east on the southern portion of the Site (based on the Phase Two ESA [Jacobs, 2020]). Some of the updgradient/downgradient terminology may have changed from the Pinchin (2018) report based on this updated interpretation.

APEC = Area of Potential Environmental Concern
AST = Aboveground storage tank
CDL = City Directory Listings
ELE = EcoLog ERIS Database Search
FIP = Fire insurance plan
HER = Historical Environmental Reports
ID = Identification
mbgs = metres below ground surface
MECP = Ontario Ministry of the Environment, Conservation and Parks
offsite = Within Phase One Study area, outside the Phase One Property
onsite = Phase One Property
PCA = Potentially contaminating activity
PCE = tetrachloroethylene
SR = site reconnaissance
UST = Underground storage tank

Table 4-3. Areas of Potential Environmental Concern

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Areas of Potential Environmental Concern [a]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity [b]	Location of PCA (on-site or off-site) [c]	Contaminants of Potential Concern [d]	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC-1 Historical Industrial Property Use	55 Baker Street Park Lane	34 Metal Fabrication	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-2 Unknown/Poor Quality Fill Material	Entire Site	30 Importation of Fill Material of Unknown Quality	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-3 Historical Transformers	East-central portion of 55 Baker Street	55 Transformer Manufacturing, Processing and Use	Onsite	PHCs, BTEX, PCBs, PAHs	Soil
APEC-4 Use of Road Salts	Entire Site	48 Salt Manufacturing, Processing and Bulk Storage	Onsite	EC, SAR, sodium, chloride	Soil and Groundwater
APEC-5 Historical Dry Cleaning	North portion of 55 Baker Street	37 Operation of Dry Cleaning Equipment (where chemicals are used)	Offsite - North	VOCs	Groundwater
APEC-6 Historical Retail Fuel Outlet, Historical UST, Historical Automotive repair/servicing and Historical Iron Foundry	North portion of 55 Baker Street	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - North	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
		28 Gasoline and Associated Products Storage in Fixed Tanks			
		32 Iron and Steel Manufacturing and Processing			
APEC-7 Potential Historical Dry Cleaning	North portion of 55 Baker Street	37 Operation of Dry Cleaning Equipment (where chemicals are used)	Offsite - North	VOCs	Groundwater
APEC-8 Potential Historical Dry Cleaning, Historical Garage and Historical UST	North portion of 160 Wyndham Street North and northeast portion of 55 Baker Street	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - Northeast	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
		28 Gasoline and Associated Products Storage in Fixed Tanks			
		37 Operation of Dry Cleaning Equipment (where chemicals are used)			
APEC-9 Historical Fuel Oil UST	North portion of 55 Baker Street	28 Gasoline and Associated Products Storage in Fixed Tanks	Offsite - Northeast	PHCs, VOCs, BTEX, PAHs, Metals (Lead)	Groundwater
APEC-10 Historical Automotive Repair	Northeast portion of 55 Baker Street	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - Northeast	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
APEC-11 Historical Off-Site Industrial Operations, Historical UST and Historical Fuel Oil Tank	West-central portion of 55 Baker Street	34 Metal Fabrication	Offsite - West	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Groundwater
		28 Gasoline and Associated Products Storage in Fixed Tanks			
APEC-12 Historical Automotive Garage, Historical USTs and Historical Industrial Operations	West-central portion of 55 Baker Street	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - West	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Groundwater
		28 Gasoline and Associated Products Storage in Fixed Tanks			
		34 Metal Fabrication			
APEC-13 Historical Automotive Garage	South portion of 152 Wyndham Street North	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - East	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
APEC-14 Historical Gasoline Spill	Southwest corner of 55 Baker Street	Other Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	Offsite - South	PHCs, PAHs, VOCs (MTBE), BTEX	Groundwater
APEC-15 Historical Dry Cleaning	Southeast portion of Park Lane	37 Operation of Dry Cleaning Equipment (where chemicals are used)	Offsite - East	VOCs	Groundwater

Table 4-3. Areas of Potential Environmental Concern

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Areas of Potential Environmental Concern [a]	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity [b]	Location of PCA (on-site or off-site) [c]	Contaminants of Potential Concern [d]	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC-16 Historical AST and UST	Southwest corner of 55 Baker Street	28 Gasoline and Associated Products Storage in Fixed Tanks	Offsite - South	PHCs, VOCs, BTEX, PAHs, Metals (Lead)	Groundwater
APEC-17 Historical Service Station, Historical Dry Cleaning Operation, Historical Automotive Repair, Historical Coah and Body Manufacturing, Historical Industrial Property Use	Northwest portion of 55 Baker Street	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - Northwest	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Groundwater
		28 Gasoline and Associated Products Storage in Fixed Tanks			
		37 Operation of Dry Cleaning Equipment (where chemicals are used)			
		34 Metal Fabrication			
		57 Vehicles and Associated Parts Manufacturing			
APEC-18 Former Oil Shed	Southwest portion of 55 Baker Street	28 Gasoline and Associated Products Storage in Fixed Tanks	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-19 Former Oil House	Western portion of 152 Wyndham Street North	28 Gasoline and Associated Products Storage in Fixed Tanks	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-20 Former Coke Storage	Northeast portion of 55 Baker Street	Other Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX, ABNs	Soil and Groundwater
APEC-21 Former Garage	Northeast portion of 55 Baker Street	27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-22 Historical Dry Cleaning Operations, Historical UST and Former Coal Yard	Southwest portion of 55 Baker Street	28 Gasoline and Associated Products Storage in Fixed Tanks	Offsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
		37 Operation of Dry Cleaning Equipment (where chemicals are used)			
		Other Activity not defined in O. Reg. 153/04 Table 2 of Schedule D			

Notes:

[a] APEC means the area on, in, or under a Phase One Property where one or more contaminants are potentially present, as determined through the Phase One ESA, including through (a) identification of past or present uses on, in, or under the Phase One Property; and (b) identification of PCAs.

APECs 1 to 16 were identified in the Pinchin (2018) Phase One ESA. Additional PCAs were added to offsite APECs 6, 11 and 12 as part of the Phase One ESA Update (Jacobs 2021). APECs 17 to 22 were identified by Jacobs (2021).

[b] PCA – potentially contaminating activity means a use or activity as set out in Column A of Table 2 of Schedule D of O. Reg. 153/04 that is occurring or has occurred in a Phase One study area.

[c] "Onsite" refers to within the Phase One/Two Property; "Offsite" refers to the Phase One Study Area.

[d] Contaminants of potential concern were identified using the Method Groups as identified in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011.

ABN = Acid Base Neutrals
APEC = Area of Potential Environmental Concern
B-HWS = hot water soluble boron
BTEX = benzene, toluene, ethylbenzene and xylenes
CN- = cyanide
COPC = contaminant of potential concern
CrVI = hexavalent chromium
EC = electrical conductivity
Hg = mercury
MTBE = methyl tert-butyl ether
O. Reg. = Ontario Regulation
ORP = other regulated parameter
PAH = Polyaromatic Hydrocarbons
PCB = Polychlorinated biphenyl
PHC = Petroleum Hydrocarbons
SAR = sodium adsorption ratio
UST = underground storage tank
VOC = Volatile Organic Compounds

Table 6-1. Monitoring Well Construction Details

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane and Park Lane, Guelph, Ontario

Well	Northing	Easting	Top of Pipe Elevation (masl)	Ground Surface Elevation (masl)	Installation Date	Well Inner Diameter	Screened Interval				Screened Material
							Start (mbgs)	End (mbgs)	Start (masl)	End (masl)	
BH16-MW2	4821788.6	560489.9	329.43	329.52	November 26, 2008	50 mm	6.00	8.70	323.52	320.82	Bedrock
BH17-MW5D	4821889.2	560432.9	329.65	329.70	November 27, 2008	50 mm	8.50	10.60	321.20	319.10	Bedrock
BH17-MW5S	4821890.0	560433.1	329.65	329.70	November 27, 2008	50 mm	2.50	5.10	327.20	324.60	Silty Sand
MW100	4821807.2	560474.8	329.84	329.93	August 22, 2019	50 mm	5.49	8.53	324.44	321.40	Bedrock
MW101	4821749.6	560553.9	328.52	328.68	August 21, 2019	50 mm	5.72	8.76	322.97	319.92	Silty Sand / Bedrock
MW102A	4821899.0	560437.7	329.35	329.49	August 27, 2019	50 mm	2.13	5.18	327.36	324.31	Sand / Sandy Clayey Silt Till
MW102B	4821899.7	560436.3	329.42	329.52	August 26, 2019	50 mm	8.84	10.36	320.68	319.16	Bedrock
MW103	4821888.4	560449.6	329.34	329.52	August 14, 2019	50 mm	2.13	5.18	327.39	324.34	Silty Sand / Clayey Silt / Sandy Silt / Silt
MW104	4821866.9	560460.4	329.64	329.79	August 13, 2019	50 mm	5.94	8.99	323.85	320.80	Sand / Sandy Clayey Silt Till / Bedrock
MW105	4821820.9	560450.9	329.99	330.10	August 13, 2019	50 mm	5.64	8.69	324.46	321.41	Clayey Silt Till / Silty Sand / Bedrock
MW107	4821768.8	560464.0	329.03	329.17	August 19, 2019	50 mm	5.33	8.38	323.84	320.79	Bedrock
MW107B	4821768.7	560464.8	329.00	329.17	November 20, 2019	50 mm	13.87	15.39	315.30	313.78	Bedrock
MW108	4821875.5	560485.9	329.28	329.38	August 16, 2019	50 mm	6.71	9.75	322.67	319.63	Bedrock
MW109	4821849.8	560485.3	329.91	329.99	August 15, 2019	50 mm	7.32	10.36	322.67	319.63	Bedrock
MW110A	4821775.42	560498.06	329.13	329.05	Nov. 19, 2019	50 mm	5.33	8.38	323.72	320.67	Bedrock
MW110B	4821775.23	560497.92	329.13	328.65	Nov. 19, 2019	50 mm	13.87	15.39	314.78	313.26	Bedrock
MW111	4821830.19	560456.5	330.2	330.06	Nov. 18, 2019	50 mm	13.87	15.39	316.19	314.67	Bedrock
MW113	4821735.43	560472.83	328.25	328.34	April 9, 2020	50 mm	5.18	8.23	323.16	320.11	Bedrock

Notes:

masl = metre(s) above sea level

mbgs = metre(s) below ground surface

mm = millimetre(s)

MW = monitoring well

Table 6-2. Groundwater Measurements

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

							September 11, 2019				September 18, 2019				December 18, 2019				April 15, 2020			
Well IDs	Screened Material	Hydrogeolgic Unit	Top of Screen (mbgs)	Bottom of Screen (mbgs)	Top pf Pipe (masl)	Ground Elevation (masl)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)
Silt																						
BH-17-MW5S	Silty Sand	Perched Groundwater	2.50	5.10	329.65	329.70	--	--	--	--	4.48	--	325.17	4.53	--	--	--	--	--	--	--	--
MW102A	Sand / Sandy Clayey Silt Till	Perched Groundwater	2.13	5.18	329.35	329.49	4.17	--	325.19	4.31	4.23	--	325.12	4.37	4.32	--	325.04	4.45	3.78	--	325.57	3.92
MW103	Silty Sand / Clayey Silt / Sandy Silt / Silt	Perched Groundwater	2.13	5.18	329.34	329.52	3.93	--	325.41	4.11	3.97	--	325.38	4.14	3.82	--	325.52	4.00	3.60	--	325.74	3.78
Bedrock																						
BH16-MW2	Bedrock	Bedrock Aquifer	6.00	8.70	329.43	329.52	--	--	--	--	7.29	--	322.14	7.38	7.35	--	322.08	7.44	6.71	--	322.72	6.80
BH17-MW5D	Bedrock	Bedrock Aquifer	8.50	10.60	329.65	329.70	--	--	--	--	8.26	--	321.40	8.31	--	--	--	--	--	--	--	--
MW100	Bedrock	Bedrock Aquifer	5.49	8.53	329.84	329.93	7.27	--	322.57	7.36	7.39	--	322.46	7.48	7.61	--	322.24	7.70	7.03	--	322.81	7.12
MW101	Silty Sand / Bedrock	Bedrock Aquifer	5.72	8.76	328.52	328.68	7.33	--	321.19	7.49	7.38	--	321.14	7.54	7.34	--	321.19	7.50	6.69	--	321.83	6.85
MW102B	Bedrock	Bedrock Aquifer	8.84	10.36	329.42	329.52	7.87	--	321.55	7.97	7.99	--	321.43	8.09	8.12	--	321.30	8.22	7.62	--	321.80	7.72
MW104	Sand / Sandy Clayey Silt Till / Bedrock	Bedrock Aquifer	5.94	8.99	329.64	329.79	8.33	--	321.32	8.48	8.41	--	321.24	8.56	8.51	--	321.13	8.66	8.18	--	321.46	8.33
MW105	Clayey Silt Till / Silty Sand / Bedrock	Bedrock Aquifer	5.64	8.69	329.99	330.10	8.14	--	321.85	8.25	8.27	--	321.72	8.38	8.32	--	321.67	8.43	7.83	--	322.16	7.94
MW107	Sandy Gravel / Bedrock	Bedrock Aquifer	5.33	8.38	329.03	329.17	6.31	--	322.72	6.45	6.34	--	322.69	6.48	6.32	--	322.72	6.46	6.13	--	322.90	6.27
MW108	Bedrock	Bedrock Aquifer	6.71	9.75	329.28	329.38	7.95	--	321.33	8.05	8.04	--	321.25	8.14	7.99	--	321.30	8.09	7.80	--	321.48	7.90
MW109	Bedrock	Bedrock Aquifer	7.32	10.36	329.91	329.99	8.18	--	321.73	8.26	8.21	--	321.70	8.29	8.21	--	321.70	8.29	7.80	--	322.11	7.88
MW110A	Bedrock	Bedrock Aquifer	5.33	8.38	328.96	329.13	--	--	--	--	--	--	--	--	7.2	--	321.76	7.37	6.62	--	322.34	6.79
MW113	Bedrock	Bedrock Aquifer	5.18	8.23	328.25	328.34	--	--	--	--	--	--	--	--	--	--	--	--	5.74	--	322.51	5.83
MW107B	Bedrock	Deep Bedrock Aquifer	13.87	15.39	329.00	329.17	--	--	--	--	--	--	--	--	6.81	--	322.19	6.98	6.64	--	322.36	6.81
MW110B	Bedrock	Deep Bedrock Aquifer	13.87	15.39	329.05	329.13	--	--	--	--	--	--	--	--	7.61	--	321.44	7.69	7.03	--	322.02	7.11
MW111	Bedrock	Deep Bedrock Aquifer	13.87	15.39	330.01	330.20	--	--	--	--	--	--	--	--	8.92	--	321.09	9.11	8.62	--	321.39	8.81

Notes:
-- = not measured
ID = identification
m = metre(s)
masl = metre(s) above sea level
mbgs = metre(s) below ground surface
mbtoc = metre(s) below top of casing
NAPL = nonaqueous phase liquid

Table 6-3. Summary of Hydraulic Conductivity Values

55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

Well IDs	Date of Test	Screen Top (mbgs)	Screen Bottom (mbgs)	Type of Test	Perched, Confined, Unconfined	Lithology	Analytical Test	Hydraulic Conductivity (m/s)	Location Average Hydraulic Conductivity (m/s)	Geometric Average Hydraulic Conductivity (m/s)	Geometric Average Hydraulic Conductivity (m/d)
MW102A	September 11, 2019	2.13	5.18	Rising	Perched	Silt	Bouwer & Rice, 1976	7.4E-07	7.1E-07	1.6E-07	1.4E-02
MW102A	September 11, 2019	2.13	5.18	Rising	Perched	Silt	Bouwer & Rice, 1976	6.8E-07			
MW103	September 11, 2019	2.13	5.18	Rising	Perched	Silt	Bouwer & Rice, 1976	3.6E-08	3.6E-08		
MW101	September 11, 2019	5.72	8.76	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.5E-06	2.4E-06	6.0E-06	5.2E-01
MW101	September 11, 2019	5.72	8.76	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.3E-06			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	1.9E-04	2.0E-04		
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW109	September 11, 2019	7.32	10.36	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	5.3E-07	4.9E-07		
MW109	September 11, 2019	7.32	10.36	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	4.6E-07			

Notes:

ID = identification

m/s = metre(s) per second

m/d = metre(s) per day

mbgs = metre(s) below ground surface

Table 6-4. APEC Disposition Table

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Areas of Potential Environmental Concern (APEC)		PCA [a.]		Contaminants of Potential Concern [b]	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) [b.]	List of Parameter Groups Tested (GW) [b.]
APEC-1	Historical Industrial Property Use	34	Metal Fabrication	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH-04	BH	Metals (missing Uranium)*, PCBs, PHCs	--
					BH-10	BH	Metals (missing Uranium)*, PAHs	--
					BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	--
					BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH-16-MW2	BH	Metals (missing Uranium)*, PCBs, PHCs	--
					BH-17-MW5S	BH	Metals (missing Uranium)*, PHCs	--
					BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	--
					BH201	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH202	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH207	BH	PHCs	--
					BH208	BH	PAHs	--
					BH209	BH	Metals, PCBs	--
					MW100	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW111	MW	--	ORPs, Metals
APEC-2	Unknown/Poor Quality Fill Material	30	Importation of Fill Material of Unknown Quality	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH-04	BH	Metals (missing Uranium)*, PCBs, PHCs	--
					BH-05	BH	Metals (missing Uranium)*	--
					BH-06	BH	Metals (missing Uranium)*	--
					BH-07	BH	Metals (missing Uranium)*	--
					BH-08-MW4	BH	BTEX, Metals (missing Uranium)*, PCBs, PHCs, VOCs	--
					BH-09	BH	Metals (missing Uranium)*	--
					BH-10	BH	Metals (missing Uranium)*, PAHs	--
					BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	--
					BH-13	BH	Metals (missing Uranium)*, PHCs	--
					BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH-15-MW3	BH	Metals (missing Uranium)*, PHCs	--
					BH-16-MW2	BH	Metals (missing Uranium)*, PCBs, PHCs	--
					BH-17-MW5S	BH	Metals (missing Uranium)*, PHCs	--
					BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	--
					BH201	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH202	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH203	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH204	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH205	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH206	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH207	BH	PHCs	--
					BH208	BH	PAHs	--
					BH209	BH	Metals, PCBs	--
					BH210	BH	Metals	--
					BH211	BH	Metals	--
					MW100	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW101	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107B	MW	--	ORPs, Metals

Table 6-4. APEC Disposition Table

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Areas of Potential Environmental Concern (APEC)		PCA [a.]		Contaminants of Potential Concern [b]	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) [b.]	List of Parameter Groups Tested (GW) [b.]
					MW108	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW110A	MW	--	ORPs, Metals
					MW110B	MW	--	ORPs, Metals
					MW111	MW	--	ORPs, Metals
					MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-3	Historical Transformers	55	Transformer Manufacturing, Processing and Use	PHCs, BTEX, PCBs, PAHs	BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	--
					BH209	BH	Metals, PCBs	--
APEC-4	Use of Road Salts	48	Salt Manufacturing, Processing and Bulk Storage	EC, SAR, sodium, chloride	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH-04	BH	Metals (missing Uranium)*, PCBs, PHCs	--
					BH-05	BH	Metals (missing Uranium)*	--
					BH-06	BH	Metals (missing Uranium)*	--
					BH-07	BH	Metals (missing Uranium)*	--
					BH-08-MW4	BH	BTEX, Metals (missing Uranium)*, PCBs, PHCs, VOCs	--
					BH-09	BH	Metals (missing Uranium)*	--
					BH-10	BH	Metals (missing Uranium)*, PAHs	--
					BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	--
					BH-13	BH	Metals (missing Uranium)*, PHCs	--
					BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH-15-MW3	BH	Metals (missing Uranium)*, PHCs	--
					BH-16-MW2	BH	Metals (missing Uranium)*, PCBs, PHCs	--
					BH-17-MW5S	BH	Metals (missing Uranium)*, PHCs	--
					BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	--
					BH201	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH202	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH203	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH204	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH205	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH206	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					BH207	BH	PHCs	--
					BH208	BH	PAHs	--
					BH209	BH	Metals, PCBs	--
					BH210	BH	Metals	--
					BH211	BH	Metals	--
					MW100	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW101	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107B	MW	--	ORPs, Metals
					MW108	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW110A	MW	--	ORPs, Metals
					MW110B	MW	--	ORPs, Metals
					MW111	MW	--	ORPs, Metals
					MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-5	Historical Dry Cleaning	37	Operation of Dry Cleaning Equipment (where chemicals are used)	VOCs	MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs

Table 6-4. APEC Disposition Table

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Areas of Potential Environmental Concern (APEC)		PCA [a.]		Contaminants of Potential Concern [b]	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) [b.]	List of Parameter Groups Tested (GW) [b.]
APEC-6	Historical Retail Fuel Outlet, Historical UST, Historical Automotive repair/servicing and Historical Iron Foundry	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		28	Gasoline and Associated Products Storage in Fixed Tanks		MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		32	Iron and Steel Manufacturing and Processing					
APEC-7	Potential Historical Dry Cleaning	37	Operation of Dry Cleaning Equipment (where chemicals are used)	VOCs	MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-8	Potential Historical Dry Cleaning, Historical Garage and Historical UST	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	VOCs	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
		28	Gasoline and Associated Products Storage in Fixed Tanks		MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		37	Operation of Dry Cleaning Equipment (where chemicals are used)		MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW108	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-9	Historical Fuel Oil UST	28	Gasoline and Associated Products Storage in Fixed Tanks	PHCs, VOCs, BTEX, PAHs, Metals (Lead)	MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-10	Historical Automotive Repair	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-11	Historical Off-Site Industrial Operations and Historical UST	28	Gasoline and Associated Products Storage in Fixed Tanks	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					BH208	BH	PAHs	--
		34	Metal Fabrication		MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-12	Historical Automotive Garage and Historical USTs	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	--
		28	Gasoline and Associated Products Storage in Fixed Tanks		BH201	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
		34	Metal Fabrication		MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-13	Historical Automotive Garage	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	BH206	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	--
					MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-14	Historical Gasoline Spill	Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	PHCs, PAHs, VOCs (MTBE), BTEX	BH-07	BH	Metals (missing Uranium)*	--
					MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-15	Historical Dry Cleaning	37	Operation of Dry Cleaning Equipment (where chemicals are used)	VOCs	MW101	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-16	Historical Above Ground Storage Tank and UST	28	Gasoline and Associated Products Storage in Fixed Tanks	PHCs, VOCs, BTEX, PAHs, Metals (Lead)	BH-07	BH	Metals (missing Uranium)*	--
					MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-17	Historical Service Station, Historical Dry Cleaning Operation, Historical Automotive Repair, Historical Coah and Body Manufacturing, Historical Industrial Property Use	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	BH-17-MW5S	BH	Metals (missing Uranium)*, PHCs	--
		28	Gasoline and Associated Products Storage in Fixed Tanks		MW102A	MW	--	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		34	Metal Fabrication					
		37	Operation of Dry Cleaning Equipment (where chemicals are used)		MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		57	Vehicles and Associated Parts Manufacturing					
APEC-18	Former Oil Shed	28	Gasoline and Associated Products Storage in Fixed Tanks	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	BH-08-MW4	BH	BTEX, Metals (missing Uranium)*, PCBs, PHCs, VOCs	--
					MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107B	MW	--	ORPs, Metals

Table 6-4. APEC Disposition Table

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Areas of Potential Environmental Concern (APEC)		PCA [a.]		Contaminants of Potential Concern [b]	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) [b.]	List of Parameter Groups Tested (GW) [b.]
APEC-19	Former Oil House	28	Gasoline and Associated Products Storage in Fixed Tanks	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-20	Former Coke Storage	Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX, ABNs	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-21	Former Garage	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	--
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-22	Historical Dry Cleaning Operations, Historical UST and Former Coal Yard	28	Gasoline and Associated Products Storage in Fixed Tanks	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		37	Operation of Dry Cleaning Equipment (where chemicals are used)		MW107B	MW	--	ORPs, Metals
		Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D		MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs

Notes:

[a] PCA – potentially contaminating activity means a use or activity as set out in Column A of Table 2 of Schedule D of O. Reg. 153/04 that is occurring or has occurred in a Phase One study area.

[b] AP Method groups as defined in the "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* " dated July 1, 2011.

*Samples from 2008 were collected in accordance with O. Reg. 153/04, but are missing analysis of uranium, which was not regulated under the Regulation at the time of investigation. This data is considered valid for RSC purposes.

"--" = no data for the specified media

As = arsenic
ABNs = acid base neutral compounds
APEC = area of potential environmental concern
BH = borehole
B-HWS = boron - hot water soluble
BTEX = benzene, toluene, ethylbenzene, xylene
CN- = cyanide
COC = contaminant of concern
CrVI = hexavalent chromium
EC = electrical conductivity
ERIS = environmental risk information services
FIP = fire insurance plan
GW = groundwater
Hg = mercury
MECP = Ontario Ministry of Environment, Conservation and Parks
Metals = Metals, hydride-forming metals
MW = monitoring well
ORPs = Other Regulated Parameters
PAHs = polyaromatic hydrocarbons
PCA = potentially contaminating activity
PCBs = polychlorinated biphenyls
PHCs = petroleum hydrocarbons
SAR = sodium adsorption ratio
Sb = antimony
Se = selenium
UST = underground storage tank
VOCs = volatile organic compounds

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH-03	BH-04	BH-05	BH-06	BH-07	BH-08-MW4		BH-09	BH-10	BH-11	BH-13	BH-14	BH-15-MW3	BH-16-MW2	BH-17-MW5S	BH200			
		Sample ID	BH-3 (SS2)	BH-4 (SS2)	BH-5 (SS2)	BH-6 (SS5)	BH-7 (SS2)	BH-8 (SS4)	BH-X-NOV25	BH-9 (SS3)	BH-10 (SS1)	BH-11 (SS2)	BH-13 (SS3)	BH-14 (SS2)	BH-15 (SS1)	BH-16 (SS2)	BH-17 (SS3)	DUP1	BH200-35-40	BH200-7.5-9.5	BH200-15-17
		Sample Date	11/27/2008	11/26/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/26/2008	11/27/2008	11/27/2008	11/25/2008	11/25/2008	11/26/2008	11/26/2008	11/27/2008	7/23/2019	7/23/2019	8/12/2019	8/12/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	0.8	0.8	0.8	3.1	0.8	2.3	2.3	1.5	0	0.8	1.5	0.8	0	0.8	1.5	0.89	0.89	2.29	4.57
		End Depth	1.4	1.4	1.4	3.7	1.2	2.9	2.9	2.2	0.6	1.4	2	1.4	0.6	1.4	2.1	1.01	1.01	2.9	5.18
Analyte	**Units**	**Table 2 SCS [a]**																			
Acids, Bases, Neutrals (ABNs)																					
1,1'-Biphenyl	ug/g	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/g	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/g	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/g	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/g	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/g	0.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/g	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/g	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans																					
1,2,3,4,6,7,8-HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics																					
Conductivity	mS/cm	0.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.499**	**0.486**	**0.373**	--
Cyanide, Weak Acid Dissociable	ug/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05 U	0.05 U	0.05 U	--
pH	pH UNITS	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**7.37**	**7.44**	**8.19**	--
Sodium Absorption Ratio	SAR	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**10.1**	**7.63**	**5.12**	**10.2**
Metals																					
Antimony	ug/g	7.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Arsenic	ug/g	18	**1**	**2**	**2**	**1**	**2**	**1**	**1**	**2**	**2**	**1**	**1**	**2**	**4**	**3**	1 U	**3**	**3.2**	**1.8**	--
Barium	ug/g	390	**18**	**37**	**12**	**11**	**12**	**12**	**11**	**17**	**17**	**18**	**31**	**28**	**34**	**35**	**10**	**36.5**	**41.4**	**9.4**	--
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Boron	ug/g	120	0.1 U	0.1 U	0.1 U	0.1 U	**0.1**	0.1 U	0.1 U	0.1 U	**0.1**	0.1 U	0.1 U	**0.2**	**0.2**	**0.7**	0.1 U	5 U	**6.3**	5 U	--
Boron (Hot Water Ext.)	ug/g	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.29**	**0.26**	0.1 U	--
Cadmium	ug/g	1.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--
Chromium	ug/g	160	**7**	**12**	**5**	**4**	**6**	**5**	**6**	**7**	**6**	**8**	**4**	**7**	**9**	**12**	**5**	**12.9**	**15.2**	**5.6**	--
Chromium, Hexavalent (Cr6+)	ug/g	8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.2 U	0.2 U	0.2 U	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH-03	BH-04	BH-05	BH-06	BH-07	BH-08-MW4		BH-09	BH-10	BH-11	BH-13	BH-14	BH-15-MW3	BH-16-MW2	BH-17-MW5S	BH200			
		Sample ID	BH-3 (SS2)	BH-4 (SS2)	BH-5 (SS2)	BH-6 (SS5)	BH-7 (SS2)	BH-8 (SS4)	BH-X-NOV25	BH-9 (SS3)	BH-10 (SS1)	BH-11 (SS2)	BH-13 (SS3)	BH-14 (SS2)	BH-15 (SS1)	BH-16 (SS2)	BH-17 (SS3)	DUP1	BH200-35-40	BH200-7.5-9.5	BH200-15-17
		Sample Date	11/27/2008	11/26/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/26/2008	11/27/2008	11/27/2008	11/25/2008	11/25/2008	11/26/2008	11/26/2008	11/27/2008	7/23/2019	7/23/2019	8/12/2019	8/12/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	0.8	0.8	0.8	3.1	0.8	2.3	2.3	1.5	0	0.8	1.5	0.8	0	0.8	1.5	0.89	0.89	2.29	4.57
		End Depth	1.4	1.4	1.4	3.7	1.2	2.9	2.9	2.2	0.6	1.4	2	1.4	0.6	1.4	2.1	1.01	1.01	2.9	5.18
Analyte	**Units**	**Table 2 SCS [a]**																			
Cobalt	ug/g	22	**3**	**6**	**2**	**2**	**2**	**2**	**2**	**3**	**3**	**3**	**1**	**2**	**3**	**5**	**2**	**3.9**	**4.8**	**1.7**	--
Copper	ug/g	140	**8**	**11**	**5**	**4**	**8**	**6**	**6**	**8**	**11**	**8**	**7**	**16**	**22**	**11**	**6**	**11.9**	**12.7**	**10.2**	--
Lead	ug/g	120	**14**	**12**	**15**	**199**	**18**	**8**	**14**	**13**	**17**	**11**	**35**	**29**	**52**	**16**	**6**	**18.8**	**17.2**	**6.3**	--
Mercury	ug/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	**0.23**	**0.09**	**0.09**	0.05 U	0.05 U	**0.0314**	**0.0247**	0.005 U	--
Methyl Mercury	mg/kg	0.0084	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/g	6.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Nickel	ug/g	100	**5**	**11**	**4**	**3**	**4**	**3**	**3**	**5**	**5**	**5**	**2**	**4**	**7**	**9**	**3**	**8.3**	**9.8**	**3.4**	--
Selenium	ug/g	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--
Thallium	ug/g	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1**	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	--
Uranium	ug/g	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1 U	1 U	1 U	--
Vanadium	ug/g	86	**8**	**14**	**6**	**4**	**5**	**4**	**4**	**7**	**8**	**9**	**3**	**10**	**13**	**17**	**12**	**25.9**	**30.9**	**10.8**	--
Zinc	ug/g	340	**102**	**57**	**91**	**71**	**66**	**47**	**49**	**172**	**99**	**44**	**79**	**63**	**124**	**103**	**31**	**81.3**	**76.7**	**41.9**	--
Other																					
Calcium	mg/l	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**7.59**	**9.5**	**6.47**	**8.55**
Magnesium	mg/l	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.98 J**	**4.16 J**	**2.06**	**1.84**
Sodium	mg/l	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**111**	**112**	**58.4**	**126**
Polyaromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	ug/g	0.99	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.03 U	0.03 U	0.03 U	--
2-(1-)Methylnaphthalene	ug/g	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.042 U	0.042 U	0.042 U	--
2-Methylnaphthalene	ug/g	0.99	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.03 U	0.03 U	0.03 U	--
Acenaphthene	ug/g	7.9	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Acenaphthylene	ug/g	0.15	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Anthracene	ug/g	0.67	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Benzo(a)anthracene	ug/g	0.5	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.14**	--	--	--	0.05 U	0.05 U	0.05 U	--
Benzo(a)pyrene	ug/g	0.3	0.02 U	--	--	--	--	--	--	--	0.02 U	0.02 U	--	**0.24**	--	--	--	0.05 U	0.05 U	0.05 U	--
Benzo(b)fluoranthene	ug/g	0.78	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.18**	--	--	--	0.05 U	0.05 U	0.05 U	--
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.22**	--	--	--	0.05 U	0.05 U	0.05 U	--
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.11**	--	--	--	0.05 U	0.05 U	0.05 U	--
Chrysene	ug/g	7	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.18**	--	--	--	0.05 U	0.05 U	0.05 U	--
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.13**	--	--	--	0.05 U	0.05 U	0.05 U	--
Fluoranthene	ug/g	0.69	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.19**	--	--	--	0.05 U	0.05 U	0.05 U	--
Fluorene	ug/g	62	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.14**	--	--	--	0.05 U	0.05 U	0.05 U	--
Naphthalene	ug/g	0.6	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	0.05 U	--	--	--	0.013 U	0.013 U	0.013 U	--
Phenanthrene	ug/g	6.2	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.09**	--	--	--	0.046 U	0.046 U	0.046 U	--
Pyrene	ug/g	78	0.05 U	--	--	--	--	--	--	--	0.05 U	0.05 U	--	**0.17**	--	--	--	0.05 U	0.05 U	0.05 U	--
Polychlorinated Biphenyls (PCBs)																					
Aroclor 1242	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	0.01 U	--	--
Aroclor 1248	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	0.01 U	--	--
Aroclor 1254	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	0.01 U	--	--
Aroclor 1260	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	0.01 U	--	--
PCB, Total	ug/g	0.35	--	0.01 U	--	--	--	0.01 U	0.01 U	--	--	--	--	--	--	0.01 U	--	0.02 U	0.02 U	--	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																					
Benzene	ug/g	0.21	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.0068 U	0.0068 U	0.0068 U	--
Ethylbenzene	ug/g	1.1	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.018 U	0.018 U	0.018 U	--
Toluene	ug/g	2.3	**0.003**	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.08 U	0.08 U	0.08 U	--
Xylene, o	ug/g	NV	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.02 U	0.02 U	0.02 U	--
Xylenes, m & p	ug/g	NV	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.03 U	0.03 U	0.03 U	--
Xylenes, Total	ug/g	3.1	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Petroleum Hydrocarbons (PHCs)																					
Gravimetric Heavy Hydrocarbons	ug/g	2800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5 U	5 U	5 U	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	5 U	--	--	--	5 U	5 U	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10 U	10 U	10 U	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	10 U	--	--	--	10 U	10 U	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50 U	50 U	50 U	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	50 U	--	--	--	50 U	50 U	--	--	50 U	**56**	50 U	**107**	50 U	50 U	50 U	50 U	50 U	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	50 U	--	--	--	50 U	50 U	--	--	50 U	**600**	**56**	**900**	50 U	50 U	50 U	50 U	50 U	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72 U	72 U	72 U	--
Physical/Chemistry																					
Average Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Clay (less than 0.005mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coarse Sand (2.0 to 4.75mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fine Sand (0.074 to 0.425mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon (Rep1)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon (Rep2)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH-03	BH-04	BH-05	BH-06	BH-07	BH-08-MW4		BH-09	BH-10	BH-11	BH-13	BH-14	BH-15-MW3	BH-16-MW2	BH-17-MW5S	BH200			
		Sample ID	BH-3 (SS2)	BH-4 (SS2)	BH-5 (SS2)	BH-6 (SS5)	BH-7 (SS2)	BH-8 (SS4)	BH-X-NOV25	BH-9 (SS3)	BH-10 (SS1)	BH-11 (SS2)	BH-13 (SS3)	BH-14 (SS2)	BH-15 (SS1)	BH-16 (SS2)	BH-17 (SS3)	DUP1	BH200-35-40	BH200-7.5-9.5	BH200-15-17
		Sample Date	11/27/2008	11/26/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/26/2008	11/27/2008	11/27/2008	11/25/2008	11/25/2008	11/26/2008	11/26/2008	11/27/2008	7/23/2019	7/23/2019	8/12/2019	8/12/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	0.8	0.8	0.8	3.1	0.8	2.3	2.3	1.5	0	0.8	1.5	0.8	0	0.8	1.5	0.89	0.89	2.29	4.57
		End Depth	1.4	1.4	1.4	3.7	1.2	2.9	2.9	2.2	0.6	1.4	2	1.4	0.6	1.4	2.1	1.01	1.01	2.9	5.18
Analyte	**Units**	**Table 2 SCS [a]**																			
Gravel (4.75 to 76mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Medium Sand (0.425 to 2.0mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**10.8**	**10.9**	**4.42**	--
Silt (0.005 to 0.074mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon (Rep1)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon (Rep2)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Carbons (VOCs)																					
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.008 U	--	--	--	--	0.008 U	0.008 U	--	--	--	--	0.008 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,1,1-Trichloroethane	ug/g	0.38	0.008 U	--	--	--	--	0.008 U	0.008 U	--	--	--	--	0.008 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.004 U	--	--	--	--	0.004 U	0.004 U	--	--	--	--	0.004 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,1,2-Trichloroethane	ug/g	0.05	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,1-Dichloroethane	ug/g	0.47	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,1-Dichloroethene	ug/g	0.05	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,2-Dibromoethane	ug/g	0.05	0.004 U	--	--	--	--	0.004 U	0.004 U	--	--	--	--	0.004 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,2-Dichlorobenzene	ug/g	1.2	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,2-Dichloroethane	ug/g	0.05	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,2-Dichloropropane	ug/g	0.05	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,3-Dichlorobenzene	ug/g	4.8	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
1,3-Dichloropropene	ug/g	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.042 U	0.042 U	0.042 U	--
1,4-Dichlorobenzene	ug/g	0.083	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
2-Butanone	ug/g	16	0.2 U	--	--	--	--	0.2 U	0.2 U	--	--	--	--	0.2 U	--	--	--	0.5 U	0.5 U	0.5 U	--
4-Methyl-2-Pentanone	ug/g	1.7	0.2 U	--	--	--	--	0.2 U	0.2 U	--	--	--	--	0.2 U	--	--	--	0.5 U	0.5 U	0.5 U	--
Acetone	ug/g	16	0.5 U	--	--	--	--	0.5 U	0.5 U	--	--	--	--	0.5 U	--	--	--	0.5 U	0.5 U	0.5 U	--
Bromodichloromethane	ug/g	1.5	0.005 U	--	--	--	--	0.005 U	0.005 U	--	--	--	--	0.005 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Bromoform	ug/g	0.27	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Bromomethane	ug/g	0.05	0.003 U	--	--	--	--	0.003 U	0.003 U	--	--	--	--	0.003 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Carbon tetrachloride	ug/g	0.05	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Chlorobenzene	ug/g	2.4	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Chlorodibromomethane	ug/g	2.3	0.003 U	--	--	--	--	0.003 U	0.003 U	--	--	--	--	0.003 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Chloroform	ug/g	0.05	0.006 U	--	--	--	--	0.006 U	0.006 U	--	--	--	--	0.006 U	--	--	--	0.05 U	0.05 U	0.05 U	--
cis-1,2-Dichloroethene	ug/g	1.9	0.02 U	--	--	--	--	0.02 U	0.02 U	--	--	--	--	0.02 U	--	--	--	0.05 U	0.05 U	0.05 U	--
cis-1,3-Dichloropropene	ug/g	NV	0.003 U	--	--	--	--	0.003 U	0.003 U	--	--	--	--	0.003 U	--	--	--	0.03 U	0.03 U	0.03 U	--
Dichlorodifluoromethane	ug/g	16	0.03 U	--	--	--	--	0.03 U	0.03 U	--	--	--	--	0.03 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Dichloromethane	ug/g	0.1	0.003 U	--	--	--	--	0.003 U	0.003 U	--	--	--	--	0.003 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.2 U	--	--	--	--	0.2 U	0.2 U	--	--	--	--	0.2 U	--	--	--	0.05 U	0.05 U	0.05 U	--
n-Hexane	ug/g	2.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05 U	0.05 U	0.05 U	--
Styrene	ug/g	0.7	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Tetrachloroethene	ug/g	0.28	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
trans-1,2-Dichloroethene	ug/g	0.084	0.002 U	--	--	--	--	0.002 U	0.002 U	--	--	--	--	0.002 U	--	--	--	0.05 U	0.05 U	0.05 U	--
trans-1,3-Dichloropropene	ug/g	NV	0.003 U	--	--	--	--	0.003 U	0.003 U	--	--	--	--	0.003 U	--	--	--	0.03 U	0.03 U	0.03 U	--
Trichloroethylene	ug/g	0.061	0.004 U	--	--	--	--	0.004 U	0.004 U	--	--	--	--	**0.004**	--	--	--	0.01 U	0.01 U	0.01 U	--
Trichlorofluoromethane	ug/g	4	0.03 U	--	--	--	--	0.03 U	0.03 U	--	--	--	--	0.03 U	--	--	--	0.05 U	0.05 U	0.05 U	--
Vinyl Chloride	ug/g	0.02	0.003 U	--	--	--	--	0.003 U	0.003 U	--	--	--	--	0.003 U	--	--	--	0.02 U	0.02 U	0.02 U	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

			Location	BH201						BH202				BH203			BH204			
			Sample ID	BH201-1-1.5'	BH201-4-4.5'	BH201-7.5-9.5	BH201-12.5-12.11	BH201-12.11"-13.2	BH201-25-27	BH202-2-2.5'	DUP11	BH202-10-12	BH202-15-16.5	BH203-0.5-2	BH203-7.5-9.5	BH203-15-17	BH204 - 2.5-3.5'	BH204-11-12	BH204-15-15.11	BH204-17.5-18.9
			Sample Date	7/24/2019	7/24/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	7/22/2019	8/12/2019	8/12/2019	8/12/2019	8/20/2019	8/20/2019	8/20/2019	7/30/2019	8/22/2019	8/22/2019	8/22/2019
			Sample Type	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
			Start Depth	0.3	1.22	2.29	3.81	3.94	7.62	0.61	3.05	3.05	4.57	0.15	2.29	4.57	0.76	3.35	4.57	5.33
			End Depth	0.46	1.37	2.9	3.94	4.02	8.23	0.76	3.66	3.66	5.03	0.61	2.9	5.18	1.07	3.66	4.85	5.71
Analyte	**Units**	**Table 2 SCS [a]**																		
Acids, Bases, Neutrals (ABNs)																				
1,1'-Biphenyl	ug/g	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/g	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/g	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/g	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/g	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/g	0.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/g	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/g	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans																				
1,2,3,4,6,7,8-HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics																				
Conductivity	mS/cm	0.7	**0.332**	**0.655**	**1.04**	--	**1.03**	**0.553**	**0.96**	**1.86**	**1.97**	**1.8**	**0.75**	**1.26**	**1.31**	**0.61**	**0.508**	--	--
Cyanide, Weak Acid Dissociable	ug/g	0.051	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
pH	pH UNITS	NV	**8.11**	**7.98**	**8.09**	--	--	--	**8.12**	**8.31**	**8.18**	--	--	**8.33**	--	--	**8.06**	--	--
Sodium Absorption Ratio	SAR	5	**7.34**	**22.7**	**23.3**	--	**47.6 J**	**4.27**	**26.1**	**43.5**	**70.3 J**	**36.9**	**5.24**	**19**	**16.2**	**11.1**	**7.51**	**6.49**	**8.4**
Metals																			
Antimony	ug/g	7.5	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	--
Arsenic	ug/g	18	**3.9**	**1.8**	**1.6**	--	--	--	**1.9**	1 U	1 U	--	**2.5**	**1.9**	--	**3.3**	**1.8**	--	--
Barium	ug/g	390	**32**	**16.8**	**17.6**	--	--	--	**16**	**8.4**	**9.1**	--	**29.7**	**18.4**	--	**54.3**	**12.2**	--	--
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	--	--	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Boron	ug/g	120	**6.7**	5 U	5 U	--	--	--	5 U	5 U	5 U	--	**5.3**	**5.6**	--	5 U	5 U	--	--
Boron (Hot Water Ext.)	ug/g	1.5	0.1 U	0.1 U	0.1 U	--	--	--	0.1 U	0.1 U	0.1 U	--	**0.15**	0.1 U	--	**0.46**	**0.12**	--	--
Cadmium	ug/g	1.2	0.5 U	0.5 U	0.5 U	--	--	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Chromium	ug/g	160	**11.9**	**7.6**	**6.9**	--	--	--	**7.8**	**4.9**	**5.2**	--	**8.2**	**7.9**	--	**15.2**	**6.5**	--	--
Chromium, Hexavalent (Cr6+)	ug/g	8	0.2 U	0.2 U	0.2 U	--	--	--	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	--	**0.36**	0.2 U	--	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH201						BH202				BH203			BH204			
		Sample ID	BH201-1-1.5'	BH201-4-4.5'	BH201-7.5-9.5	BH201-12.5-12.11	BH201-12.11"-13.2	BH201-25-27	BH202-2-2.5'	DUP11	BH202-10-12	BH202-15-16.5	BH203-0.5-2	BH203-7.5-9.5	BH203-15-17	BH204 - 2.5-3.5'	BH204-11-12	BH204-15-15.11	BH204-17.5-18.9
		Sample Date	7/24/2019	7/24/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	7/22/2019	8/12/2019	8/12/2019	8/12/2019	8/20/2019	8/20/2019	8/20/2019	7/30/2019	8/22/2019	8/22/2019	8/22/2019
		Sample Type	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
		Start Depth	0.3	1.22	2.29	3.81	3.94	7.62	0.61	3.05	3.05	4.57	0.15	2.29	4.57	0.76	3.35	4.57	5.33
		End Depth	0.46	1.37	2.9	3.94	4.02	8.23	0.76	3.66	3.66	5.03	0.61	2.9	5.18	1.07	3.66	4.85	5.71
Analyte	**Units**	**Table 2 SCS [a]**																	
Cobalt	ug/g	22	**4.5**	**2.7**	**2.5**	--	--	--	**2.6**	**1.4**	**1.4**	--	**2**	**2.7**	--	**4.8**	**2.2**	--	--
Copper	ug/g	140	**18.9**	**7.8**	**6.2**	--	--	--	**7.3**	**3.4**	**3.9**	--	**9.2**	**7.4**	--	**9.7**	**5.9**	--	--
Lead	ug/g	120	**34.9**	**8.9**	**6.8**	--	--	--	**11.1**	**4**	**5**	--	**30.6**	**10.8**	--	**25.3**	**15.4**	--	--
Mercury	ug/g	0.27	**0.0192**	**0.0078**	**0.0057**	--	--	--	**0.0065**	0.005 U	0.005 U	--	**0.24**	0.005 U	--	**0.0848**	0.005 U	--	--
Methyl Mercury	mg/kg	0.0084	--	--	--	--	--	--	--	--	--	--	5E-05 U	--	--	--	--	--	--
Molybdenum	ug/g	6.9	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	--
Nickel	ug/g	100	**9.3**	**5.7**	**5.5**	--	--	--	**5.4**	**2.7**	**3.1**	--	**5.1**	**5.6**	--	**8.6**	**5**	--	--
Selenium	ug/g	2.4	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	--
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	--	--	--	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	--	0.2 U	0.2 U	--	--
Thallium	ug/g	1	0.5 U	0.5 U	0.5 U	--	--	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Uranium	ug/g	23	1 U	1 U	1 U	--	--	--	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	--	--
Vanadium	ug/g	86	**24**	**14.1**	**13.2**	--	--	--	**14.7**	**10.1**	**9.9**	--	**13.3**	**15.5**	--	**32.8**	**13.8**	--	--
Zinc	ug/g	340	**246**	**70.8**	**41.5**	--	--	--	**80.9**	**32.4**	**36.9**	--	**89.5**	**72**	--	**73.6**	**53.5**	--	--
Other																			
Calcium	mg/l	NV	**3.62**	**1.52**	**3.09**	--	**1.31**	**15.8**	**2.12**	**4.04**	**2.1**	**3.34**	**3.15**	**3.79**	**7.03**	**7.86**	**6.34**	**4.37**	**3.9**
Magnesium	mg/l	NV	**3.5**	**0.66**	**1**	--	0.5 U	**4.77**	**1.29**	**0.54**	0.5 U	**1.6**	**6.32**	**1.72**	**5.64**	**1.82**	**1.1**	**1.37**	**0.85**
Sodium	mg/l	NV	**81.7**	**133**	**184**	--	**198**	**75.5**	**195**	**351**	**370**	**328**	**70.1**	**178**	**238**	**133**	**77.9**	**60.7**	**70.2**
Polyaromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U	--	--	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	--
2-(1-)Methylnaphthalene	ug/g	0.99	0.042 U	0.042 U	0.042 U	--	--	--	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U	--	0.042 U	0.042 U	--	--
2-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U	--	--	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	--
Acenaphthene	ug/g	7.9	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Acenaphthylene	ug/g	0.15	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Anthracene	ug/g	0.67	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Benzo(a)anthracene	ug/g	0.5	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Benzo(a)pyrene	ug/g	0.3	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.073**	0.05 U	--	0.05 U	0.05 U	--	--
Benzo(b)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.104**	0.05 U	--	0.05 U	0.05 U	--	--
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.102**	0.05 U	--	0.05 U	0.05 U	--	--
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Chrysene	ug/g	7	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.056**	0.05 U	--	0.05 U	0.05 U	--	--
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Fluoranthene	ug/g	0.69	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.063**	0.05 U	--	**0.063**	0.05 U	--	--
Fluorene	ug/g	62	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.065**	0.05 U	--	0.05 U	0.05 U	--	--
Naphthalene	ug/g	0.6	0.013 U	0.013 U	0.013 U	--	--	--	0.013 U	0.013 U	0.013 U	--	0.013 U	0.013 U	--	0.013 U	0.013 U	--	--
Phenanthrene	ug/g	6.2	0.046 U	0.046 U	0.046 U	--	--	--	0.046 U	0.046 U	0.046 U	--	0.046 U	0.046 U	--	0.046 U	0.046 U	--	--
Pyrene	ug/g	78	0.05 U	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U	0.05 U	--	**0.067**	0.05 U	--	**0.057**	0.05 U	--	--
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1242	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB, Total	ug/g	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																			
Benzene	ug/g	0.21	0.0068 U	0.0068 U	0.0068 U	0.0068 U	--	--	0.0068 U	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	--	--
Ethylbenzene	ug/g	1.1	0.018 U	0.018 U	0.018 U	0.018 U	--	--	0.018 U	0.018 U	0.018 U	--	0.018 U	0.018 U	--	0.018 U	0.018 U	--	--
Toluene	ug/g	2.3	0.08 U	0.08 U	0.08 U	0.08 U	--	--	0.08 U	0.08 U	0.08 U	--	0.08 U	0.08 U	--	0.08 U	0.08 U	--	--
Xylene, o	ug/g	NV	0.02 U	0.02 U	0.02 U	0.02 U	--	--	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	--	0.02 U	0.02 U	--	--
Xylenes, m & p	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U	--	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	--
Xylenes, Total	ug/g	3.1	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Petroleum Hydrocarbons (PHCs)																			
Gravimetric Heavy Hydrocarbons	ug/g	2800	--	--	--	**1290**	--	--	--	--	--	--	**1710**	--	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U	5 U	5 U	5 U	--	--	5 U	5 U	5 U	--	5 U	5 U	--	5 U	5 U	--	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	5 U	5 U	5 U	--	--	5 U	5 U	5 U	--	5 U	5 U	--	5 U	5 U	--	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g	NV	10 U	10 U	10 U	--	--	--	10 U	10 U	10 U	--	20 U	10 U	--	10 U	10 U	--	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	10 U	10 U	10 U	--	--	10 U	10 U	10 U	--	20 U	10 U	--	10 U	10 U	--	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	50 U	50 U	50 U	--	--	--	50 U	50 U	50 U	--	**190**	50 U	--	50 U	50 U	--	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	50 U	50 U	**290**	--	--	50 U	50 U	50 U	--	**190**	50 U	--	50 U	50 U	--	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	50 U	50 U	**535**	--	--	50 U	50 U	50 U	--	**520**	50 U	--	50 U	50 U	--	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U	72 U	72 U	**826**	--	--	72 U	72 U	72 U	--	**710**	72 U	--	72 U	72 U	--	--
Physical/Chemistry																			
Average Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0087**	0.001 U	--	--
Clay (less than 0.005mm), USCS	%	NV	**8.6**	--	--	--	--	--	**12.4**	--	--	--	--	--	--	--	--	--	--
Coarse Sand (2.0 to 4.75mm), USCS	%	NV	**19.3**	--	--	--	--	--	**3.1**	--	--	--	--	--	--	--	--	--	--
Fine Sand (0.074 to 0.425mm), USCS	%	NV	**11.2**	--	--	--	--	--	**30.8**	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0086**	0.001 U	--	--
Fraction Organic Carbon (Rep1)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0089**	--	--	--
Fraction Organic Carbon (Rep2)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH201						BH202				BH203			BH204			
		Sample ID	BH201-1-1.5'	BH201-4-4.5'	BH201-7.5-9.5	BH201-12.5-12.11	BH201-12.11"-13.2	BH201-25-27	BH202-2-2.5'	DUP11	BH202-10-12	BH202-15-16.5	BH203-0.5-2	BH203-7.5-9.5	BH203-15-17	BH204 - 2.5-3.5'	BH204-11-12	BH204-15-15.11	BH204-17.5-18.9
		Sample Date	7/24/2019	7/24/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	7/22/2019	8/12/2019	8/12/2019	8/12/2019	8/20/2019	8/20/2019	8/20/2019	7/30/2019	8/22/2019	8/22/2019	8/22/2019
		Sample Type	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
		Start Depth	0.3	1.22	2.29	3.81	3.94	7.62	0.61	3.05	3.05	4.57	0.15	2.29	4.57	0.76	3.35	4.57	5.33
		End Depth	0.46	1.37	2.9	3.94	4.02	8.23	0.76	3.66	3.66	5.03	0.61	2.9	5.18	1.07	3.66	4.85	5.71
Analyte	**Units**	**Table 2 SCS [a]**																	
Gravel (4.75 to 76mm), USCS	%	NV	**30.1**	--	--	--	--	--	**19.9**	--	--	--	--	--	--	--	--	--	--
Medium Sand (0.425 to 2.0mm), USCS	%	NV	**25.4**	--	--	--	--	--	**9.3**	--	--	--	--	--	--	--	--	--	--
Moisture	%	NV	**4.11**	**8.41**	**11**	**8.05**	--	--	**5.69**	**7.33**	**6.27**	--	**4.29**	**6.81**	--	**16.4**	**6.34**	--	--
Silt (0.005 to 0.074mm), USCS	%	NV	**5.6**	--	--	--	--	--	**24.7**	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.86**	0.1 U	--	--
Total Organic Carbon (Rep1)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.89**	--	--	--
Total Organic Carbon (Rep2)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Carbons (VOCs)																			
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,1,1-Trichloroethane	ug/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,1,2-Trichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,1-Dichloroethane	ug/g	0.47	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,1-Dichloroethene	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,2-Dibromoethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,2-Dichlorobenzene	ug/g	1.2	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,2-Dichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,2-Dichloropropane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,3-Dichlorobenzene	ug/g	4.8	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
1,3-Dichloropropene	ug/g	0.05	0.042 U	0.042 U	0.042 U	0.042 U	--	--	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U	--	0.042 U	0.042 U	--	--
1,4-Dichlorobenzene	ug/g	0.083	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
2-Butanone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Acetone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Bromodichloromethane	ug/g	1.5	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Bromoform	ug/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Bromomethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Carbon tetrachloride	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Chlorobenzene	ug/g	2.4	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Chlorodibromomethane	ug/g	2.3	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Chloroform	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
cis-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U	--	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	--
Dichlorodifluoromethane	ug/g	16	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 UJ	0.05 U	--	--
Dichloromethane	ug/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.063 U	0.05 U	--	0.05 U	0.05 U	--	--
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
n-Hexane	ug/g	2.8	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Styrene	ug/g	0.7	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Tetrachloroethene	ug/g	0.28	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
trans-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U	--	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	--
Trichloroethylene	ug/g	0.061	0.01 U	0.01 U	0.01 U	0.01 U	--	--	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U	--	0.01 U	0.01 U	--	--
Trichlorofluoromethane	ug/g	4	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--
Vinyl Chloride	ug/g	0.02	0.02 U	0.02 U	0.02 U	0.02 U	--	--	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	--	0.02 U	0.02 U	--	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH205						BH206				BH207		BH208			BH209			
		Sample ID	DUP10	BH205-0.5-2	BH205-2.5-4.5	BH205-7.5-9.5	BH205-10-12	BH205-12.5-15	BH206-1-2'	BH206-7.5-9.5	BH206-12.5-14.5	DUP15	BH207I-1-2	BH207I-7.5-9.5	BH208-3-3.5	DUP 4	BH208-7.5-8	DUP 2	DUP 3	BH209-0.4-0.75	BH209-2-2.4
		Sample Date	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	7/25/2019	8/19/2019	8/19/2019	8/19/2019	4/9/2020	4/9/2020	11/12/2019	11/21/2019	11/21/2019	11/13/2019	11/13/2019	11/13/2019	11/13/2019
		Sample Type	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	FD	N	N
		Start Depth	2.29	0	0.76	2.29	3.05	3.81	0.3	2.29	3.81	3.81	0.3	2.29	0.91	2.29	2.29	0.12	0.61	0.12	0.61
		End Depth	2.9	0.61	1.37	2.9	3.66	4.57	0.61	2.9	4.42	4.42	0.61	2.9	1.07	2.44	2.44	0.23	0.73	0.23	0.73
Analyte	**Units**	**Table 2 SCS [a]**																			
Acids, Bases, Neutrals (ABNs)																					
1,1'-Biphenyl	ug/g	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/g	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/g	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/g	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/g	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/g	0.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/g	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/g	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans																					
1,2,3,4,6,7,8-HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics																					
Conductivity	mS/cm	0.7	--	**0.445**	--	--	**0.53**	--	**0.179**	**0.554**	**0.628**	**0.643**	--	--	--	--	--	--	--	--	--
Cyanide, Weak Acid Dissociable	ug/g	0.051	--	0.05 U	--	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
pH	pH UNITS	NV	--	**8.06**	--	--	**8.3**	--	**8.07**	**7.94**	**7.89**	**7.91**	--	--	--	--	--	--	--	--	--
Sodium Absorption Ratio	SAR	5	--	**10.1**	--	--	**23.3 J**	**7.18**	**0.17**	**2.75**	**1.55**	**1.64**	--	--	--	--	--	--	--	--	--
Metals																					
Antimony	ug/g	7.5	--	1 U	--	--	1 U	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	1 U	1 U	1 U
Arsenic	ug/g	18	--	**3.2**	--	--	**1.3**	--	**2.2**	**2.7**	**2.6**	**2.5**	--	--	--	--	--	--	**2.5**	**3.1**	**2.7**
Barium	ug/g	390	--	**37.3**	--	--	**8.6**	--	**13**	**47.8**	**45.9**	**43.4**	--	--	--	--	--	--	**28.7**	**26.4**	**31.4**
Beryllium	ug/g	4	--	0.5 U	--	--	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U
Boron	ug/g	120	--	**5**	--	--	5 U	--	5 U	**8.2**	**9.1**	**6.9**	--	--	--	--	--	--	5 U	5 U	5 U
Boron (Hot Water Ext.)	ug/g	1.5	--	**0.14**	--	--	0.1 U	--	0.1 U	**0.21**	**0.11**	**0.11**	--	--	--	--	--	--	--	--	--
Cadmium	ug/g	1.2	--	0.5 U	--	--	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U
Chromium	ug/g	160	--	**8.8**	--	--	**5.1**	--	**5.9**	**17**	**16.6**	**15.1**	--	--	--	--	--	--	**11.6**	**5.6**	**12.5**
Chromium, Hexavalent (Cr6+)	ug/g	8	--	0.2 U	--	--	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH205						BH206				BH207		BH208			BH209			
		Sample ID	DUP10	BH205-0.5-2	BH205-2.5-4.5	BH205-7.5-9.5	BH205-10-12	BH205-12.5-15	BH206-1-2'	BH206-7.5-9.5	BH206-12.5-14.5	DUP15	BH207I-1-2	BH207I-7.5-9.5	BH208-3-3.5	DUP 4	BH208-7.5-8	DUP 2	DUP 3	BH209-0.4-0.75	BH209-2-2.4
		Sample Date	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	7/25/2019	8/19/2019	8/19/2019	8/19/2019	4/9/2020	4/9/2020	11/12/2019	11/21/2019	11/21/2019	11/13/2019	11/13/2019	11/13/2019	11/13/2019
		Sample Type	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	FD	N	N
		Start Depth	2.29	0	0.76	2.29	3.05	3.81	0.3	2.29	3.81	3.81	0.3	2.29	0.91	2.29	2.29	0.12	0.61	0.12	0.61
		End Depth	2.9	0.61	1.37	2.9	3.66	4.57	0.61	2.9	4.42	4.42	0.61	2.9	1.07	2.44	2.44	0.23	0.73	0.23	0.73
Analyte	**Units**	**Table 2 SCS [a]**																			
Cobalt	ug/g	22	--	**2.5**	--	--	**1.5**	--	**2.5**	**7**	**6.5**	**6.2**	--	--	--	--	--	--	**4.2**	**2.7**	**4.4**
Copper	ug/g	140	--	**11.4**	--	--	**5.1**	--	**10**	**14.3**	**13.4**	**13.4**	--	--	--	--	--	--	**9.8**	**23.6**	**11**
Lead	ug/g	120	--	**34.7**	--	--	**5.9**	--	**11.3**	**13.3**	**12.7**	**11.9**	--	--	--	--	--	--	**8.9**	**15.9**	**9.2**
Mercury	ug/g	0.27	--	**0.0809**	--	--	0.005 U	--	**0.0058**	**0.0159**	**0.0098**	**0.0101**	--	--	--	--	--	--	**0.018**	**0.0079**	**0.0198**
Methyl Mercury	mg/kg	0.0084	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/g	6.9	--	1 U	--	--	1 U	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	1 U	1 U	1 U
Nickel	ug/g	100	--	**6**	--	--	**3.3**	--	**5**	**15.4**	**13.7**	**13.1**	--	--	--	--	--	--	**8.2**	**6.6**	**9.5**
Selenium	ug/g	2.4	--	1 U	--	--	1 U	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	1 U	1 U	1 U
Silver	ug/g	20	--	0.2 U	--	--	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	0.2 U	0.2 U	0.2 U
Thallium	ug/g	1	--	0.5 U	--	--	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U
Uranium	ug/g	23	--	1 U	--	--	1 U	--	1 U	1 U	1 U	1 U	--	--	--	--	--	--	1 U	1 U	1 U
Vanadium	ug/g	86	--	**16.1**	--	--	**10.4**	--	**14.4**	**27.4**	**26.3**	**24.9**	--	--	--	--	--	--	**23.9**	**13.2**	**24.3**
Zinc	ug/g	340	--	**124**	--	--	**51.1**	--	**90**	**72.3**	**73.4**	**71.7**	--	--	--	--	--	--	**40.9**	**114**	**43.1**
Other																					
Calcium	mg/l	NV	--	**3.58**	--	--	**1.38**	**13.4**	**17.7**	**23.1**	**51.1**	**51.2**	--	--	--	--	--	--	--	--	--
Magnesium	mg/l	NV	--	**1.74**	--	--	0.5 U	**11.4**	**4.74**	**9.09**	**11.2**	**10.9**	--	--	--	--	--	--	--	--	--
Sodium	mg/l	NV	--	**92.7**	--	--	**99.3**	**148**	**3.21**	**61.7**	**47**	**49.6**	--	--	--	--	--	--	--	--	--
Polyaromatic Hydrocarbons (PAHs)																					
1-Methylnaphthalene	ug/g	0.99	--	--	0.06 U	--	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	--	--	**0.032**	0.03 U	0.03 U	--	--	--	--
2-(1-)Methylnaphthalene	ug/g	0.99	--	--	0.085 U	--	0.042 U	--	0.042 U	0.042 U	0.042 U	0.042 U	--	--	**0.067**	0.042 U	0.042 U	--	--	--	--
2-Methylnaphthalene	ug/g	0.99	--	--	0.06 U	--	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	--	--	**0.034**	0.03 U	0.03 U	--	--	--	--
Acenaphthene	ug/g	7.9	--	--	0.05 U	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--
Acenaphthylene	ug/g	0.15	--	--	0.05 U	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--
Anthracene	ug/g	0.67	--	--	0.05 U	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--
Benzo(a)anthracene	ug/g	0.5	--	--	**0.098**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.087**	0.05 U	0.05 U	--	--	--	--
Benzo(a)pyrene	ug/g	0.3	--	--	**0.134**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.085**	0.05 U	0.05 U	--	--	--	--
Benzo(b)fluoranthene	ug/g	0.78	--	--	**0.178**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.106**	0.05 U	0.05 U	--	--	--	--
Benzo(g,h,i)perylene	ug/g	6.6	--	--	**0.208**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.237**	0.05 U	0.05 U	--	--	--	--
Benzo(k)fluoranthene	ug/g	0.78	--	--	0.05 U	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--
Chrysene	ug/g	7	--	--	**0.145**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.113**	0.05 U	0.05 U	--	--	--	--
Dibenzo(a,h)anthracene	ug/g	0.1	--	--	0.05 U	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--
Fluoranthene	ug/g	0.69	--	--	**0.133**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.16**	0.05 U	0.05 U	--	--	--	--
Fluorene	ug/g	62	--	--	0.05 U	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	0.05 U	0.05 U	0.05 U	--	--	--	--
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	--	--	**0.111**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.077**	0.05 U	0.05 U	--	--	--	--
Naphthalene	ug/g	0.6	--	--	0.065 U	--	0.013 U	--	0.013 U	0.013 U	0.013 U	0.013 U	--	--	**0.039**	0.013 U	0.013 U	--	--	--	--
Phenanthrene	ug/g	6.2	--	--	**0.123**	--	0.046 U	--	0.046 U	0.046 U	0.046 U	0.046 U	--	--	**0.11**	0.046 U	0.046 U	--	--	--	--
Pyrene	ug/g	78	--	--	**0.134**	--	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	**0.139**	0.05 U	0.05 U	--	--	--	--
Polychlorinated Biphenyls (PCBs)																					
Aroclor 1242	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	--	0.01 U	0.01 U
Aroclor 1248	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	--	0.01 U	0.01 U
Aroclor 1254	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	--	0.01 U	0.01 U
Aroclor 1260	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01 U	--	0.01 U	0.01 U
PCB, Total	ug/g	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02 U	--	0.02 U	0.02 U
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																					
Benzene	ug/g	0.21	0.0068 U	--	--	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	0.0068 U	0.0068 U	--	--	--	--	--	--	--	--	--
Ethylbenzene	ug/g	1.1	0.018 U	--	--	0.018 U	0.018 U	--	0.018 U	0.018 U	0.018 U	0.018 U	--	--	--	--	--	--	--	--	--
Toluene	ug/g	2.3	0.08 U	--	--	0.08 U	0.08 U	--	0.08 U	0.08 U	0.08 U	0.08 U	--	--	--	--	--	--	--	--	--
Xylene, o	ug/g	NV	0.02 U	--	--	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	--	--	--	--	--	--	--	--	--
Xylenes, m & p	ug/g	NV	0.03 U	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	--	--	--	--	--	--	--	--	--
Xylenes, Total	ug/g	3.1	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (PHCs)																					
Gravimetric Heavy Hydrocarbons	ug/g	2800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U	--	--	5 U	5 U	--	5 U	5 U	5 U	5 U	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	--	--	5 U	5 U	--	5 U	5 U	5 U	5 UJ	5 U	5 U	--	--	--	--	--	--	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g	NV	--	--	--	--	10 U	--	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	--	--	10 U	10 U	--	10 U	10 U	10 U	10 U	10 U	10 U	--	--	--	--	--	--	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	--	--	--	--	50 U	--	50 U	50 U	50 U	50 U	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	--	--	50 U	50 U	--	50 U	50 U	50 U	50 U	50 U	50 U	--	--	--	--	--	--	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	--	--	50 U	50 U	--	50 U	50 U	50 U	50 U	50 U	50 U	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U	--	--	72 U	72 U	--	72 U	72 U	72 U	72 U	72 U	72 U	--	--	--	--	--	--	--
Physical/Chemistry																					
Average Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Clay (less than 0.005mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coarse Sand (2.0 to 4.75mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fine Sand (0.074 to 0.425mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon (Rep1)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon (Rep2)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH205						BH206				BH207		BH208			BH209			
		Sample ID	DUP10	BH205-0.5-2	BH205-2.5-4.5	BH205-7.5-9.5	BH205-10-12	BH205-12.5-15	BH206-1-2'	BH206-7.5-9.5	BH206-12.5-14.5	DUP15	BH207I-1-2	BH207I-7.5-9.5	BH208-3-3.5	DUP 4	BH208-7.5-8	DUP 2	DUP 3	BH209-0.4-0.75	BH209-2-2.4
		Sample Date	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	7/25/2019	8/19/2019	8/19/2019	8/19/2019	4/9/2020	4/9/2020	11/12/2019	11/21/2019	11/21/2019	11/13/2019	11/13/2019	11/13/2019	11/13/2019
		Sample Type	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	FD	N	N
		Start Depth	2.29	0	0.76	2.29	3.05	3.81	0.3	2.29	3.81	3.81	0.3	2.29	0.91	2.29	2.29	0.12	0.61	0.12	0.61
		End Depth	2.9	0.61	1.37	2.9	3.66	4.57	0.61	2.9	4.42	4.42	0.61	2.9	1.07	2.44	2.44	0.23	0.73	0.23	0.73
Analyte	**Units**	**Table 2 SCS [a]**																			
Gravel (4.75 to 76mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Medium Sand (0.425 to 2.0mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture	%	NV	**5.43**	**5.69**	**4.77**	**5.25**	**8.11**	--	**4.22**	**8.42**	**9.72**	**9.36**	**5.33**	**10.9**	**8.45**	**6.66**	**6.6**	**2.41**	**8.32**	**2.68**	**7.8**
Silt (0.005 to 0.074mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon (Rep1)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon (Rep2)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Carbons (VOCs)																					
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/g	0.38	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/g	0.47	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/g	1.2	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/g	4.8	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
1,3-Dichloropropene	ug/g	0.05	0.042 U	--	--	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U	0.042 U	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/g	0.083	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
2-Butanone	ug/g	16	0.5 U	--	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U	--	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
Acetone	ug/g	16	0.5 U	--	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/g	1.5	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Bromoform	ug/g	0.27	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Bromomethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/g	2.4	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	ug/g	2.3	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Chloroform	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/g	NV	0.03 U	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	ug/g	16	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Dichloromethane	ug/g	0.1	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
n-Hexane	ug/g	2.8	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Styrene	ug/g	0.7	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/g	0.28	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/g	NV	0.03 U	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	--	--	--	--	--	--	--	--	--
Trichloroethylene	ug/g	0.061	0.01 U	--	--	0.01 U	0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	ug/g	4	0.05 U	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--
Vinyl Chloride	ug/g	0.02	0.02 U	--	--	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	--	--	--	--	--	--	--	--	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH210		BH211	MW100			MW101			MW102B				MW103			
		Sample ID	BH210-3.5	BH210-6.5-7	BH211-10-12	MW100-1.25-1.5'	MW100-7.5-9.5	MW100-15-17	MW101-1.5-2'	MW101-7.5-9.5	MW101-20-20.5	MW102-20-25	MW102-7.5-9.5	MW102-12.5-14.5	MW102-25-26	MW103-2-2.5'	MW103-12.5-14	MW103-17.5-19.5	MW103-22.5-24.5
		Sample Date	11/21/2019	11/21/2019	11/21/2019	7/24/2019	8/22/2019	8/22/2019	7/26/2019	8/21/2019	8/21/2019	7/23/2019	8/26/2019	8/26/2019	8/26/2019	7/22/2019	8/14/2019	8/14/2019	8/14/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.99	1.98	3.05	0.41	2.29	4.57	0.46	2.29	6.1	0.51	2.29	3.81	7.62	0.56	3.81	5.33	6.86
		End Depth	1.14	2.13	3.66	0.46	2.9	5.18	0.61	2.9	6.25	0.63	2.9	4.42	7.92	0.71	4.27	5.94	7.47
Analyte	**Units**	**Table 2 SCS [a]**																	
Acids, Bases, Neutrals (ABNs)																			
1,1'-Biphenyl	ug/g	0.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/g	0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/g	38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/g	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/g	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/g	0.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/g	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethylphthalate	ug/g	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/g	9.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans																			
1,2,3,4,6,7,8-HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,7,8-TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HpCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total HxCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PeCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganics																			
Conductivity	mS/cm	0.7	--	--	--	**0.981**	**1.31**	**1.4**	**1.56**	**0.303**	--	**2.95**	**1.49**	**1.49**	**0.826**	**1.07**	**1.9**	**1.04**	**1.08**
Cyanide, Weak Acid Dissociable	ug/g	0.051	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
pH	pH UNITS	NV	--	--	--	**8.12**	**8.28**	--	--	**8.12**	--	**7.93**	**7.51**	**7.85**	--	**7.52**	**7.98**	**7.95**	--
Sodium Absorption Ratio	SAR	5	--	--	--	**8.27**	**65.9 J**	**16.3**	**16.6**	**9 J**	**14.3**	**94.2 J**	**18.1**	**41.2**	**5.01**	**18.6**	**26.7**	**13.2**	**12.7**
Metals																			
Antimony	ug/g	7.5	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	**1**	1 U	--	1 U	1 U	1 U	--
Arsenic	ug/g	18	**3.5**	**4.2**	**1.7**	**6.6**	**1.2**	--	**5.2**	**2.2**	--	**2.4**	**2.4**	**2.4**	--	**3**	**1.9**	**2.9**	--
Barium	ug/g	390	**38.2**	**42.7**	**18**	**111**	**8.8**	--	**90.7**	**21.3**	--	**29.7**	**65.4**	**37.8**	--	**28.6**	**23.5**	**110**	--
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	**0.98**	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	**0.62**	--
Boron	ug/g	120	**5.1**	**5.7**	5 U	**10.5**	5 U	--	**6.5**	**6.8**	--	**7.6**	**6.1**	**7.3**	--	5 U	**5.5**	**10.9**	--
Boron (Hot Water Ext.)	ug/g	1.5	--	--	--	**0.81**	0.1 U	--	**0.72**	**0.17**	--	0.1 U	**0.15**	**0.11**	--	**0.39**	0.1 U	0.1 U	--
Cadmium	ug/g	1.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--
Chromium	ug/g	160	**11**	**14.1**	**6.6**	**29.3**	**4.9**	--	**16.8**	**9.8**	--	**12**	**21.3**	**14.2**	--	**15.4**	**8.8**	**24.6**	--
Chromium, Hexavalent (Cr6+)	ug/g	8	--	--	--	**1.04**	0.2 U	--	**0.51**	0.2 U	--	**0.23**	**0.97**	0.2 U	--	0.2 U	0.2 U	0.2 U	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH210		BH211	MW100			MW101			MW102B				MW103			
		Sample ID	BH210-3.5	BH210-6.5-7	BH211-10-12	MW100-1.25-1.5'	MW100-7.5-9.5	MW100-15-17	MW101-1.5-2'	MW101-7.5-9.5	MW101-20-20.5	MW102-20-25	MW102-7.5-9.5	MW102-12.5-14.5	MW102-25-26	MW103-2-2.5'	MW103-12.5-14	MW103-17.5-19.5	MW103-22.5-24.5
		Sample Date	11/21/2019	11/21/2019	11/21/2019	7/24/2019	8/22/2019	8/22/2019	7/26/2019	8/21/2019	8/21/2019	7/23/2019	8/26/2019	8/26/2019	8/26/2019	7/22/2019	8/14/2019	8/14/2019	8/14/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.99	1.98	3.05	0.41	2.29	4.57	0.46	2.29	6.1	0.51	2.29	3.81	7.62	0.56	3.81	5.33	6.86
		End Depth	1.14	2.13	3.66	0.46	2.9	5.18	0.61	2.9	6.25	0.63	2.9	4.42	7.92	0.71	4.27	5.94	7.47
Analyte	**Units**	**Table 2 SCS [a]**																	
Cobalt	ug/g	22	**3.7**	**4.6**	**2.1**	**7.1**	**1.4**	--	**4.8**	**3.2**	--	**4.5**	**4.5**	**5.4**	--	**4.6**	**3.4**	**8.6**	--
Copper	ug/g	140	**10.4**	**13.8**	**7.4**	**17**	**4**	--	**21.1**	**9.3**	--	**10**	**33.1**	**13.4**	--	**8.7**	**8.4**	**18.8**	--
Lead	ug/g	120	**38.4**	**16.9**	**18.7**	**25.2**	**6.5**	--	**207**	**13.4**	--	**15.4**	**24.9**	**9.9**	--	**29.4**	**11.2**	**8.9**	--
Mercury	ug/g	0.27	--	--	--	**0.117**	0.005 U	--	**0.889**	**0.0138**	--	**0.0151**	**0.0513**	**0.008**	--	**0.0595**	**0.0068**	**0.0122**	--
Methyl Mercury	mg/kg	0.0084	--	--	--	--	--	--	5E-05 U	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/g	6.9	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Nickel	ug/g	100	**9.5**	**11**	**4.7**	**19**	**3.3**	--	**9.4**	**7.2**	--	**9.7**	**11.1**	**11.6**	--	**8.8**	**6.8**	**19.5**	--
Selenium	ug/g	2.4	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	**0.21**	0.2 U	--	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	--
Thallium	ug/g	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--
Uranium	ug/g	23	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U	--	1 U	1 U	1 U	--
Vanadium	ug/g	86	**23.9**	**32.4**	**13.1**	**50.8**	**8.9**	--	**28.4**	**17**	--	**21.8**	**21.7**	**23.9**	--	**34.3**	**18.2**	**34.6**	--
Zinc	ug/g	340	**120**	**106**	**83.1**	**155**	**42.1**	--	**235**	**94.2**	--	**60.5**	**129**	**114**	--	**70.3**	**69.8**	**49.9**	--
Other																			
Calcium	mg/l	NV	--	--	--	**19.6**	**1.03**	**9.93**	**15.9**	**2.75**	**2.45**	**3.22**	**8.23**	**2.23**	**30.1**	**8.05**	**10.7**	**10.8**	**12.9**
Magnesium	mg/l	NV	--	--	--	**27.2**	0.5 U	**4.9**	**3.61**	0.5 U	**1.22**	0.5 U	**7.2**	**0.91**	**6.79**	**2.74**	**1.11**	**2.59**	**3.33**
Sodium	mg/l	NV	--	--	--	**241**	**243**	**251**	**281**	**54.2**	**110**	**614**	**295**	**289**	**117**	**239**	**343**	**186**	**198**
Polyaromatic Hydrocarbons (PAHs)																			
1-Methylnaphthalene	ug/g	0.99	--	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--
2-(1-)Methylnaphthalene	ug/g	0.99	--	--	--	0.042 U	0.042 U	--	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U	--
2-Methylnaphthalene	ug/g	0.99	--	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--
Acenaphthene	ug/g	7.9	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Acenaphthylene	ug/g	0.15	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Anthracene	ug/g	0.67	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Benzo(a)anthracene	ug/g	0.5	--	--	--	0.05 U	0.05 U	--	**0.095**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Benzo(a)pyrene	ug/g	0.3	--	--	--	0.05 U	0.05 U	--	**0.093**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Benzo(b)fluoranthene	ug/g	0.78	--	--	--	0.05 U	0.05 U	--	**0.153**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Benzo(g,h,i)perylene	ug/g	6.6	--	--	--	0.05 U	0.05 U	--	**0.11**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Benzo(k)fluoranthene	ug/g	0.78	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Chrysene	ug/g	7	--	--	--	0.05 U	0.05 U	--	**0.107**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Dibenzo(a,h)anthracene	ug/g	0.1	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Fluoranthene	ug/g	0.69	--	--	--	0.05 U	0.05 U	--	**0.185**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Fluorene	ug/g	62	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	--	--	--	0.05 U	0.05 U	--	**0.084**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Naphthalene	ug/g	0.6	--	--	--	0.013 U	0.013 U	--	0.013 U	0.013 U	--	0.013 U	0.013 U	0.013 U	--	0.013 U	0.013 U	0.013 U	--
Phenanthrene	ug/g	6.2	--	--	--	0.046 U	0.046 U	--	**0.119**	0.046 U	--	0.046 U	0.046 U	0.046 U	--	0.046 U	0.046 U	0.046 U	--
Pyrene	ug/g	78	--	--	--	0.05 U	0.05 U	--	**0.178**	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1242	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB, Total	ug/g	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																			
Benzene	ug/g	0.21	--	--	--	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	0.0068 U	--
Ethylbenzene	ug/g	1.1	--	--	--	0.018 U	0.018 U	--	0.018 U	0.018 U	--	0.018 U	0.018 U	0.018 U	--	0.018 U	0.018 U	0.018 U	--
Toluene	ug/g	2.3	--	--	--	0.08 U	0.08 U	--	0.08 U	0.08 U	--	0.08 U	0.08 U	0.08 U	--	0.08 U	0.08 U	0.08 U	--
Xylene, o	ug/g	NV	--	--	--	0.02 U	0.02 U	--	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	--
Xylenes, m & p	ug/g	NV	--	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--
Xylenes, Total	ug/g	3.1	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Petroleum Hydrocarbons (PHCs)																			
Gravimetric Heavy Hydrocarbons	ug/g	2800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	--	--	--	5 U	5 U	--	5 U	5 U	--	5 U	5 U	5 U	--	5 U	5 U	5 U	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	--	--	--	5 U	5 U	--	5 U	5 U	--	5 U	5 U	5 U	--	5 U	5 U	5 U	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g	NV	--	--	--	10 U	10 U	--	10 U	10 U	--	10 U	10 U	10 U	--	10 U	10 U	10 U	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	--	--	--	10 U	10 U	--	10 U	10 U	--	10 U	10 U	10 U	--	10 U	10 U	10 U	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	--	--	--	50 U	50 U	--	50 U	50 U	--	50 U	50 U	50 U	--	50 U	50 U	50 U	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	--	--	--	50 U	50 U	--	50 U	50 U	--	50 U	50 U	50 U	--	50 U	50 U	50 U	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	--	--	--	50 U	50 U	--	50 U	50 U	--	50 U	**71**	50 U	--	50 U	50 U	50 U	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	--	--	--	72 U	72 U	--	72 U	72 U	--	72 U	72 U	72 U	--	72 U	72 U	72 U	--
Physical/Chemistry																			
Average Fraction Organic Carbon	None	NV	--	--	--	**0.0049**	0.001 U	0.001 U	--	--	--	**0.0011**	**0.0013**	0.001 U	0.001 U	**0.0118**	0.001 U	**0.0034**	--
Clay (less than 0.005mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coarse Sand (2.0 to 4.75mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fine Sand (0.074 to 0.425mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon	None	NV	--	--	--	**0.0047**	0.001 U	0.001 U	--	--	--	**0.001**	**0.0013**	0.001 U	0.001 U	**0.0117**	0.001 U	**0.0028**	--
Fraction Organic Carbon (Rep1)	None	NV	--	--	--	**0.0049**	--	--	--	--	--	**0.0011**	--	--	--	**0.0118**	--	**0.0035**	--
Fraction Organic Carbon (Rep2)	None	NV	--	--	--	**0.0052**	--	--	--	--	--	--	--	--	--	**0.0119**	--	**0.0039**	--

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	BH210		BH211	MW100			MW101			MW102B				MW103			
		Sample ID	BH210-3.5	BH210-6.5-7	BH211-10-12	MW100-1.25-1.5'	MW100-7.5-9.5	MW100-15-17	MW101-1.5-2'	MW101-7.5-9.5	MW101-20-20.5	MW102-20-25	MW102-7.5-9.5	MW102-12.5-14.5	MW102-25-26	MW103-2-2.5'	MW103-12.5-14	MW103-17.5-19.5	MW103-22.5-24.5
		Sample Date	11/21/2019	11/21/2019	11/21/2019	7/24/2019	8/22/2019	8/22/2019	7/26/2019	8/21/2019	8/21/2019	7/23/2019	8/26/2019	8/26/2019	8/26/2019	7/22/2019	8/14/2019	8/14/2019	8/14/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.99	1.98	3.05	0.41	2.29	4.57	0.46	2.29	6.1	0.51	2.29	3.81	7.62	0.56	3.81	5.33	6.86
		End Depth	1.14	2.13	3.66	0.46	2.9	5.18	0.61	2.9	6.25	0.63	2.9	4.42	7.92	0.71	4.27	5.94	7.47
Analyte	**Units**	**Table 2 SCS [a]**																	
Gravel (4.75 to 76mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Medium Sand (0.425 to 2.0mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture	%	NV	--	--	--	**19.9**	**6.59**	--	**10.3**	**7.89**	--	**14**	**13**	**10.9**	--	**16.9**	**10.8**	**9.01**	--
Silt (0.005 to 0.074mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	%	NV	--	--	--	**0.47**	0.1 U	0.1 U	--	--	--	**0.1**	**0.13**	0.1 U	0.1 U	**1.17**	0.1 U	**0.28**	--
Total Organic Carbon (Rep1)	%	NV	--	--	--	**0.49**	--	--	--	--	--	**0.11**	--	--	--	**1.18**	--	**0.35**	--
Total Organic Carbon (Rep2)	%	NV	--	--	--	**0.52**	--	--	--	--	--	--	--	--	--	**1.19**	--	**0.39**	--
Volatile Organic Carbons (VOCs)																			
1,1,1,2-Tetrachloroethane	ug/g	0.058	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,1,1-Trichloroethane	ug/g	0.38	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,1,2,2-Tetrachloroethane	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,1,2-Trichloroethane	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,1-Dichloroethane	ug/g	0.47	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,1-Dichloroethene	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,2-Dibromoethane	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,2-Dichlorobenzene	ug/g	1.2	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,2-Dichloroethane	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,2-Dichloropropane	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,3-Dichlorobenzene	ug/g	4.8	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
1,3-Dichloropropene	ug/g	0.05	--	--	--	0.042 U	0.042 U	--	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U	--
1,4-Dichlorobenzene	ug/g	0.083	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
2-Butanone	ug/g	16	--	--	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--
4-Methyl-2-Pentanone	ug/g	1.7	--	--	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--
Acetone	ug/g	16	--	--	--	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	--
Bromodichloromethane	ug/g	1.5	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Bromoform	ug/g	0.27	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Bromomethane	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Carbon tetrachloride	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Chlorobenzene	ug/g	2.4	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Chlorodibromomethane	ug/g	2.3	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Chloroform	ug/g	0.05	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
cis-1,2-Dichloroethene	ug/g	1.9	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
cis-1,3-Dichloropropene	ug/g	NV	--	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--
Dichlorodifluoromethane	ug/g	16	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Dichloromethane	ug/g	0.1	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Methyl tert-butyl ether (MTBE)	ug/g	0.75	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
n-Hexane	ug/g	2.8	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 UJ	0.05 UJ	--	0.05 U	0.05 U	0.05 U	--
Styrene	ug/g	0.7	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Tetrachloroethene	ug/g	0.28	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
trans-1,2-Dichloroethene	ug/g	0.084	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
trans-1,3-Dichloropropene	ug/g	NV	--	--	--	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	--
Trichloroethylene	ug/g	0.061	--	--	--	0.01 U	0.01 U	--	0.01 U	0.01 U	--	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U	0.01 U	--
Trichlorofluoromethane	ug/g	4	--	--	--	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	--
Vinyl Chloride	ug/g	0.02	--	--	--	0.02 U	0.02 U	--	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	**MW104**					**MW105**					**MW107**			**MW108**		
		Sample ID	**MW104-2.5-3'**	**DUP13**	**MW104-22-23**	**MW104-7-9**	**MW104-15-17**	**DUP12**	**MW105-5-6**	**MW105-10-12**	**MW105-15-17**	**MW105-21.5-22**	**MW107-2.5-4.5**	**MW107-7.5-9.5**	**MW107-15-16.5**	**MW108-5-6'**	**MW108-12.5-14.5**	**MW108-17.5-19**
		Sample Date	**7/22/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/13/2019**	**8/19/2019**	**8/19/2019**	**8/19/2019**	**7/25/2019**	**8/16/2019**	**8/16/2019**
		Sample Type	**N**	**FD**	**N**	**N**	**N**	**FD**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
		Start Depth	**0.61**	**2.13**	**6.1**	**2.13**	**4.57**	**4.57**	**1.52**	**3.05**	**4.57**	**6.55**	**0.76**	**2.29**	**4.57**	**1.52**	**3.81**	**5.33**
		End Depth	**0.91**	**2.74**	**6.71**	**2.74**	**5.18**	**5.18**	**1.83**	**3.66**	**5.18**	**6.71**	**1.37**	**2.9**	**5.03**	**1.83**	**4.42**	**5.79**
Analyte	**Units**	**Table 2 SCS [a]**																
Acids, Bases, Neutrals (ABNs)																		
1,1'-Biphenyl	ug/g	0.31	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/g	0.36	0.05 U	0.05 U	--	0.05 U	0.05 U	--	--	--	--	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	0.14 U	0.14 U	--	0.14 U	0.14 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/g	38	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/g	2	1 U	1 U	--	1 U	1 U	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/g	0.5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/g	0.5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/g	1	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/g	0.5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/g	0.5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/g	0.67	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/g	5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	ug/g	0.5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
Dimethylphthalate	ug/g	0.5	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
Phenol	ug/g	9.4	0.1 U	0.1 U	--	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--	--	--
Dioxins/Furans																		
1,2,3,4,6,7,8-HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.133 J**	--	--
1,2,3,4,6,7,8-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.068 UJ	--	--
1,2,3,4,7,8,9-HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.019 U	--	--
1,2,3,4,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.021 U	--	--
1,2,3,4,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.018 U	--	--
1,2,3,6,7,8-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.023 J**	--	--
1,2,3,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.019 U	--	--
1,2,3,7,8,9-HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02 U	--	--
1,2,3,7,8,9-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 UJ	--	--
1,2,3,7,8-PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.023 U	--	--
1,2,3,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.023 U	--	--
2,3,4,6,7,8-HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.018 U	--	--
2,3,4,7,8-PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.018 U	--	--
2,3,7,8-TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	--	--
2,3,7,8-TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.021 U	--	--
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0017**	--	--
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0387**	--	--
OCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.06 J**	--	--
OCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.175 UJ	--	--
Total HpCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.247**	--	--
Total HpCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**2**	--	--
Total HpCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.045**	--	--
Total HpCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**1**	--	--
Total HxCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.051**	--	--
Total HxCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**1**	--	--
Total HxCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 U	--	--
Total HxCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0**	--	--
Total PeCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.023 U	--	--
Total PeCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0**	--	--
Total PeCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.023 U	--	--
Total PeCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0**	--	--
Total TCDD	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.022 U	--	--
Total TCDD # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0**	--	--
Total TCDF	pg/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.021 U	--	--
Total TCDF # Homologues	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	**0**	--	--
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0702**	--	--
Inorganics																		
Conductivity	mS/cm	0.7	**0.969**	**0.911**	**1**	**1.13**	**1.11**	**0.841**	**0.52**	**1.27**	**0.859**	**1.01**	**0.376**	**1.71**	**1.35**	**0.0902**	**0.509**	**0.281**
Cyanide, Weak Acid Dissociable	ug/g	0.051	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
pH	pH UNITS	NV	**7.96**	**8.04**	--	**8.04**	**7.87**	**8.09**	**9.46**	**8.26**	**8.08**	--	**8.24**	**8.33**	--	**8.1**	**7.69**	**7.98**
Sodium Absorption Ratio	SAR	5	**24**	**60.2 J**	**5.77**	**69.3 J**	**10.3**	**60 J**	**29.9 J**	**79.8 J**	**40 J**	**23.8**	**11.4**	**25.2**	**19.1**	**0.15**	**2.51**	**2.22**
Metals																		
Antimony	ug/g	7.5	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U
Arsenic	ug/g	18	**2**	**1.9**	--	**1.5**	**2.1**	**2.3**	**2.1**	**1.7**	**2.2**	--	**3**	**1.4**	--	**2.1**	**1.7**	**2**
Barium	ug/g	390	**18.7**	**24.5 J**	--	**14.6 J**	**67.1**	**45.6**	**11.8**	**16.2**	**42.1**	--	**15.2**	**11.3**	--	**11.2**	**36.6**	**57.2**
Beryllium	ug/g	4	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U
Boron	ug/g	120	5 U	**5.5**	--	5 U	**7.6**	**7.4**	**5.6**	**5.5**	**7**	--	**6.4**	5 U	--	5 U	**6.6**	**8.8**
Boron (Hot Water Ext.)	ug/g	1.5	0.1 U	0.1 U	--	0.1 U	0.1 U	**0.13**	**0.12**	0.1 U	**0.13**	--	0.1 U	0.1 U	--	0.1 U	**0.17**	**0.13**
Cadmium	ug/g	1.2	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U
Chromium	ug/g	160	**9**	**9.6**	--	**8.2**	**18.6**	**16.1**	**6.1**	**7.5**	**15.4**	--	**12.9**	**6.2**	--	**5.8**	**12.1**	**18.4**
Chromium, Hexavalent (Cr6+)	ug/g	8	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	**0.54**	0.2 U	--	0.2 U	0.2 U	**0.26**

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW104					MW105					MW107			MW108		
		Sample ID	MW104-2.5-3'	DUP13	MW104-22-23	MW104-7-9	MW104-15-17	DUP12	MW105-5-6	MW105-10-12	MW105-15-17	MW105-21.5-22	MW107-2.5-4.5	MW107-7.5-9.5	MW107-15-16.5	MW108-5-6'	MW108-12.5-14.5	MW108-17.5-19
		Sample Date	7/22/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/19/2019	8/19/2019	8/19/2019	7/25/2019	8/16/2019	8/16/2019
		Sample Type	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.61	2.13	6.1	2.13	4.57	4.57	1.52	3.05	4.57	6.55	0.76	2.29	4.57	1.52	3.81	5.33
		End Depth	0.91	2.74	6.71	2.74	5.18	5.18	1.83	3.66	5.18	6.71	1.37	2.9	5.03	1.83	4.42	5.79
Analyte	**Units**	**Table 2 SCS [a]**																
Cobalt	ug/g	22	**3.6**	**3.7**	--	**2.7**	**6.6**	**6.2**	**2**	**2.5**	**5.9**	--	**2.9**	**1.8**	--	**2.2**	**3.9**	**6.2**
Copper	ug/g	140	**8.7**	**8**	--	**6.4**	**14.3**	**13.1**	**10.3**	**7**	**12.3**	--	**14.9**	**8.7**	--	**8.4**	**10.2**	**14.3**
Lead	ug/g	120	**9.4**	**9.5**	--	**9**	**7.5**	**9**	**34.6**	**10.1**	**9**	--	**16**	**9.5**	--	**9.4**	**10.1**	**12.9**
Mercury	ug/g	0.27	**0.0061**	**0.0058**	--	**0.006**	**0.011**	**0.0099**	**0.0082**	0.005 U	**0.009**	--	**0.0148**	0.005 U	--	0.005 U	**0.0099**	**0.0123**
Methyl Mercury	mg/kg	0.0084	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/g	6.9	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U
Nickel	ug/g	100	**7**	**7.9**	--	**5.3**	**14.8**	**14.1**	**5**	**5.3**	**12.9**	--	**6.6**	**3.8**	--	**4.6**	**8.6**	**14.2**
Selenium	ug/g	2.4	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U
Silver	ug/g	20	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U	--	0.2 U	0.2 U	0.2 U
Thallium	ug/g	1	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U
Uranium	ug/g	23	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	1 U	1 U
Vanadium	ug/g	86	**17.8**	**16.1**	--	**16.2**	**27.6**	**24.8**	**12.4**	**14.1**	**24.1**	--	**19.2**	**11.8**	--	**14.5**	**20.5**	**27.8**
Zinc	ug/g	340	**55.1**	**64.5**	--	**41.4**	**64**	**51.9**	**216**	**78.2**	**50.7**	--	**66**	**88.3**	--	**65.9**	**55.4**	**81**
Other																		
Calcium	mg/l	NV	**1.47**	**0.74**	**28.1**	**0.73**	**19.4**	**0.66**	**0.75**	**0.68**	0.5 U	**3.16**	**1.63**	**8.04**	**8.06**	**7.84**	**15.7**	**5.43**
Magnesium	mg/l	NV	**1.93**	0.5 U	**9.26**	0.5 U	**3.97**	0.5 U	0.5 U	0.5 U	0.5 U	**0.9**	**0.98**	**1.71**	**2.64**	**2.49**	**6.33**	**2.01**
Sodium	mg/l	NV	**188**	**188**	**138**	**215**	**191**	**177**	**94.1**	**239**	**168**	**186**	**74.4**	**302**	**245**	**1.93**	**46.6**	**23.8**
Polyaromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U
2-(1-)Methylnaphthalene	ug/g	0.99	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U
2-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U
Acenaphthene	ug/g	7.9	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Acenaphthylene	ug/g	0.15	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.054**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Anthracene	ug/g	0.67	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Benzo(a)anthracene	ug/g	0.5	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.086 J**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Benzo(a)pyrene	ug/g	0.3	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.143**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Benzo(b)fluoranthene	ug/g	0.78	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.167**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.162**	0.05 U	0.05 U	--	**0.067**	0.05 U	--	0.05 U	0.05 U	0.05 U
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Chrysene	ug/g	7	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.09**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Fluoranthene	ug/g	0.69	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.125**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Fluorene	ug/g	62	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.133**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Naphthalene	ug/g	0.6	0.013 U	0.013 U	--	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	--	0.013 U	0.013 U	--	0.013 U	0.013 U	0.013 U
Phenanthrene	ug/g	6.2	0.046 U	0.046 U	--	0.046 U	0.046 U	0.046 U	**0.063**	0.046 U	0.046 U	--	0.046 U	0.046 U	--	0.046 U	0.046 U	0.046 U
Pyrene	ug/g	78	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	**0.118**	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Polychlorinated Biphenyls (PCBs)																		
Aroclor 1242	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	ug/g	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB, Total	ug/g	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																		
Benzene	ug/g	0.21	0.0068 U	--	--	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U	0.0068 U
Ethylbenzene	ug/g	1.1	0.018 U	--	--	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	--	0.018 U	0.018 U	--	0.018 U	0.018 U	0.018 U
Toluene	ug/g	2.3	0.08 U	--	--	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	--	0.08 U	0.08 U	--	0.08 U	0.08 U	0.08 U
Xylene, o	ug/g	NV	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U
Xylenes, m & p	ug/g	NV	0.03 U	--	--	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U
Xylenes, Total	ug/g	3.1	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Petroleum Hydrocarbons (PHCs)																		
Gravimetric Heavy Hydrocarbons	ug/g	2800	--	--	--	--	--	--	**610**	--	--	--	**2110**	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U	--	--	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	5 U	--	5 U	5 U	5 U
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	--	--	5 U	5 U	5 U	5 U	5 U	5 U	--	5 UJ	5 UJ	--	5 U	5 U	5 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g	NV	10 U	--	--	10 U	10 U	10 U	10 U	10 U	10 U	--	20 U	10 U	--	10 U	10 U	10 U
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	--	--	10 U	10 U	10 U	10 U	10 U	10 U	--	20 U	10 U	--	10 U	10 U	10 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	50 U	--	--	50 U	50 U	50 U	**123**	50 U	50 U	--	**300**	50 U	--	50 U	50 U	50 U
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	--	--	50 U	50 U	50 U	**124**	50 U	50 U	--	**300**	50 U	--	50 U	50 U	50 U
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	--	--	50 U	50 U	50 U	**250**	50 U	50 U	--	**800**	50 U	--	50 U	50 U	50 U
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U	--	--	72 U	72 U	72 U	**374**	72 U	72 U	--	**1090**	72 U	--	72 U	72 U	72 U
Physical/Chemistry																		
Average Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.001 U	0.001 U	**0.0019**
Clay (less than 0.005mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Coarse Sand (2.0 to 4.75mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fine Sand (0.074 to 0.425mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fraction Organic Carbon	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.001 U	0.001 U	**0.0018**
Fraction Organic Carbon (Rep1)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0019**
Fraction Organic Carbon (Rep2)	None	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.002**

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW104					MW105					MW107			MW108		
		Sample ID	MW104-2.5-3'	DUP13	MW104-22-23	MW104-7-9	MW104-15-17	DUP12	MW105-5-6	MW105-10-12	MW105-15-17	MW105-21.5-22	MW107-2.5-4.5	MW107-7.5-9.5	MW107-15-16.5	MW108-5-6'	MW108-12.5-14.5	MW108-17.5-19
		Sample Date	7/22/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/19/2019	8/19/2019	8/19/2019	7/25/2019	8/16/2019	8/16/2019
		Sample Type	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.61	2.13	6.1	2.13	4.57	4.57	1.52	3.05	4.57	6.55	0.76	2.29	4.57	1.52	3.81	5.33
		End Depth	0.91	2.74	6.71	2.74	5.18	5.18	1.83	3.66	5.18	6.71	1.37	2.9	5.03	1.83	4.42	5.79
Analyte	**Units**	**Table 2 SCS [a]**																
Gravel (4.75 to 76mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Medium Sand (0.425 to 2.0mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture	%	NV	**8.51**	**7.19**	--	**8.77**	**8.62**	**8.54**	**3.46**	**7.46**	**9.3**	--	**6.31**	**6.96**	--	**4.2**	**11.4**	**8.1**
Silt (0.005 to 0.074mm), USCS	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1 U	0.1 U	**0.18**
Total Organic Carbon (Rep1)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.19**
Total Organic Carbon (Rep2)	%	NV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.2**
Volatile Organic Carbons (VOCs)																		
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,1,1-Trichloroethane	ug/g	0.38	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,1,2-Trichloroethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,1-Dichloroethane	ug/g	0.47	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,2-Dibromoethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	ug/g	1.2	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,2-Dichloropropane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,3-Dichlorobenzene	ug/g	4.8	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
1,3-Dichloropropene	ug/g	0.05	0.042 U	--	--	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U	--	0.042 U	0.042 U	0.042 U
1,4-Dichlorobenzene	ug/g	0.083	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
2-Butanone	ug/g	16	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U
Acetone	ug/g	16	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U	--	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/g	1.5	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Bromoform	ug/g	0.27	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Bromomethane	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Chlorobenzene	ug/g	2.4	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Chlorodibromomethane	ug/g	2.3	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Chloroform	ug/g	0.05	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
cis-1,3-Dichloropropene	ug/g	NV	0.03 U	--	--	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U
Dichlorodifluoromethane	ug/g	16	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Dichloromethane	ug/g	0.1	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
n-Hexane	ug/g	2.8	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Styrene	ug/g	0.7	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Tetrachloroethene	ug/g	0.28	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
trans-1,3-Dichloropropene	ug/g	NV	0.03 U	--	--	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U	--	0.03 U	0.03 U	0.03 U
Trichloroethylene	ug/g	0.061	0.01 U	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U	--	0.01 U	0.01 U	0.01 U
Trichlorofluoromethane	ug/g	4	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U
Vinyl Chloride	ug/g	0.02	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	**MW109**					**MW113**	
		Sample ID	**MW109-2.5-3.5'**	**DUP14**	**MW109-8-9.5**	**MW109-12.5-14.5**	**MW109-16-17**	**MW113-2.5-4.5**	**MW113-6.5-8.5**
		Sample Date	**7/25/2019**	**8/15/2019**	**8/15/2019**	**8/15/2019**	**8/15/2019**	**4/9/2020**	**4/9/2020**
		Sample Type	**N**	**FD**	**N**	**N**	**N**	**N**	**N**
		Start Depth	**0.76**	**3.81**	**2.29**	**3.81**	**4.88**	**0.76**	**1.98**
		End Depth	**1.07**	**4.42**	**2.9**	**4.42**	**5.18**	**1.37**	**2.59**
Analyte	**Units**	**Table 2 SCS [a]**							
Acids, Bases, Neutrals (ABNs)									
1,1'-Biphenyl	ug/g	0.31	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/g	0.36	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/g	38	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/g	2	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/g	0.5	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/g	1	--	--	--	--	--	--	--
4-Chloroaniline	ug/g	0.5	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/g	0.5	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/g	0.67	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/g	5	--	--	--	--	--	--	--
Diethylphthalate	ug/g	0.5	--	--	--	--	--	--	--
Dimethylphthalate	ug/g	0.5	--	--	--	--	--	--	--
Phenol	ug/g	9.4	--	--	--	--	--	--	--
Dioxins/Furans									
1,2,3,4,6,7,8-HpCDD	pg/g	NV	**0.808 J**	--	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	pg/g	NV	**0.29 J**	--	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	pg/g	NV	0.02 U	--	--	--	--	--	--
1,2,3,4,7,8-HxCDD	pg/g	NV	0.027 U	--	--	--	--	--	--
1,2,3,4,7,8-HxCDF	pg/g	NV	0.027 U	--	--	--	--	--	--
1,2,3,6,7,8-HxCDD	pg/g	NV	**0.04 J**	--	--	--	--	--	--
1,2,3,6,7,8-HxCDF	pg/g	NV	0.027 U	--	--	--	--	--	--
1,2,3,7,8,9-HxCDD	pg/g	NV	0.026 U	--	--	--	--	--	--
1,2,3,7,8,9-HxCDF	pg/g	NV	0.036 U	--	--	--	--	--	--
1,2,3,7,8-PeCDD	pg/g	NV	0.017 U	--	--	--	--	--	--
1,2,3,7,8-PeCDF	pg/g	NV	0.024 U	--	--	--	--	--	--
2,3,4,6,7,8-HxCDF	pg/g	NV	0.026 U	--	--	--	--	--	--
2,3,4,7,8-PeCDF	pg/g	NV	**0.024 J**	--	--	--	--	--	--
2,3,7,8-TCDD	pg/g	NV	0.025 U	--	--	--	--	--	--
2,3,7,8-TCDF	pg/g	NV	0.024 U	--	--	--	--	--	--
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	**0.0146**	--	--	--	--	--	--
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	**0.0558**	--	--	--	--	--	--
OCDD	pg/g	NV	**7.3**	--	--	--	--	--	--
OCDF	pg/g	NV	**0.862 J**	--	--	--	--	--	--
Total HpCDD	pg/g	NV	**1.48**	--	--	--	--	--	--
Total HpCDD # Homologues	None	NV	**2**	--	--	--	--	--	--
Total HpCDF	pg/g	NV	**0.622**	--	--	--	--	--	--
Total HpCDF # Homologues	None	NV	**1**	--	--	--	--	--	--
Total HxCDD	pg/g	NV	**0.111**	--	--	--	--	--	--
Total HxCDD # Homologues	None	NV	**2**	--	--	--	--	--	--
Total HxCDF	pg/g	NV	**0.124**	--	--	--	--	--	--
Total HxCDF # Homologues	None	NV	**1**	--	--	--	--	--	--
Total PeCDD	pg/g	NV	0.017 U	--	--	--	--	--	--
Total PeCDD # Homologues	None	NV	**0**	--	--	--	--	--	--
Total PeCDF	pg/g	NV	**0.04**	--	--	--	--	--	--
Total PeCDF # Homologues	None	NV	**1**	--	--	--	--	--	--
Total TCDD	pg/g	NV	**0.058**	--	--	--	--	--	--
Total TCDD # Homologues	None	NV	**1**	--	--	--	--	--	--
Total TCDF	pg/g	NV	0.024 U	--	--	--	--	--	--
Total TCDF # Homologues	None	NV	**0**	--	--	--	--	--	--
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	**0.0869**	--	--	--	--	--	--
Inorganics									
Conductivity	mS/cm	0.7	**0.208**	**0.177**	**0.394**	**0.167**	--	**1.66**	**1.87**
Cyanide, Weak Acid Dissociable	ug/g	0.051	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
pH	pH UNITS	NV	**7.83**	**8**	**7.96**	**7.98**	--	**7.93**	**8.13**
Sodium Absorption Ratio	SAR	5	**8.8**	**5.29**	**16.5 J**	**5.24**	**5.23**	**45.6**	**108 J**
Metals									
Antimony	ug/g	7.5	1 U	1 U	1 U	1 U	--	1 U	1 U
Arsenic	ug/g	18	**1.2**	**2.3**	**2.2**	**2.4**	--	**3.4**	**2.8**
Barium	ug/g	390	**12.8**	**41**	**34.1**	**48.4**	--	**34.7**	**21.1**
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
Boron	ug/g	120	5 U	**6.8**	**6.3**	**6.3**	--	5 U	**6.2**
Boron (Hot Water Ext.)	ug/g	1.5	0.1 U	0.1 U	**0.12**	0.1 U	--	**0.19**	0.1 U
Cadmium	ug/g	1.2	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
Chromium	ug/g	160	**5.8**	**13.7**	**12.8**	**14.3**	--	**16.2**	**11.5**
Chromium, Hexavalent (Cr6+)	ug/g	8	0.2 U	0.2 U	0.2 U	0.2 U	--	**0.31**	**0.44**

Table 6-5. Summary of Analytical Results in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW109					MW113	
		Sample ID	MW109-2.5-3.5'	DUP14	MW109-8-9.5	MW109-12.5-14.5	MW109-16-17	MW113-2.5-4.5	MW113-6.5-8.5
		Sample Date	7/25/2019	8/15/2019	8/15/2019	8/15/2019	8/15/2019	4/9/2020	4/9/2020
		Sample Type	N	FD	N	N	N	N	N
		Start Depth	0.76	3.81	2.29	3.81	4.88	0.76	1.98
		End Depth	1.07	4.42	2.9	4.42	5.18	1.37	2.59
Analyte	**Units**	**Table 2 SCS [a]**							
Cobalt	ug/g	22	**1.6**	**5.8**	**5.1**	**6.2**	--	**4**	**3.8**
Copper	ug/g	140	**4**	**12**	**12**	**12.9**	--	**16.1**	**10.4**
Lead	ug/g	120	**5.9**	**11.2**	**13**	**14.5**	--	**41.6**	**16.6**
Mercury	ug/g	0.27	**0.0071**	**0.0104**	**0.0132**	**0.0111**	--	**0.0623**	0.005 U
Methyl Mercury	mg/kg	0.0084	--	--	--	--	--	--	--
Molybdenum	ug/g	6.9	1 U	1 U	1 U	1 U	--	1 U	1 U
Nickel	ug/g	100	**3.8**	**11.8**	**10.8**	**13**	--	**8.3**	**8.2**
Selenium	ug/g	2.4	1 U	1 U	1 U	1 U	--	1 U	1 U
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	0.2 U
Thallium	ug/g	1	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
Uranium	ug/g	23	1 U	1 U	1 U	1 U	--	1 U	1 U
Vanadium	ug/g	86	**10.6**	**22.4**	**21.7**	**23**	--	**24.7**	**17.7**
Zinc	ug/g	340	**26.6**	**57.1**	**87**	**64.7**	--	**108**	**94.9**
Other									
Calcium	mg/l	NV	**1.39**	**2.8**	**2.16**	**2.64**	**1.67**	**2.84**	**0.79**
Magnesium	mg/l	NV	**0.57**	**0.97**	0.5 U	**0.92**	**0.72**	**0.5**	0.5 U
Sodium	mg/l	NV	**48.8**	**40.3**	**88.1**	**38.8**	**32.1**	**317**	**349**
Polyaromatic Hydrocarbons (PAHs)									
1-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U
2-(1-)Methylnaphthalene	ug/g	0.99	0.042 U	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U
2-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U
Acenaphthene	ug/g	7.9	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Acenaphthylene	ug/g	0.15	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Anthracene	ug/g	0.67	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Benzo(a)anthracene	ug/g	0.5	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Benzo(a)pyrene	ug/g	0.3	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Benzo(b)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U	0.05 U	--	**0.055**	0.05 U
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Chrysene	ug/g	7	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Fluoranthene	ug/g	0.69	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Fluorene	ug/g	62	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Naphthalene	ug/g	0.6	0.013 U	0.013 U	0.013 U	0.013 U	--	0.013 U	0.013 U
Phenanthrene	ug/g	6.2	0.046 U	0.046 U	0.046 U	0.046 U	--	0.046 U	0.046 U
Pyrene	ug/g	78	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Polychlorinated Biphenyls (PCBs)									
Aroclor 1242	ug/g	NV	--	--	--	--	--	--	--
Aroclor 1248	ug/g	NV	--	--	--	--	--	--	--
Aroclor 1254	ug/g	NV	--	--	--	--	--	--	--
Aroclor 1260	ug/g	NV	--	--	--	--	--	--	--
PCB, Total	ug/g	0.35	--	--	--	--	--	--	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)									
Benzene	ug/g	0.21	0.0068 U	0.0068 U	0.0068 U	0.0068 U	--	0.0068 U	0.0068 U
Ethylbenzene	ug/g	1.1	0.018 U	0.018 U	0.018 U	0.018 U	--	0.018 U	0.018 U
Toluene	ug/g	2.3	0.08 U	0.08 U	0.08 U	0.08 U	--	0.08 U	0.08 U
Xylene, o	ug/g	NV	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U
Xylenes, m & p	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U
Xylenes, Total	ug/g	3.1	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Petroleum Hydrocarbons (PHCs)									
Gravimetric Heavy Hydrocarbons	ug/g	2800	--	--	--	--	--	**550**	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U	5 U	5 U	5 U	--	5 U	5 U
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	5 U	5 U	5 U	--	5 U	5 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g	NV	10 U	10 U	10 U	10 U	--	10 U	10 U
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	10 U	10 U	10 U	--	10 U	10 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	50 U	50 U	50 U	50 U	--	**54**	50 U
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	50 U	50 U	50 U	--	**54**	50 U
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	50 U	50 U	50 U	--	**181**	50 U
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U	72 U	72 U	72 U	--	**235**	72 U
Physical/Chemistry									
Average Fraction Organic Carbon	None	NV	--	--	0.001 U	0.001 U	0.001 U	--	--
Clay (less than 0.005mm), USCS	%	NV	--	--	--	--	--	--	--
Coarse Sand (2.0 to 4.75mm), USCS	%	NV	--	--	--	--	--	--	--
Fine Sand (0.074 to 0.425mm), USCS	%	NV	--	--	--	--	--	--	--
Fraction Organic Carbon	None	NV	--	--	0.001 U	0.001 U	0.001 U	--	--
Fraction Organic Carbon (Rep1)	None	NV	--	--	--	**0.001**	--	--	--
Fraction Organic Carbon (Rep2)	None	NV	--	--	--	--	--	--	--

Table 6-5. Summary of Analytical Results in Soil
55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW109					MW113	
		Sample ID	MW109-2.5-3.5'	DUP14	MW109-8-9.5	MW109-12.5-14.5	MW109-16-17	MW113-2.5-4.5	MW113-6.5-8.5
		Sample Date	7/25/2019	8/15/2019	8/15/2019	8/15/2019	8/15/2019	4/9/2020	4/9/2020
		Sample Type	N	FD	N	N	N	N	N
		Start Depth	0.76	3.81	2.29	3.81	4.88	0.76	1.98
		End Depth	1.07	4.42	2.9	4.42	5.18	1.37	2.59
Analyte	**Units**	**Table 2 SCS [a]**							
Gravel (4.75 to 76mm), USCS	%	NV	--	--	--	--	--	--	--
Medium Sand (0.425 to 2.0mm), USCS	%	NV	--	--	--	--	--	--	--
Moisture	%	NV	**6.56**	**10.7**	**8.42**	**9.71**	--	**8.79**	**5.03**
Silt (0.005 to 0.074mm), USCS	%	NV	--	--	--	--	--	--	--
Total Organic Carbon	%	NV	--	--	0.1 U	0.1 U	0.1 U	--	--
Total Organic Carbon (Rep1)	%	NV	--	--	--	**0.1**	--	--	--
Total Organic Carbon (Rep2)	%	NV	--	--	--	--	--	--	--
Volatile Organic Carbons (VOCs)									
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,1,1-Trichloroethane	ug/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,1,2-Trichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,1-Dichloroethane	ug/g	0.47	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,1-Dichloroethene	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,2-Dibromoethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,2-Dichlorobenzene	ug/g	1.2	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,2-Dichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,2-Dichloropropane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,3-Dichlorobenzene	ug/g	4.8	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
1,3-Dichloropropene	ug/g	0.05	0.042 U	0.042 U	0.042 U	0.042 U	--	0.042 U	0.042 U
1,4-Dichlorobenzene	ug/g	0.083	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
2-Butanone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
Acetone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
Bromodichloromethane	ug/g	1.5	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Bromoform	ug/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Bromomethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Carbon tetrachloride	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Chlorobenzene	ug/g	2.4	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Chlorodibromomethane	ug/g	2.3	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Chloroform	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
cis-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U
Dichlorodifluoromethane	ug/g	16	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 UJ	0.05 UJ
Dichloromethane	ug/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
n-Hexane	ug/g	2.8	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Styrene	ug/g	0.7	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Tetrachloroethene	ug/g	0.28	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
trans-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U	--	0.03 U	0.03 U
Trichloroethylene	ug/g	0.061	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U
Trichlorofluoromethane	ug/g	4	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U
Vinyl Chloride	ug/g	0.02	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.
Notes:
Bold denote positive detection at or above reportable detection limit
Shading denotes detected results that exceeds the applicable standard
U = Analyte not detected
ug/L = microgram(s) per litre
ug/g = microgram per gram
mg/L = milligram(s) per litre
mS/cm = millisiemen per centimeter
SAR = Sodiuim Absorption Ratio
ID = identification
NV = no value available in applicable standards
-- = Analyte not analyzed

Table 6-6. Maximum Detected Concentrations in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analyte Group	Analyte Name	Maximum Detected Concentration	Unit	Location	Sample Name	Sample Type	Sample Date	Start Depth (mbgs)	End Depth (mbgs)	SDG
BTEX	Toluene	0.003	ug/g	BH-03	BH-3 (SS2)-0.8-1.4	N	11/27/2008	0.8	1.4	L713254
Dioxins/Furans	Mid Point PCDD/F TEQ (WHO 2005)	0.0558	pg/g	MW109	MW109-2.5-3.5'	N	7/25/2019	0.76	1.07	L2318180
Inorganics	Conductivity	2.95	mS/cm	MW102B	MW102-20-25	N	7/23/2019	0.51	0.63	L2318180
Inorganics	pH	9.46	pH UNITS	MW105	MW105-5-6	N	8/13/2019	1.52	1.83	L2328062
Inorganics	Sodium Absorption Ratio	108	SAR	MW113	MW113-6.5-8.5	N	4/9/2020	1.98	2.59	L2436005
Metals	Antimony	1	ug/g	MW102B	MW102-7.5-9.5	N	8/26/2019	2.29	2.9	L2336718
Metals	Arsenic	6.6	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Barium	111	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Beryllium	0.98	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Boron	10.9	ug/g	MW103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	L2330748
Metals	Boron (Hot Water Ext.)	0.81	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Chromium	29.3	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Chromium, Hexavalent (Cr6+)	1.04	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Cobalt	8.6	ug/g	MW103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	L2330748
Metals	Copper	33.1	ug/g	MW102B	MW102-7.5-9.5	N	8/26/2019	2.29	2.9	L2336718
Metals	Lead	207	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
Metals	Mercury	0.889	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
Metals	Nickel	19.5	ug/g	MW103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	L2330748
Metals	Silver	0.21	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
Metals	Thallium	1	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
Metals	Vanadium	50.8	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Zinc	246	ug/g	BH201	BH201-1-1.5'	N	7/24/2019	0.3	0.46	L2318180
PAHs	2-(1-)Methylnaphthalene	0.067	ug/g	BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	L2381422
PAHs	Acenaphthylene	0.054	ug/g	MW105	MW105-5-6	N	8/13/2019	1.52	1.83	L2328062
PAHs	Benzo(a)anthracene	0.14	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Benzo(a)pyrene	0.24	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Benzo(b)fluoranthene	0.18	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Benzo(g,h,i)perylene	0.237	ug/g	BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	L2381422
PAHs	Benzo(k)fluoranthene	0.11	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Chrysene	0.18	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Dibenzo(a,h)anthracene	0.09	ug/g	BH-14/ BH208	BH-14 (SS2)-0.8-1.4 / BH208-3-3.5	N	11/25/2008 / 11/12/2019	0.8	1.4	L712303 / L2381422
PAHs	Fluoranthene	0.19	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Indeno(1,2,3-Cd)Pyrene	0.14	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Naphthalene	0.039	ug/g	BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	L2381422
PAHs	Phenanthrene	0.123	ug/g	BH205	BH205-2.5-4.5	N	8/12/2019	0.76	1.37	L2328062
PAHs	Pyrene	0.178	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
PHCs	Petroleum Hydrocarbons F3 (C16-C34)	300	ug/g	MW107	MW107-2.5-4.5	N	8/19/2019	0.76	1.37	L2333129
PHCs	Petroleum Hydrocarbons F4 (C34-C50)	2110	ug/g	BH-15-MW3	BH-15 (SS1)-0-0.6	N	11/26/2008	0	0.6	L712303
VOCs	Trichloroethylene	0.004	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303

Notes:

µg/g = microgram per gram
ABN - acid, base, and neutral compounds
BTEX = benzene, toluene, ethylbenzene, and xylenes
F = fraction
FD = field duplicate
mbgs = metres below ground surface
mS/cm = milliSiemens per centimetre
N = normal sample
ORP = other regulated parameters
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls
pg/g = picogram per gram
PHC = petroleum hydrocarbons
SAR = sodium adsorption ratio
SDG = sample delivery group
VOC = volatile organic compounds

Table 6-7a. Preliminary COC Screening in Soil

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration [b.]	Units	Minimum Detection Limit (MDL)	Applicable SCS [c.]	Other Criteria [d]	No. of Detects Exceeding Table 2 SCS	No. of Nondetects exceeding Table 2 SCS	No. of Detects with no Table 2 SCS	No. of Nondetects with no Table 2 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Lead	Metal	34	68	207	--	207	µg/g	1	120	--	2	--	0	0	**Yes, included (Max > Table 2 SCS)**
Mercury	Metal	32	65	0.889	0.05	0.889	µg/g	0.005	0.27	--	1	--	0	0	**Yes, included (Max > Table 2 SCS)**
1,1'-Biphenyl	ABN	1	4	--	0.05	0.05	µg/g	0.05	0.31	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,2,4-Trichlorobenzene	ABN	1	4	--	0.05	0.05	µg/g	0.05	0.36	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2,4 & 2,6-Dinitrotoluene	ABN	1	4	--	0.14	0.14	µg/g	0.141	0.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2,4-Dimethylphenol	ABN	1	4	--	0.1	0.1	µg/g	0.1	38	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2,4-Dinitrophenol	ABN	1	4	--	1	1	µg/g	1	2	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
3,3'-Dichlorobenzidine	ABN	1	4	--	0.1	0.1	µg/g	0.1	1	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
4-Chloroaniline	ABN	1	4	--	0.1	0.1	µg/g	0.1	0.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Bis (2-chloroethyl) ether	ABN	1	4	--	0.1	0.1	µg/g	0.1	0.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Bis (2-Chloroisopropyl) ether	ABN	1	4	--	0.1	0.1	µg/g	0.1	0.67	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Bis (2-ethylhexyl) phthalate	ABN	1	4	--	0.1	0.1	µg/g	0.1	5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Diethylphthalate	ABN	1	4	--	0.1	0.1	µg/g	0.1	0.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Dimethylphthalate	ABN	1	4	--	0.1	0.1	µg/g	0.1	0.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Phenol	ABN	1	4	--	0.1	0.1	µg/g	0.1	9.4	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzene	BTEX	20	53	--	0.0068	0.0068	µg/g	0.002	0.21	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Ethylbenzene	BTEX	20	53	--	0.018	0.018	µg/g	0.002	1.1	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Toluene	BTEX	20	53	0.003	0.08	0.08	µg/g	0.002	2.3	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Xylenes, Total	BTEX	20	53	--	0.05	0.05	µg/g	0.002	3.1	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Dioxins and Furans	Dioxins/Furan	2	2	0.0558	--	0.0558	pg/g	1	13	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Conductivity	Inorganics	17	58	2.95	--	2.95	mS/cm	0.004	0.7	--	34	--	0	0	No, excluded (See Table 6-7b)
Cyanide, Weak Acid Dissociable	Inorganics	17	48	--	0.05	0.05	µg/g	0.05	0.051	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Sodium Absorption Ratio	Inorganics	17	64	108	--	108	SAR	0.1	5	--	56	--	0	0	No, excluded (See Table 6-7b)
Antimony	Metal	34	68	1	1	1	µg/g	1	7.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Arsenic	Metal	34	68	6.6	1	6.6	µg/g	1	18	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Barium	Metal	34	68	111	--	111	µg/g	1	390	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Beryllium	Metal	34	68	0.98	0.5	0.98	µg/g	0.5	4	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Boron	Metal	34	68	10.9	5	10.9	µg/g	0.1	120	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Boron (Hot Water Ext.)	Metal	17	48	0.81	0.1	0.81	µg/g	0.1	1.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Cadmium	Metal	34	68	--	0.5	0.5	µg/g	0.5	1.2	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Calcium	Metal	17	64	51.2	0.5	51.2	mg/l	0.5	-	53508	0	0	63	1	No, excluded (Max < or = OTR value)
Chromium	Metal	34	68	29.3	--	29.3	µg/g	1	160	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chromium, Hexavalent (Cr6+)	Metal	31	62	1.04	2	2	µg/g	0.2	8	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Cobalt	Metal	34	68	8.6	--	8.6	µg/g	1	22	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Copper	Metal	34	68	33.1	--	33.1	µg/g	1	140	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Magnesium	Metal	17	64	27.2	0.5	27.2	mg/l	0.5	-	17400	0	0	50	14	No, excluded (Max < or = OTR value)
Methyl Mercury	Metal	2	2	--	0.00005	0.00005	mg/kg	0.00005	0.0084	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Molybdenum	Metal	34	68	--	1	1	µg/g	1	6.9	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Nickel	Metal	20	54	19.5	--	19.5	µg/g	1	100	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Selenium	Metal	34	68	--	1	1	µg/g	1	2.4	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Silver	Metal	34	68	0.21	0.2	0.21	µg/g	0.2	20	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Sodium	Metal	17	64	614	--	614	mg/l	0.5	-	216	0	0	64	--	No, excluded (See Table 6-7b)
Thallium	Metal	34	68	1	1	1	µg/g	0.5	1	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Uranium	Metal	20	54	--	1	1	µg/g	1	23	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Vanadium	Metal	34	68	50.8	--	50.8	µg/g	1	86	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Zinc	Metal	34	68	246	--	246	µg/g	5	340	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2-(1-)Methylnaphthalene	PAH	22	54	0.067	0.085	0.085	µg/g	0.03	0.99	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Acenaphthene	PAH	22	54	--	0.05	0.05	µg/g	0.05	7.9	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Acenaphthylene	PAH	22	54	0.054	0.05	0.054	µg/g	0.05	0.15	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Anthracene	PAH	22	54	--	0.05	0.05	µg/g	0.05	0.67	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(a)anthracene	PAH	22	54	0.14	0.05	0.14	µg/g	0.05	0.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(a)pyrene	PAH	22	54	0.24	0.05	0.24	µg/g	0.02	0.3	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(b&j)fluoranthene	PAH	22	54	0.18	0.05	0.18	µg/g	0.05	0.78	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(g,h,i)perylene	PAH	22	54	0.237	0.05	0.237	µg/g	0.05	6.6	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(k)fluoranthene	PAH	22	54	0.11	0.05	0.11	µg/g	0.05	0.78	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chrysene	PAH	22	54	0.18	0.05	0.18	µg/g	0.05	7	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Dibenzo(a,h)anthracene	PAH	22	54	0.13	0.05	0.13	µg/g	0.05	0.1	--	1	--	0	0	No, excluded (See Table 6-7b)
Fluoranthene	PAH	22	54	0.19	0.05	0.19	µg/g	0.05	0.69	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Fluorene	PAH	22	54	--	0.05	0.05	µg/g	0.05	62	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Indeno(1,2,3-Cd)Pyrene	PAH	22	54	0.14	0.05	0.14	µg/g	0.05	0.38	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Naphthalene	PAH	22	54	0.039	0.065	0.065	µg/g	0.013	0.6	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)

Table 6-7a. Preliminary COC Screening in Soil

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration [b.]	Units	Minimum Detection Limit (MDL)	Applicable SCS [c.]	Other Criteria [d]	No. of Detects Exceeding Table 2 SCS	No. of Nondetects exceeding Table 2 SCS	No. of Detects with no Table 2 SCS	No. of Nondetects with no Table 2 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Phenanthrene	PAH	22	54	0.123	0.05	0.123	µg/g	0.046	6.2	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Pyrene	PAH	22	54	0.178	0.05	0.178	µg/g	0.05	78	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
PCB, Total	PCB	5	9	--	0.02	0.02	µg/g	0.01	0.35	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Gravimetric Heavy Hydrocarbons	PHC	5	5	2110	0	2110	ug/g	250	2800	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F1 (C6-C10)	PHC	27	61	--	5	5	µg/g	5	55	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F2 (C10-C16)	PHC	27	61	--	20	20	µg/g	10	98	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F3 (C16-C34)	PHC	27	61	300	50	300	µg/g	50	300	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F4 (C34-C50)	PHC	27	61	2110	50	2110	µg/g	50	2800	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,1,1,2-Tetrachloroethane	VOC	20	53	--	0.05	0.05	µg/g	0.008	0.058	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,1,1-Trichloroethane	VOC	20	53	--	0.05	0.05	µg/g	0.008	0.38	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,1,2,2-Tetrachloroethane	VOC	20	53	--	0.05	0.05	µg/g	0.004	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,1,2-Trichloroethane	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethane	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.47	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethene	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,2-Dibromoethane	VOC	20	53	--	0.05	0.05	µg/g	0.004	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,2-Dichlorobenzene	VOC	20	53	--	0.05	0.05	µg/g	0.002	1.2	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloroethane	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloropropane	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,3-Dichlorobenzene	VOC	20	53	--	0.05	0.05	µg/g	0.002	4.8	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
1,3-Dichloropropene	VOC	20	53	--	0.042	0.042	µg/g	0.042	0.05	--	0	0	--	4	No, excluded (Max < or = Table 2 SCS)
1,4-Dichlorobenzene	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.083	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2-Butanone	VOC	20	53	--	0.5	0.5	µg/g	0.2	16	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
4-Methyl-2-Pentanone	VOC	20	53	--	0.5	0.5	µg/g	0.2	1.7	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Acetone	VOC	20	53	--	0.5	0.5	µg/g	0.5	16	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Bromodichloromethane	VOC	20	53	--	0.05	0.05	µg/g	0.005	1.5	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Bromoform	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.27	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Bromomethane	VOC	20	53	--	0.05	0.05	µg/g	0.003	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Carbon tetrachloride	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chlorobenzene	VOC	20	53	--	0.05	0.05	µg/g	0.002	2.4	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chlorodibromomethane	VOC	20	53	--	0.05	0.05	µg/g	0.003	2.3	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chloroform	VOC	20	53	--	0.05	0.05	µg/g	0.006	0.05	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
cis-1,2-Dichloroethene	VOC	20	53	--	0.05	0.05	µg/g	0.02	1.9	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Dichlorodifluoromethane	VOC	20	53	--	0.05	0.05	µg/g	0.03	16	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Dichloromethane	VOC	20	53	--	0.063	0.063	µg/g	0.003	0.1	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Methyl tert-butyl ether (MTBE)	VOC	20	53	--	0.2	0.2	µg/g	0.05	0.75	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
n-Hexane	VOC	17	49	--	0.05	0.05	µg/g	0.05	2.8	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Styrene	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.7	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Tetrachloroethene	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.28	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
trans-1,2-Dichloroethene	VOC	20	53	--	0.05	0.05	µg/g	0.002	0.084	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Trichloroethylene	VOC	20	53	0.004	0.01	0.01	µg/g	0.004	0.061	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Trichlorofluoromethane	VOC	20	53	--	0.05	0.05	µg/g	0.03	4	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Vinyl Chloride	VOC	20	53	--	0.02	0.02	µg/g	0.003	0.02	--	0	0	0	0	No, excluded (Max < or = Table 2 SCS)

Notes:

[a.] The representative maximum concentration (the maximum concentration of similar analytes or total concentration of multiple isomers) is used for comparison.

[b.] Column lists the greater of the maximum detected concentration and the maximum nondetect concentration.

[c.] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards in a Potale Ground Water Condition, for Residential/ Parkland/ Institutional Property Type Use and Coarse Textured Soils (MECP, 2011a).

[d.] For calcium, magnesium, and sodium, the Ontario Typical Ranges for an urban scenario are applied (MECP, 2011b)

Grey shaded parameters have been reviewed further. Refer to Table 6-7b.

Bold parameters are identified as COCs

-- = no value or not applicable
> = greater than
< = less than
µg/g = microgram per gram
ABN = acid, base, and neutral compounds
COC = contaminant of concern
F = fraction
Max = maximum concentration
MDL = method detection limit
MECP = Ontario Ministry of the Environment, Conservation and Parks
mS/cm = milliSiemen per centimetre
No. = number
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyl
PHC = petroleum hydrocarbon
SCS = Site Condition Standard
VOC = volatile organic compound
OTR = Ontario Typical Range

Table 6-7b. Rationale for the Removal of Soil COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter Group	Parameter	Category	Sample(s)	Comment/Rationale
INORGANICS	Sodium	Parameter with no Table 2 SCS but detected concentrations above the OTR value.	18 samples across the Site from 2019 and 2020.	18 of a total of 64 samples had detected concentrations greater than the OTR value of 216 µg/g. The remaining 46 samples had detected concentrations of sodium below the OTR value. Sodium risks are currently analyzed using SAR analysis. SAR results are discussed in Table 6-7c.. Based on the available information, at the discretion of the QPESA, sodium is not considered to be a COC for the Site.

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

µg/g = micrograms per gram
COC = contaminant of concern
O. Reg. = Ontario Regulation
OTR = Ontario Typical Range
QPESA = MECP Qualified Person for Environmental Site Assessment
SAR = sodium adsorption ratio
SCS = Site Condition Standards

Table 6-7c. Rationale for the Exclusion of Soil COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter Group	Parameter	Category	Sample(s)	Comment/Rationale
PAH	Dibenzo[a,h]anthracene	Parameter with existing SCS and detected exceedance.	1 sample from BH-14 (0.8 to 1.4 mbgs) from 2008 (COA L712303).	One exceedances of dibenzo[a,h]anthracene was detected across the Phase Two Property from a historical sample at BH-14. In November 2019, BH208 was drilled in the same area as BH-14, and samples were collected between 0.91 to 1.07 mbgs, and 2.3 to 2.44 mbgs. The results from the two locations were averaged below the SCS. Based on the available information, this parameter was determined to likely not be present at concentrations exceeding the SCS; therefore, at the discretion of the QPESA, was not considered to be a COC for the Phase Two Property.
INORGANICS	Conductivity (EC) Sodium Adsorption Ratio (SAR)	Parameter with Table 2 SCS and exemptions in Section 49.1 of O. Reg. 153/04	34 (EC) and 56 (SAR) samples across the Site from 2019 and 2020.	The presence of EC and SAR at the Site are related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act should a substance be applied to surfaces for hte safety of vehicularor pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, EC and SAR were not considered to be COCs for the Phase Two Property.

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

µg/g = micrograms per gram
COA = certificate of analysis
COC = contaminant of concern
EC = electrical conductivity
mbgs = metres below ground surface
O. Reg. = Ontario Regulation
PAH = polycyclic aromatic hydrocarbon
QPESA = MECP Qualified Person for Environmental Site Assessment
SAR = sodium adsorption ratio
SCS = Site Condition Standards

Table 6-7d. Contaminants of Concern Identified in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analytical Group	Analytes	
Metals	Lead	Mercury

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW100		MW101			MW102A		MW102B		MW103			MW104		
		Sample ID	MW100	MW100	MW101	MW101	MW101	MW102A	MW102A	MW102B	MW102B	DUP1	MW103	MW103	DUP2	MW104	DUP3
		Sample Date	9/6/2019	12/19/2019	9/5/2019	9/24/2019	12/20/2019	9/6/2019	12/19/2019	9/6/2019	12/19/2019	9/5/2019	9/5/2019	12/18/2019	9/5/2019	9/5/2019	12/20/2019
		Sample Type	N	N	N	N	N	N	N	N	N	FD	N	N	FD	N	FD
		Start Depth	5.49	5.49	5.71	5.71	5.71	2.13	2.13	8.84	8.84	2.13	2.13	2.13	5.94	5.94	5.94
		End Depth	8.53	8.53	8.76	8.76	8.76	5.18	5.18	10.36	10.36	5.18	5.18	5.18	8.99	8.99	8.99
Analyte	**Units**	**Table 2 SCS [a]**															
Acids, Bases, Neutrals (ABNs)																	
1,1'-Biphenyl	ug/l	0.5	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
1,2,4-Trichlorobenzene	ug/l	70	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
2,4 & 2,6-Dinitrotoluene	ug/l	5	--	--	--	--	--	--	--	--	--	--	--	--	0.57 U	0.57 U	0.57 U
2,4-Dimethylphenol	ug/l	59	--	--	--	--	--	--	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U
2,4-Dinitrophenol	ug/l	10	--	--	--	--	--	--	--	--	--	--	--	--	1 U	1 U	1 U
2,4-Dinitrotoluene	ug/l	5	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
2,6-Dinitrotoluene	ug/l	5	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
3,3'-Dichlorobenzidine	ug/l	0.5	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
4-Chloroaniline	ug/l	10	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
Bis (2-chloroethyl) ether	ug/l	5	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
bis (2-Chloroisopropyl) ether	ug/l	120	--	--	--	--	--	--	--	--	--	--	--	--	0.4 U	0.4 U	0.4 U
Bis (2-ethylhexyl) phthalate	ug/l	10	--	--	--	--	--	--	--	--	--	--	--	--	**2.3**	**2**	2 U
Diethylphthalate	ug/l	38	--	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.2 U
Dimethylphthalate	ug/l	38	--	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.2 U
Phenol	ug/l	890	--	--	--	--	--	--	--	--	--	--	--	--	0.5 U	0.5 U	0.5 U
Inorganics																	
Chloride (Cl)	mg/l	790	**6970**	**8010**	**1380**	--	**370**	**6010**	**8140**	**9610**	**8500**	**4980**	**6580**	**5890**	--	**2660**	--
Conductivity	mS/cm	NV	**20.1**	**23**	**4.18**	--	**1.76**	**17.9**	**23.5**	**27**	**24.3**	**14.5**	**14.6**	**15.4**	--	**7.24**	--
Cyanide, Weak Acid Dissociable	ug/l	66	**2.8**	2 U	2 U	--	2 U	2 U	**8.4**	2 U	2 U	**2.5**	2 U	2 U	--	2 U	--
pH	pH UNITS	NV	**7.77**	**7.82**	**7.86**	--	**7.76**	**7.43**	**7.49**	**7.14**	**7.34**	**7.44**	**7.55**	**7.53**	--	**7.8**	--
Sodium	ug/l	490000	**4590000**	--	**725000**	--	--	**3960000**	--	**6100000**	--	**3150000**	**3140000**	--	--	**1360000**	--
Sodium Absorption Ratio	SAR	NV	0.1 U	--	**21.8 J**	--	--	0.1 U	--	**22 J**	--	130 UJ	130 UJ	--	--	130 UJ	--
Metals																	
Antimony	ug/l	6	10 U	--	1 U	--	--	10 U	--	10 U	--	1 U	1 U	--	--	1 U	--
Arsenic	ug/l	25	10 U	--	1 U	--	--	10 U	--	10 U	--	**1.2**	1 U	--	--	1 U	--
Barium	ug/l	1000	**356**	**392**	**87.1**	--	**53.1**	**462**	**526**	**619**	**556**	**403**	**406**	**378**	--	**164**	--
Beryllium	ug/l	4	10 U	10 U	1 U	--	1 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	--	1 U	--
Boron	ug/l	5000	1000 U	1000 U	100 U	--	100 U	1000 U	1000 U	1000 U	1000 U	100 U	100 U	100 U	--	100 U	--
Cadmium	ug/l	2.7	**1.1**	**0.72**	0.05 U	--	0.05 U	0.5 U	0.5 U	**1.02**	**0.78**	**0.134**	**0.131**	**0.128**	--	0.05 U	--
Chromium	ug/l	50	50 U	50 U	5 U	--	5 U	50 U	50 U	50 U	50 U	5 U	5 U	5 U	--	5 U	--
Chromium, Hexavalent (Cr6+)	ug/l	25	**3.87**	**4.15**	**0.55**	--	**0.51**	0.5 U	**0.51**	**1.28**	**0.51**	0.5 U	**0.56**	0.5 U	--	0.5 U	--
Cobalt	ug/l	3.8	10 U	10 U	1 U	--	1 U	10 U	10 U	10 U	10 U	1 U	1 U	**1.4**	--	1 U	--
Copper	ug/l	87	20 U	20 U	**2.4**	--	**2.2**	20 U	20 U	20 U	20 U	**3.1 J**	**4.4 J**	**3**	--	**2.1**	--
Lead	ug/l	10	5 U	5 U	0.5 U	--	0.5 U	5 U	5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Mercury	ug/l	0.29	0.005 U	0.005 U	0.005 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	--	0.005 U	--
Molybdenum	ug/l	70	5 U	5 U	**6.26**	--	**1.95**	5 U	5 U	**13.3**	5 U	**4.87**	**4.93**	**3.13**	--	**17.6**	--
Nickel	ug/l	100	50 U	50 U	5 U	--	5 U	50 U	50 U	50 U	50 U	5 U	5 U	5 U	--	5 U	--
Selenium	ug/l	10	5 U	--	**4.66**	--	--	5 U	--	5 U	--	**0.55**	**0.57**	--	--	0.5 U	--
Silver	ug/l	1.5	5 U	5 U	0.5 U	--	0.5 U	5 U	5 U	5 U	5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Thallium	ug/l	2	1 U	1 U	0.1 U	--	0.1 U	1 U	1 U	1 U	1 U	**0.12**	**0.12**	0.1 U	--	0.1 U	--
Uranium	ug/l	20	1 U	1 U	**0.82**	--	**0.76**	**3.5**	**1.7**	**1.8**	**1.6**	**4.7**	**4.76**	**5.79**	--	**1.83**	--
Vanadium	ug/l	6.2	50 U	50 U	5 U	--	5 U	50 U	50 U	50 U	50 U	5 U	5 U	5 U	--	5 U	--
Zinc	ug/l	1100	100 U	100 U	10 U	--	10 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U	--	10 U	--
Polyaromatic Hydrocarbons (PAHs)																	
1-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	**0.022**	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
2-(1-)Methylnaphthalene	ug/l	3.2	0.028 U	0.028 U	0.028 U	--	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	--	0.028 U	--
2-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Acenaphthene	ug/l	4.1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Acenaphthylene	ug/l	1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Anthracene	ug/l	2.4	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW100		MW101			MW102A		MW102B		MW103			MW104		
		Sample ID	MW100	MW100	MW101	MW101	MW101	MW102A	MW102A	MW102B	MW102B	DUP1	MW103	MW103	DUP2	MW104	DUP3
		Sample Date	9/6/2019	12/19/2019	9/5/2019	9/24/2019	12/20/2019	9/6/2019	12/19/2019	9/6/2019	12/19/2019	9/5/2019	9/5/2019	12/18/2019	9/5/2019	9/5/2019	12/20/2019
		Sample Type	N	N	N	N	N	N	N	N	N	FD	N	N	FD	N	FD
		Start Depth	5.49	5.49	5.71	5.71	5.71	2.13	2.13	8.84	8.84	2.13	2.13	2.13	5.94	5.94	5.94
		End Depth	8.53	8.53	8.76	8.76	8.76	5.18	5.18	10.36	10.36	5.18	5.18	5.18	8.99	8.99	8.99
Analyte	**Units**	**Table 2 SCS [a]**															
Benzo(a)anthracene	ug/l	1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Benzo(a)pyrene	ug/l	0.01	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 U	--
Benzo(b)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Benzo(g,h,i)perylene	ug/l	0.2	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Benzo(k)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Chrysene	ug/l	0.1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Dibenzo(a,h)anthracene	ug/l	0.2	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Fluoranthene	ug/l	0.41	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Fluorene	ug/l	120	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Indeno(1,2,3-Cd)Pyrene	ug/l	0.2	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Naphthalene	ug/l	11	0.05 U	0.05 U	0.05 U	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	--
Phenanthrene	ug/l	1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Pyrene	ug/l	4.1	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																	
Benzene	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Ethylbenzene	ug/l	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Toluene	ug/l	24	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Xylene, o	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	0.3 U	--
Xylenes, m & p	ug/l	NV	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	--	0.4 U	--
Xylenes, Total	ug/l	300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Petroleum Hydrocarbons (PHCs)																	
Chrom. to baseline at nC50	None	NV	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/l	NV	25 U	25 U	25 U	--	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	--	25 U	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/l	750	25 U	25 U	25 U	--	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	--	25 U	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	ug/l	NV	100 U	100 U	100 U	--	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	--	100 U	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/l	150	100 U	100 U	100 U	--	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	--	100 U	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/l	NV	250 U	250 U	250 U	--	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	--	250 U	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/l	500	250 U	250 U	250 U	--	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	--	250 U	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/l	500	250 U	250 U	250 U	--	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	--	250 U	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/l	NV	370 U	370 U	370 U	--	370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U	--	370 U	--
Volatile Organic Carbons (VOCs)																	
1,1,1,2-Tetrachloroethane	ug/l	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,1,1-Trichloroethane	ug/l	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,1,2,2-Tetrachloroethane	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,1,2-Trichloroethane	ug/l	4.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,1-Dichloroethane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,1-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,2-Dibromoethane	ug/l	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	--
1,2-Dichlorobenzene	ug/l	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,2-Dichloroethane	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,2-Dichloropropane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,3-Dichlorobenzene	ug/l	59	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,3-Dichloropropene	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
1,4-Dichlorobenzene	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
2-Butanone	ug/l	1800	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	--	20 U	--
4-Methyl-2-Pentanone	ug/l	640	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	--	20 U	--
Acetone	ug/l	2700	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	--	30 U	--
Bromodichloromethane	ug/l	16	2 U	2 U	**6.7**	**7.1**	**6.6**	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	**4.7**	--
Bromoform	ug/l	25	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	--
Bromomethane	ug/l	0.89	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Carbon tetrachloride	ug/l	0.79	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	0.2 U	--

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW100		MW101			MW102A		MW102B		MW103			MW104		
		Sample ID	MW100	MW100	MW101	MW101	MW101	MW102A	MW102A	MW102B	MW102B	DUP1	MW103	MW103	DUP2	MW104	DUP3
		Sample Date	9/6/2019	12/19/2019	9/5/2019	9/24/2019	12/20/2019	9/6/2019	12/19/2019	9/6/2019	12/19/2019	9/5/2019	9/5/2019	12/18/2019	9/5/2019	9/5/2019	12/20/2019
		Sample Type	N	N	N	N	N	N	N	N	N	FD	N	N	FD	N	FD
		Start Depth	5.49	5.49	5.71	5.71	5.71	2.13	2.13	8.84	8.84	2.13	2.13	2.13	5.94	5.94	5.94
		End Depth	8.53	8.53	8.76	8.76	8.76	5.18	5.18	10.36	10.36	5.18	5.18	5.18	8.99	8.99	8.99
Analyte	**Units**	**Table 2 SCS [a]**															
Chlorobenzene	ug/l	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Chlorodibromomethane	ug/l	25	2 U	2 U	**4.9**	**4.5**	**5.4**	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	**4.1**	--
Chloroform	ug/l	2.4	1 U	1 U	**12**	**11.9**	**8.5**	1 U	1 U	**1.5**	1 U	1 U	1 U	1 U	--	**4.9**	--
cis-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
cis-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	0.3 U	--
Dichlorodifluoromethane	ug/l	590	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	--
Dichloromethane	ug/l	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	--
Methyl tert-butyl ether (MTBE)	ug/l	15	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	--
n-Hexane	ug/l	51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Styrene	ug/l	5.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Tetrachloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
trans-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
trans-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	0.3 U	--
Trichloroethylene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--
Trichlorofluoromethane	ug/l	150	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	--	5 U	--
Vinyl Chloride	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:
Bold denote positive detection at or above reportable detection limit
Shading denotes detected results that exceeds the applicable standard
U = Analyte not detected
ug/L = microgram(s) per litre
ug/g = microgram per gram
mg/L = milligram(s) per litre
mS/cm = millisiemen per centimeter
SAR = Sodiuim Absorption Ratio
ID = identification
NV = no value available in applicable standards
-- = Analyte not analyzed

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location		MW105	MW107				MW107B		MW108		MW109			MW110A		
		Sample ID	MW104	MW105	DUP3	MW107	MW107	MW107	MW107B	MW107B	MW108	MW108	MW109	DUP1	MW109	MW110A	MW110A	
		Sample Date	12/20/2019	9/6/2019	9/6/2019	9/6/2019	9/24/2019	12/18/2019	11/26/2019	12/18/2019	9/5/2019	12/19/2019	9/5/2019	12/19/2019	12/19/2019	11/26/2019	12/20/2019	
		Sample Type	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N	
		Start Depth	5.94	5.64	5.33	5.33	5.33	5.33	13.56	13.56	6.71	6.71	7.32	7.32	7.32	5.33	5.33	
		End Depth	8.99	8.69	8.38	8.38	8.38	8.38	15.39	15.39	9.75	9.75	10.36	10.36	10.36	8.38	8.38	
Analyte	**Units**	**Table 2 SCS [a]**																
Acids, Bases, Neutrals (ABNs)																		
1,1'-Biphenyl	ug/l	0.5	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,2,4-Trichlorobenzene	ug/l	70	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4 & 2,6-Dinitrotoluene	ug/l	5	0.57 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4-Dimethylphenol	ug/l	59	0.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4-Dinitrophenol	ug/l	10	1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,4-Dinitrotoluene	ug/l	5	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2,6-Dinitrotoluene	ug/l	5	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
3,3'-Dichlorobenzidine	ug/l	0.5	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Chloroaniline	ug/l	10	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bis (2-chloroethyl) ether	ug/l	5	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
bis (2-Chloroisopropyl) ether	ug/l	120	0.4 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Bis (2-ethylhexyl) phthalate	ug/l	10	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Diethylphthalate	ug/l	38	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Dimethylphthalate	ug/l	38	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Phenol	ug/l	890	0.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Inorganics																		
Chloride (Cl)	mg/l	790	**4170**	**2170**	**918**	**969**	--	**722**	--	--	**2640**	**272**	**448**	**469**	**459**	--	--	
Conductivity	mS/cm	NV	**11**	**5.92**	**3.17**	**3.22**	--	**2.71**	--	--	**1.85**	**1.88**	**1.89**	**1.82**	**1.81**	--	--	
Cyanide, Weak Acid Dissociable	ug/l	66	2 U	2 U	2 U	2 U	--	2 U	--	--	2 U	2 U	2 U	2 U	2 U	--	--	
pH	pH UNITS	NV	**7.47**	**8.08**	**7.66**	**7.76**	--	**7.78**	--	--	**7.93**	**7.73**	**8.11**	**8.23**	**8.22**	--	--	
Sodium	ug/l	490000	--	**1200000**	**506000**	**505000**	**436000**	--	**347000**	--	**131000**	--	**304000**	--	--	**4750000**	--	
Sodium Absorption Ratio	SAR	NV	--	130 UJ	**5.8 J**	**5.8 J**	--	--	--	--	10 UJ	--	0.1 U	--	--	--	--	
Metals																		
Antimony	ug/l	6	--	1 U	1 U	1 U	1 U	--	1 U	--	**0.43**	--	1 U	--	--	6 U	--	
Arsenic	ug/l	25	--	1 U	1 U	1 U	1 U	--	1 U	--	**0.51**	--	1 U	--	--	10 U	--	
Barium	ug/l	1000	**225**	**136**	**99.2**	**94.1**	**87.8**	**87.2**	**106**	**109**	**99.5**	**93.3**	**43.3**	**39.9**	**38.9**	**708**	**744**	
Beryllium	ug/l	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 U	0.1 U	1 U	1 U	1 U	4 U	10 U	
Boron	ug/l	5000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	**64**	**60**	100 U	100 U	100 U	1000 U	1000 U	
Cadmium	ug/l	2.7	0.05 U	**0.75**	**2.98**	**3.01**	**3.13**	**3.37**	**0.075**	0.05 U	0.01 U	**0.017**	0.05 U	0.05 U	0.05 U	**1.26**	**1.5**	
Chromium	ug/l	50	5 U	5 U	5 U	5 U	5 U	5 U	**5.9**	**5.5**	**1.24**	0.5 U	5 U	5 U	5 U	50 U	50 U	
Chromium, Hexavalent (Cr6+)	ug/l	25	0.5 U	**2.01**	**3.62**	**3.8**	--	**0.87**	--	--	0.5 U	0.5 U	**2**	**2.04**	**2.05**	--	--	
Cobalt	ug/l	3.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.33**	**0.37**	1 U	1 U	1 U	3.8 U	10 U	
Copper	ug/l	87	**2.5**	2 U	**2.4**	2 U	**2.2**	2 U	2 U	**4.7**	**4.01**	**2.02**	**2.1**	2 U	**2.5**	20 U	20 U	
Lead	ug/l	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.061**	**0.066**	**0.72**	0.5 U	0.5 U	5 U	5 U	
Mercury	ug/l	0.29	0.005 U	0.005 U	**0.0054**	0.005 U	--	0.005 U	--	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	--	--	
Molybdenum	ug/l	70	**3.97**	**13**	**1.14**	**1.05**	**0.9**	**1.09**	0.5 U	**0.68**	**14.2**	**2.7**	**5.65**	**4.53**	**4.47**	5 U	5 U	
Nickel	ug/l	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**3.44**	**3.36**	5 U	5 U	5 U	50 U	50 U	
Selenium	ug/l	10	--	**0.55**	**1.01**	**1.01**	**1.11**	--	**0.97**	--	**0.253**	--	**0.57**	--	--	5 U	--	
Silver	ug/l	1.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.05 U	0.05 U	0.5 U	0.5 U	0.5 U	1.5 U	5 U	
Thallium	ug/l	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.055**	**0.042**	0.1 U	0.1 U	0.1 U	1 U	1 U	
Uranium	ug/l	20	**1.53**	**1.27**	**0.6**	**0.63**	**0.63**	**0.67**	**1.44**	**1.3**	**2.33**	**3.25**	**0.34**	**0.38**	**0.37**	**2.2**	**1.8**	
Vanadium	ug/l	6.2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**0.76**	0.5 U	5 U	5 U	5 U	50 U	50 U	
Zinc	ug/l	1100	10 U	**11**	**14**	**11**	**13**	**14**	**14**	**12**	**1.7**	**2.9**	**14**	10 U	10 U	100 U	100 U	
Polyaromatic Hydrocarbons (PAHs)																		
1-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--	
2-(1-)Methylnaphthalene	ug/l	3.2	0.028 U	0.028 U	0.028 U	0.028 U	--	0.028 U	--	--	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	--	--	
2-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--	
Acenaphthene	ug/l	4.1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--	
Acenaphthylene	ug/l	1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--	
Anthracene	ug/l	2.4	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--	

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location		MW105	MW107				MW107B		MW108		MW109			MW110A	
		Sample ID	MW104	MW105	DUP3	MW107	MW107	MW107	MW107B	MW107B	MW108	MW108	MW109	DUP1	MW109	MW110A	MW110A
		Sample Date	12/20/2019	9/6/2019	9/6/2019	9/6/2019	9/24/2019	12/18/2019	11/26/2019	12/18/2019	9/5/2019	12/19/2019	9/5/2019	12/19/2019	12/19/2019	11/26/2019	12/20/2019
		Sample Type	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	5.94	5.64	5.33	5.33	5.33	5.33	13.56	13.56	6.71	6.71	7.32	7.32	7.32	5.33	5.33
		End Depth	8.99	8.69	8.38	8.38	8.38	8.38	15.39	15.39	9.75	9.75	10.36	10.36	10.36	8.38	8.38
Analyte	**Units**	**Table 2 SCS [a]**															
Benzo(a)anthracene	ug/l	1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Benzo(a)pyrene	ug/l	0.01	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 U	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	--
Benzo(b)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Benzo(g,h,i)perylene	ug/l	0.2	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Benzo(k)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Chrysene	ug/l	0.1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Dibenzo(a,h)anthracene	ug/l	0.2	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Fluoranthene	ug/l	0.41	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Fluorene	ug/l	120	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Indeno(1,2,3-Cd)Pyrene	ug/l	0.2	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Naphthalene	ug/l	11	0.05 U	0.05 U	0.05 U	0.05 U	--	0.05 U	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	--	--
Phenanthrene	ug/l	1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Pyrene	ug/l	4.1	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	--	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																	
Benzene	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Ethylbenzene	ug/l	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Toluene	ug/l	24	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Xylene, o	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	--	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	--
Xylenes, m & p	ug/l	NV	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	--	--
Xylenes, Total	ug/l	300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Petroleum Hydrocarbons (PHCs)																	
Chrom. to baseline at nC50	None	NV	1 U	1 U	1 U	1 U	--	1 U	--	--	1 U	1 U	1 U	1 U	1 U	--	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/l	NV	25 U	25 U	25 U	25 U	--	25 U	--	--	25 U	25 U	25 U	25 U	25 U	--	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/l	750	25 U	25 U	25 U	25 U	--	25 U	--	--	25 U	25 U	25 U	25 U	25 U	--	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	ug/l	NV	100 U	100 U	100 U	100 U	--	100 U	--	--	100 U	100 U	100 U	100 U	100 U	--	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/l	150	100 U	100 U	100 U	100 U	--	100 U	--	--	100 U	100 U	100 U	100 U	100 U	--	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/l	NV	250 U	250 U	250 U	250 U	--	250 U	--	--	250 U	250 U	250 U	250 U	250 U	--	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/l	500	250 U	250 U	250 U	250 U	--	250 U	--	--	250 U	250 U	250 U	250 U	250 U	--	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/l	500	250 U	250 U	250 U	250 U	--	250 U	--	--	250 U	250 U	250 U	250 U	250 U	--	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/l	NV	370 U	370 U	370 U	370 U	--	370 U	--	--	370 U	370 U	370 U	370 U	370 U	--	--
Volatile Organic Carbons (VOCs)																	
1,1,1,2-Tetrachloroethane	ug/l	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,1,1-Trichloroethane	ug/l	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,1,2,2-Tetrachloroethane	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,1,2-Trichloroethane	ug/l	4.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,1-Dichloroethane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	**0.56**	0.5 U	0.5 U	0.5 U	--	--
1,1-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2-Dibromoethane	ug/l	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
1,2-Dichlorobenzene	ug/l	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2-Dichloroethane	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,2-Dichloropropane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,3-Dichlorobenzene	ug/l	59	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,3-Dichloropropene	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
1,4-Dichlorobenzene	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
2-Butanone	ug/l	1800	20 U	20 U	20 U	20 U	20 U	20 U	--	--	20 U	20 U	20 U	20 U	20 U	--	--
4-Methyl-2-Pentanone	ug/l	640	20 U	20 U	20 U	20 U	20 U	20 U	--	--	20 U	20 U	20 U	20 U	20 U	--	--
Acetone	ug/l	2700	30 U	30 U	30 U	30 U	30 U	30 U	--	--	30 U	30 U	30 U	30 U	30 U	--	--
Bromodichloromethane	ug/l	16	2 U	**4.1**	2 U	2 U	2 U	2 U	--	--	2 U	2 U	2 U	2 U	2 U	--	--
Bromoform	ug/l	25	5 U	5 U	5 U	5 U	5 U	5 U	--	--	5 U	5 U	5 U	5 U	5 U	--	--
Bromomethane	ug/l	0.89	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Carbon tetrachloride	ug/l	0.79	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location		MW105	MW107				MW107B		MW108		MW109			MW110A	
		Sample ID	MW104	MW105	DUP3	MW107	MW107	MW107	MW107B	MW107B	MW108	MW108	MW109	DUP1	MW109	MW110A	MW110A
		Sample Date	12/20/2019	9/6/2019	9/6/2019	9/6/2019	9/24/2019	12/18/2019	11/26/2019	12/18/2019	9/5/2019	12/19/2019	9/5/2019	12/19/2019	12/19/2019	11/26/2019	12/20/2019
		Sample Type	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	5.94	5.64	5.33	5.33	5.33	5.33	13.56	13.56	6.71	6.71	7.32	7.32	7.32	5.33	5.33
		End Depth	8.99	8.69	8.38	8.38	8.38	8.38	15.39	15.39	9.75	9.75	10.36	10.36	10.36	8.38	8.38
Analyte	**Units**	**Table 2 SCS [a]**															
Chlorobenzene	ug/l	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Chlorodibromomethane	ug/l	25	2 U	**4.1**	2 U	2 U	2 U	2 U	--	--	2 U	2 U	2 U	2 U	2 U	--	--
Chloroform	ug/l	2.4	1 U	**3.5**	**11.6**	**11.3**	**10.9**	**7.8**	--	--	**2.3**	1 U	1 U	1 U	1 U	--	--
cis-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
cis-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	--	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	--
Dichlorodifluoromethane	ug/l	590	2 U	2 U	2 U	2 U	2 U	2 U	--	--	2 U	2 U	2 U	2 U	2 U	--	--
Dichloromethane	ug/l	50	5 U	5 U	5 U	5 U	5 U	5 U	--	--	5 U	5 U	5 U	5 U	5 U	--	--
Methyl tert-butyl ether (MTBE)	ug/l	15	2 U	2 U	2 U	2 U	2 U	2 U	--	--	2 U	2 U	2 U	2 U	2 U	--	--
n-Hexane	ug/l	51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Styrene	ug/l	5.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Tetrachloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
trans-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
trans-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	--	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	--
Trichloroethylene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--
Trichlorofluoromethane	ug/l	150	5 U	5 U	5 U	5 U	5 U	5 U	--	--	5 U	5 U	5 U	5 U	5 U	--	--
Vinyl Chloride	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:
Bold denote positive detection at or above reportable detection limit
Shading denotes detected results that exceeds the applicable standard
U = Analyte not detected
ug/L = microgram(s) per litre
ug/g = microgram per gram
mg/L = milligram(s) per litre
mS/cm = millisiemen per centimeter
SAR = Sodiuim Absorption Ratio
ID = identification
NV = no value available in applicable standards
-- = Analyte not analyzed

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW110B			MW111		MW113			
		Sample ID	DUP	MW110B	MW110B	MW111	MW111	DUP1	MW113	MW113	MW113
		Sample Date	11/26/2019	11/26/2019	12/20/2019	11/26/2019	12/19/2019	4/15/2020	4/15/2020	4/22/2020	4/29/2020
		Sample Type	FD	N	N	N	N	N	FD	N	N
		Start Depth	13.56	13.56	13.56	13.56	13.56	5.33	5.33	5.33	5.33
		End Depth	15.39	15.39	15.39	15.39	15.39	8.38	8.38	8.38	8.38
Analyte	**Units**	**Table 2 SCS [a]**									
Acids, Bases, Neutrals (ABNs)											
1,1'-Biphenyl	ug/l	0.5	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/l	70	--	--	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	ug/l	5	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	ug/l	59	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	ug/l	10	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	ug/l	5	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	ug/l	5	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	ug/l	0.5	--	--	--	--	--	--	--	--	--
4-Chloroaniline	ug/l	10	--	--	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	ug/l	5	--	--	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	ug/l	120	--	--	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	ug/l	10	--	--	--	--	--	--	--	--	--
Diethylphthalate	ug/l	38	--	--	--	--	--	--	--	--	--
Dimethylphthalate	ug/l	38	--	--	--	--	--	--	--	--	--
Phenol	ug/l	890	--	--	--	--	--	--	--	--	--
Inorganics											
Chloride (Cl)	mg/l	790	--	--	--	--	--	**8330**	**4470**	**3010**	--
Conductivity	mS/cm	NV	--	--	--	--	--	**13.9**	**14.2**	**7.79**	--
Cyanide, Weak Acid Dissociable	ug/l	66	--	--	--	--	--	2 U	2 U	2 U	--
pH	pH UNITS	NV	--	--	--	--	--	**7.69**	**7.7**	**7.83**	--
Sodium	ug/l	490000	**2360000**	**2310000**	--	**2490000**	--	**2390000**	**2440000**	**1470000**	**3170000**
Sodium Absorption Ratio	SAR	NV	--	--	--	--	--	--	--	--	--
Metals											
Antimony	ug/l	6	1 U	1 U	--	1 U	--	1 U	1 U	1 U	1 U
Arsenic	ug/l	25	1 U	1 U	--	1 U	--	1 U	1 U	1 U	1 U
Barium	ug/l	1000	**147**	**150**	**147**	**105**	**102**	**274**	**278**	**146**	**319**
Beryllium	ug/l	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Boron	ug/l	5000	**110**	**110**	**120**	**200**	**240**	100 U	100 U	100 U	100 U
Cadmium	ug/l	2.7	**0.105**	**0.08**	**0.109**	0.05 U	0.05 U	**3.93**	**3.92**	**1.82**	**6.16**
Chromium	ug/l	50	5 U	5 U	5 U	**8.1**	**9.3**	5 U	5 U	**5.9**	**6.4**
Chromium, Hexavalent (Cr6+)	ug/l	25	--	--	--	--	--	**4.89**	**4.95**	**5.74**	--
Cobalt	ug/l	3.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Copper	ug/l	87	**2.9**	**2.4**	**4.9**	**4**	**5.3**	**2.6**	**2.7**	**2.2**	**3.1**
Lead	ug/l	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Mercury	ug/l	0.29	--	--	--	--	--	0.005 U	**0.0052**	0.005 U	--
Molybdenum	ug/l	70	**0.98**	**1.06**	**1.14**	**1**	**1.17**	**1.5**	**1.52**	**1.61**	**1.53**
Nickel	ug/l	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Selenium	ug/l	10	**0.8**	**0.68**	--	**0.86**	--	**1.24**	**1.2**	**1.38**	**1.25**
Silver	ug/l	1.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Thallium	ug/l	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Uranium	ug/l	20	**1.43**	**1.47**	**1.4**	**1.59**	**1.84**	**0.9**	**0.91**	**0.77**	**1.06**
Vanadium	ug/l	6.2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Zinc	ug/l	1100	**19**	**18**	**16**	10 U	10 U	**11**	**11**	10 U	**15**
Polyaromatic Hydrocarbons (PAHs)											
1-Methylnaphthalene	ug/l	3.2	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
2-(1-)Methylnaphthalene	ug/l	3.2	--	--	--	--	--	0.028 U	0.028 U	0.028 U	--
2-Methylnaphthalene	ug/l	3.2	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Acenaphthene	ug/l	4.1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Acenaphthylene	ug/l	1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Anthracene	ug/l	2.4	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW110B			MW111		MW113			
		Sample ID	DUP	MW110B	MW110B	MW111	MW111	DUP1	MW113	MW113	MW113
		Sample Date	11/26/2019	11/26/2019	12/20/2019	11/26/2019	12/19/2019	4/15/2020	4/15/2020	4/22/2020	4/29/2020
		Sample Type	FD	N	N	N	N	N	FD	N	N
		Start Depth	13.56	13.56	13.56	13.56	13.56	5.33	5.33	5.33	5.33
		End Depth	15.39	15.39	15.39	15.39	15.39	8.38	8.38	8.38	8.38
Analyte	**Units**	**Table 2 SCS [a]**									
Benzo(a)anthracene	ug/l	1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Benzo(a)pyrene	ug/l	0.01	--	--	--	--	--	0.01 U	0.01 U	0.01 U	--
Benzo(b)fluoranthene	ug/l	0.1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Benzo(g,h,i)perylene	ug/l	0.2	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Benzo(k)fluoranthene	ug/l	0.1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Chrysene	ug/l	0.1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Dibenzo(a,h)anthracene	ug/l	0.2	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Fluoranthene	ug/l	0.41	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Fluorene	ug/l	120	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Indeno(1,2,3-Cd)Pyrene	ug/l	0.2	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Naphthalene	ug/l	11	--	--	--	--	--	0.05 U	0.05 U	0.05 U	--
Phenanthrene	ug/l	1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Pyrene	ug/l	4.1	--	--	--	--	--	0.02 U	0.02 U	0.02 U	--
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)											
Benzene	ug/l	5	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Ethylbenzene	ug/l	2.4	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Toluene	ug/l	24	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Xylene, o	ug/l	NV	--	--	--	--	--	0.3 U	0.3 U	0.3 U	--
Xylenes, m & p	ug/l	NV	--	--	--	--	--	0.4 U	0.4 U	0.4 U	--
Xylenes, Total	ug/l	300	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Petroleum Hydrocarbons (PHCs)											
Chrom. to baseline at nC50	None	NV	--	--	--	--	--	1 U	1 U	1 U	--
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/l	NV	--	--	--	--	--	25 U	25 U	25 U	--
Petroleum Hydrocarbons F1 (C6-C10)	ug/l	750	--	--	--	--	--	25 U	25 U	25 U	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	ug/l	NV	--	--	--	--	--	100 U	100 U	100 U	--
Petroleum Hydrocarbons F2 (C10-C16)	ug/l	150	--	--	--	--	--	100 U	100 U	100 U	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/l	NV	--	--	--	--	--	250 U	250 U	250 U	--
Petroleum Hydrocarbons F3 (C16-C34)	ug/l	500	--	--	--	--	--	250 U	250 U	250 U	--
Petroleum Hydrocarbons F4 (C34-C50)	ug/l	500	--	--	--	--	--	250 U	250 U	250 U	--
Total Petroleum Hydrocarbons (C6 to C50)	ug/l	NV	--	--	--	--	--	370 U	370 U	370 U	--
Volatile Organic Carbons (VOCs)											
1,1,1,2-Tetrachloroethane	ug/l	1.1	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,1,1-Trichloroethane	ug/l	200	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,1,2,2-Tetrachloroethane	ug/l	1	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,1,2-Trichloroethane	ug/l	4.7	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,1-Dichloroethane	ug/l	5	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,1-Dichloroethene	ug/l	1.6	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,2-Dibromoethane	ug/l	0.2	--	--	--	--	--	0.2 U	0.2 U	0.2 U	--
1,2-Dichlorobenzene	ug/l	3	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,2-Dichloroethane	ug/l	1.6	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,2-Dichloropropane	ug/l	5	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,3-Dichlorobenzene	ug/l	59	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,3-Dichloropropene	ug/l	0.5	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
1,4-Dichlorobenzene	ug/l	1	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
2-Butanone	ug/l	1800	--	--	--	--	--	20 U	20 U	20 U	--
4-Methyl-2-Pentanone	ug/l	640	--	--	--	--	--	20 U	20 U	20 U	--
Acetone	ug/l	2700	--	--	--	--	--	30 U	30 U	30 U	--
Bromodichloromethane	ug/l	16	--	--	--	--	--	2 U	2 U	2 U	--
Bromoform	ug/l	25	--	--	--	--	--	5 U	5 U	5 U	--
Bromomethane	ug/l	0.89	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Carbon tetrachloride	ug/l	0.79	--	--	--	--	--	0.2 U	0.2 U	0.2 U	--

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW110B			MW111		MW113			
		Sample ID	DUP	MW110B	MW110B	MW111	MW111	DUP1	MW113	MW113	MW113
		Sample Date	11/26/2019	11/26/2019	12/20/2019	11/26/2019	12/19/2019	4/15/2020	4/15/2020	4/22/2020	4/29/2020
		Sample Type	FD	N	N	N	N	N	FD	N	N
		Start Depth	13.56	13.56	13.56	13.56	13.56	5.33	5.33	5.33	5.33
		End Depth	15.39	15.39	15.39	15.39	15.39	8.38	8.38	8.38	8.38
Analyte	**Units**	**Table 2 SCS [a]**									
Chlorobenzene	ug/l	30	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Chlorodibromomethane	ug/l	25	--	--	--	--	--	2 U	2 U	2 U	--
Chloroform	ug/l	2.4	--	--	--	--	--	**3.2**	**3.2**	**4.4**	--
cis-1,2-Dichloroethene	ug/l	1.6	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
cis-1,3-Dichloropropene	ug/l	NV	--	--	--	--	--	0.3 U	0.3 U	0.3 U	--
Dichlorodifluoromethane	ug/l	590	--	--	--	--	--	2 U	2 U	2 U	--
Dichloromethane	ug/l	50	--	--	--	--	--	5 U	5 U	5 U	--
Methyl tert-butyl ether (MTBE)	ug/l	15	--	--	--	--	--	2 U	2 U	2 U	--
n-Hexane	ug/l	51	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Styrene	ug/l	5.4	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Tetrachloroethene	ug/l	1.6	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
trans-1,2-Dichloroethene	ug/l	1.6	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
trans-1,3-Dichloropropene	ug/l	NV	--	--	--	--	--	0.3 U	0.3 U	0.3 U	--
Trichloroethylene	ug/l	1.6	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--
Trichlorofluoromethane	ug/l	150	--	--	--	--	--	5 U	5 U	5 U	--
Vinyl Chloride	ug/l	0.5	--	--	--	--	--	0.5 U	0.5 U	0.5 U	--

[a] MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment.* April 15.

Notes:
Bold denote positive detection at or above reportable detection limit
Shading denotes detected results that exceeds the applicable standard
U = Analyte not detected
ug/L = microgram(s) per litre
ug/g = microgram per gram
mg/L = milligram(s) per litre
mS/cm = millisiemen per centimeter
SAR = Sodiuim Absorption Ratio
ID = identification
NV = no value available in applicable standards
-- = Analyte not analyzed

Table 6-9. Maximum Detected Concentrations in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analyte Group	Analyte Name	Maximum Detected Concentration	Unit	Location	Sample Name	Sample Type	Sample Date	Start Depth (mbgs)	End Depth (mbgs)	SDG
ABNs	Bis (2-ethylhexyl) phthalate	2.3	ug/l	MW104	DUP2-WG-090519-FD	FD	9/5/2019	5.94	8.99	L2343122
Inorganics	Chloride (Cl)	9610	mg/l	MW102B	MW102B-WG-090619-N	N	9/6/2019	8.84	10.36	L2343122
Inorganics	Cyanide, Weak Acid Dissociable	8.4	ug/l	MW102A	MW102A-WG-121919-N	N	12/19/2019	2.13	5.18	L2399298
Inorganics	Sodium	6100000	ug/l	MW102B	MW102B-WG-090619-N	N	9/6/2019	8.84	10.36	L2343122
Metals	Antimony	0.43	ug/l	MW108	MW108-WG-090519-N	N	9/5/2019	6.71	9.75	L2343122
Metals	Arsenic	1.2	ug/l	MW103	DUP1-WG-090519-FD	FD	9/5/2019	2.13	5.18	L2343122
Metals	Barium	744	ug/l	MW110A	MW110A-WG-122019-N	N	12/20/2019	5.33	8.38	L2399298
Metals	Boron	240	ug/l	MW111	MW111-WG-121919-N	N	12/19/2019	13.56	15.39	L2399298
Metals	Cadmium	6.16	ug/l	MW113	MW113-WG-042920-N	N	4/29/2020	5.33	8.38	L2441806
Metals	Chromium	9.3	ug/l	MW111	MW111-WG-121919-N	N	12/19/2019	13.56	15.39	L2399298
Metals	Chromium, Hexavalent (Cr6+)	5.74	ug/l	MW113	MW113-WG-042220-N	N	4/22/2020	5.33	8.38	L2439186
Metals	Cobalt	1.4	ug/l	MW103	MW103-WG-121819-N	N	12/18/2019	2.13	5.18	L2399298
Metals	Copper	5.3	ug/l	MW111	MW111-WG-121919-N	N	12/19/2019	13.56	15.39	L2399298
Metals	Lead	0.72	ug/l	MW109	MW109-WG-090519-N	N	9/5/2019	7.32	10.36	L2343122
Metals	Mercury	0.0054	ug/l	MW107	DUP3-WG-090619-FD	FD	9/6/2019	5.33	8.38	L2343122
Metals	Molybdenum	17.6	ug/l	MW104	MW104-WG-090519-N	N	9/5/2019	5.94	8.99	L2343122
Metals	Nickel	3.44	ug/l	MW108	MW108-WG-090519-N	N	9/5/2019	6.71	9.75	L2343122
Metals	Selenium	4.66	ug/l	MW101	MW101-WG-090519-N	N	9/5/2019	5.71	8.76	L2343122
Metals	Thallium	0.12	ug/l	MW103	MW103-WG-090519-N	N	9/5/2019	2.13	5.18	L2343122
Metals	Uranium	5.79	ug/l	MW103	MW103-WG-121819-N	N	12/18/2019	2.13	5.18	L2399298
Metals	Vanadium	0.76	ug/l	MW108	MW108-WG-090519-N	N	9/5/2019	6.71	9.75	L2343122
Metals	Zinc	19	ug/l	MW110B	DUP-WG-112619-FD	FD	11/26/2019	13.56	15.39	L2387876
VOCs	1,1-Dichloroethane	0.56	ug/l	MW108	MW108-WG-121919-N	N	12/19/2019	6.71	9.75	L2399298
VOCs	Bromodichloromethane	7.1	ug/l	MW101	MW101-WG-092419-N	N	9/24/2019	5.71	8.76	L2352720
VOCs	Chlorodibromomethane	5.4	ug/l	MW101	MW101-WG-122019-N	N	12/20/2019	5.71	8.76	L2399298
VOCs	Chloroform	12	ug/l	MW101	MW101-WG-090519-N	N	9/5/2019	5.71	8.76	L2343122

Notes:

µg/l = microgram per gram

ABN - acid, base, and neutral compounds

BTEX = benzene, toluene, ethylbenzene, and xylenes

F = fraction

FD = field duplicate

mbgs = metres below ground surface

mS/cm = milliSiemens per centimetre

N = normal sample

ORP = other regulated parameters

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

PHC = petroleum hydrocarbons

SAR = sodium adsorption ratio

SDG = sample delivery group

VOC = volatile organic compounds

Table 6-10a. Preliminary COC Screening in Groundwater

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration [b]	Units	Minimum Detection Limit	Applicable SCS [c]	Other Criteria [d]	No. of Detects Exceeding Table 2 SCS	No. of Nondetects Exceeding Table 2 SCS	No. of Detected with no Table 2 SCS	No. of Nondetects with no Table 2 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Cadmium	Metal	15	36	6.16	0.5	6.16	µg/L	0.01	2.7	--	7	--	--	--	**Yes, included (Max > Table 2 SCS)**
1,1'-Biphenyl	ABN	1	4	--	0.4	0.4	µg/L	0.4	0.5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2,4-Trichlorobenzene	ABN	1	4	--	0.4	0.4	µg/L	0.4	70	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4 & 2,6-Dinitrotoluene	ABN	1	4	--	0.57	0.57	µg/L	0.566	5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4-Dimethylphenol	ABN	1	4	--	0.5	0.5	µg/L	0.5	59	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4-Dinitrophenol	ABN	1	4	--	1	1	µg/L	1	10	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
3,3'-Dichlorobenzidine	ABN	1	4	--	0.4	0.4	µg/L	0.4	0.5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
4-Chloroaniline	ABN	1	4	--	0.4	0.4	µg/L	0.4	10	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bis (2-chloroethyl) ether	ABN	1	4	--	0.4	0.4	µg/L	0.4	5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bis (2-Chloroisopropyl) ether	ABN	1	4	--	0.4	0.4	µg/L	0.4	120	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bis (2-ethylhexyl) phthalate	ABN	1	4	2.3	2	2.3	µg/L	2	10	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Diethylphthalate	ABN	1	4	--	0.2	0.2	µg/L	0.2	38	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dimethylphthalate	ABN	1	4	--	0.2	0.2	µg/L	0.2	38	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Phenol	ABN	1	4	--	0.5	0.5	µg/L	0.5	890	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzene	BTEX	11	27	--	0.5	0.5	µg/L	0.5	5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Ethylbenzene	BTEX	11	27	--	0.5	0.5	µg/L	0.5	2.4	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Toluene	BTEX	11	27	--	0.5	0.5	µg/L	0.5	24	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Xylenes, Total	BTEX	11	27	--	0.5	0.5	µg/L	0.5	300	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chloride (Cl)	Inorganics	11	25	9610	--	9610	mg/L	2.5	790	--	19	--	--	--	No, excluded (See Table 6-10b)
Cyanide, Weak Acid Dissociable	Inorganics	11	25	8.4	2	8.4	µg/L	2	66	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Sodium	Inorganics	15	22	6100000	--	6100000	µg/L	500	490000	--	18	--	--	--	No, excluded (See Table 6-10b)
Antimony	Metal	15	22	0.43	10	10	µg/L	0.1	6	--	--	3	--	--	No, excluded (See Table 6-10b)
Arsenic	Metal	15	22	1.2	10	10	µg/L	0.1	25	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Barium	Metal	15	36	744	--	744	µg/L	0.1	1000	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Beryllium	Metal	15	36	--	10	10	µg/L	0.1	4	--	--	7	--	--	No, excluded (See Table 6-10b)
Boron	Metal	15	36	240	1000	1000	µg/L	10	5000	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chromium	Metal	15	36	9.3	50	50	µg/L	0.5	50	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chromium, Hexavalent (Cr6+)	Metal	11	25	5.74	0.5	5.74	µg/L	0.5	25	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Cobalt	Metal	15	36	1.4	10	10	µg/L	0.1	3.8	--	--	7	--	--	No, excluded (See Table 6-10b)
Copper	Metal	15	36	5.3	20	20	µg/L	0.2	87	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Lead	Metal	15	36	0.72	5	5	µg/L	0.05	10	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Mercury	Metal	11	25	0.0054	0.005	0.0054	µg/L	0.005	0.29	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Molybdenum	Metal	15	36	17.6	5	17.6	µg/L	0.05	70	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Nickel	Metal	15	36	3.44	50	50	µg/L	0.5	100	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Selenium	Metal	15	22	4.66	5	5	µg/L	0.05	10	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Silver	Metal	15	36	--	5	5	µg/L	0.05	1.5	--	--	7	--	--	No, excluded (See Table 6-10b)
Thallium	Metal	15	36	0.12	1	1	µg/L	0.01	2	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Uranium	Metal	15	36	5.79	1	5.79	µg/L	0.01	20	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Vanadium	Metal	15	36	0.76	50	50	µg/L	0.5	6.2	--	--	8	--	--	No, excluded (See Table 6-10b)
Zinc	Metal	15	36	19	100	100	µg/L	1	1100	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1+2-Methylnaphthalenes	PAH	11	25	--	0.028	0.028	µg/L	0.02	3.2	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acenaphthene	PAH	11	25	--	0.02	0.02	µg/L	0.02	4.1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acenaphthylene	PAH	11	25	--	0.02	0.02	µg/L	0.02	1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Anthracene	PAH	11	25	--	0.02	0.02	µg/L	0.02	2.4	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(a)anthracene	PAH	11	25	--	0.02	0.02	µg/L	0.02	1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(a)pyrene	PAH	11	25	--	0.01	0.01	µg/L	0.01	0.01	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(b)fluoranthene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(g,h,i)perylene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.2	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(k)fluoranthene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chrysene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dibenzo(a,h)anthracene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.2	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Fluoranthene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.41	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Fluorene	PAH	11	25	--	0.02	0.02	µg/L	0.02	120	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Indeno(1,2,3-Cd)Pyrene	PAH	11	25	--	0.02	0.02	µg/L	0.02	0.2	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Naphthalene	PAH	11	25	--	0.05	0.05	µg/L	0.05	11	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Phenanthrene	PAH	11	25	--	0.02	0.02	µg/L	0.02	1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)

Table 6-10a. Preliminary COC Screening in Groundwater

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration [b]	Units	Minimum Detection Limit	Applicable SCS [c]	Other Criteria [d]	No. of Detects Exceeding Table 2 SCS	No. of Nondetects Exceeding Table 2 SCS	No. of Detected with no Table 2 SCS	No. of Nondetects with no Table 2 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Pyrene	PAH	11	25	--	0.02	0.02	µg/L	0.02	4.1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F1 (C6-C10)	PHCs	11	25	--	25	25	µg/L	25	750	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F2 (C10-C16)	PHCs	11	25	--	100	100	µg/L	100	150	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F3 (C16-C34)	PHCs	11	25	--	250	250	µg/L	250	500	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F4 (C34-C50)	PHCs	11	25	--	250	250	µg/L	250	500	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,1,2-Tetrachloroethane	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,1-Trichloroethane	VOC	11	27	--	0.5	0.5	µg/L	0.5	200	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,2,2-Tetrachloroethane	VOC	11	27	--	0.5	0.5	µg/L	0.5	1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,2-Trichloroethane	VOC	11	27	--	0.5	0.5	µg/L	0.5	4.7	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethane	VOC	11	27	0.56	0.5	0.56	µg/L	0.5	5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethene	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dibromoethane	VOC	11	27	--	0.2	0.2	µg/L	0.2	0.2	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichlorobenzene	VOC	11	27	--	0.5	0.5	µg/L	0.5	3	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloroethane	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloropropane	VOC	11	27	--	0.5	0.5	µg/L	0.5	5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,3-Dichlorobenzene	VOC	11	27	--	0.5	0.5	µg/L	0.5	59	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,3-Dichloropropene	VOC	11	27	--	0.5	0.5	µg/L	0.5	0.5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,4-Dichlorobenzene	VOC	11	27	--	0.5	0.5	µg/L	0.5	1	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2-Butanone	VOC	11	27	--	20	20	µg/L	20	1800	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
4-Methyl-2-Pentanone	VOC	11	27	--	20	20	µg/L	20	640	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acetone	VOC	11	27	--	30	30	µg/L	30	2700	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromodichloromethane	VOC	11	27	7.1	2	7.1	µg/L	2	16	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromoform	VOC	11	27	--	5	5	µg/L	5	25	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromomethane	VOC	11	27	--	0.5	0.5	µg/L	0.5	0.89	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Carbon tetrachloride	VOC	11	27	--	0.2	0.2	µg/L	0.2	0.79	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chlorobenzene	VOC	11	27	--	0.5	0.5	µg/L	0.5	30	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chlorodibromomethane	VOC	11	27	5.4	2	5.4	µg/L	2	25	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chloroform	VOC	11	27	12	1	12	µg/L	1	2.4	--	12	--	--	--	No, excluded (See Table 6-10b)
cis-1,2-Dichloroethene	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dichlorodifluoromethane	VOC	11	27	--	2	2	µg/L	2	590	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dichloromethane	VOC	11	27	--	5	5	µg/L	5	50	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methyl tert-butyl ether (MTBE)	VOC	11	27	--	2	2	µg/L	2	15	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
n-Hexane	VOC	11	27	--	0.5	0.5	µg/L	0.5	51	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Styrene	VOC	11	27	--	0.5	0.5	µg/L	0.5	5.4	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Tetrachloroethene	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
trans-1,2-Dichloroethene	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Trichloroethylene	VOC	11	27	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Trichlorofluoromethane	VOC	11	27	--	5	5	µg/L	5	150	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Vinyl Chloride	VOC	11	27	--	0.5	0.5	µg/L	0.5	0.5	--	--	--	--	--	No, excluded (Max < or = Table 2 SCS)

[a.] The representative maximum concentration (the maximum concentration of similar analytes or total concentration of multiple isomers) is used for comparison.

[b.] Column lists the greater of the maximum detected concentration and the maximum nondetect concentration.

[c.] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards in a Potale Ground Water Condition, for Residential/ Parkland/ Institutional Property Type Use and Coarse Textured Soils (MECP, 2011a).

Notes:

Bold parameters are identified as COCs

Grey shaded parameters have been reviewed further. Refer to Table 6-10b.

Blue shaded parameters have been reviewed further as the concentrations greater than the SCS are likely due to introduced water. Refer to Table 6-10b.

-- = no value or not applicable

> = greater than

< = less than

µg/L = microgram(s) per litre

ABN = acid base neutral compounds

BTEX = benzene, toluene, ethylbenzene, and xylenes

COC = contaminant of concern

MECP = Ontario Ministry of the Environment, Conservation and Parks

No. = number

PAH = polycyclic aromatic hydrocarbon

PHC = petroleum hydrocarbon

SCS = Site Condition Standard

VOC = volatile organic compound

Table 6-10b. Rationale for the Removal of Groundwater COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter Group	Parameter	Category	Sample(s)	Comment/Rationale
METALS	Antimony	Parameter with existing SCS but RL exceedances only	Three samples (MW100, MW102A, MW102B) had RL exceedances of the SCS in September 2019 (COA L2343122)	One sample collected from each location listed had RL exceedances for antimony in September 2019. All other samples collected on the Phase Two Property had nondetected concentrations of the parameter, with the exception of one sample (MW108) that had detected concentrations of antimony, approximatlely an order-of-magnitude less than the SCS. Laboratory reports indicated that these detection limits were adjusted as the samples required dilution due to high concentrations of other target analytes (in this case, assumed to be sodium and chloride). Based on the available information, this parameter was determined to likely not be present at concentrations exceeding the SCS; therefore, at the discretion of the QPESA, was not considered to be a COC for the Phase Two Property.
METALS	Beryllium Cobalt Silver	Parameters with existing SCS but RL exceedances only	Seven samples (MW100 x 2, MW102A x 2, MW102B x 2, MW110A) had RL exceedances of the SCS in September 2019 (COA L2343122) and December 2019 (COA L2399298).	Two samples collected from MW100, MW102A and MW102B, and one sample collected from MW110A had RL exceedances for each of the noted metals in September and December 2019. All other samples collected on the Phase Two Property had nondetected concentrations of the noted metals, with the exception of three samples (September and December 2019 at MW108 and December 2019 at MW103) that had detected concentrations of cobalt approximatlely 2.5 times less than the SCS. Laboratory reports indicated that these detection limits were adjusted as the samples required dilution due to high concentrations of other target analytes (in this case, assumed to be sodium and chloride). Based on the available information, these parameters were determined to likely not be present at concentrations exceeding the SCS; therefore, at the discretion of the QPESA, were not considered to be COCs for the Phase Two Property.
METALS	Vanadium	Parameter with existing SCS but RL exceedances only	Eight samples (MW100 x 2, MW102A x 2, MW102B x 2, MW110A x 2) had RL exceedances of the SCS in September 2019 (COA L2343122) or November 2019 (COA L2387876), and December 2019 (COA L2399298).	Two samples collected from each location listed had RL exceedances for vanadium in September or November 2019, and December 2019. All other samples collected on the Phase Two Property had nondetected concentrations of the noted metal, with the exception of one sample (MW108) that had a detected concentration of vanadium approximatlely an order-of-magnitude less than the SCS. Laboratory reports indicated that these detection limits were adjusted as the samples required dilution due to high concentrations of other target analytes (in this case, assumed to be sodium and chloride).

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

µg/L = micrograms per gram
COA = certificate of analysis
COC = contaminant of concern
O. Reg. = Ontario Regulation
RL = laboratory reporting limit
PCA = potentially contaminating activity
QPESA = MECP Qualified Person for Environmental Site Assessment
SCS = Site Condition Standards

Table 6-10c. Rationale for the Exclusion of Groundwater COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter Group	Parameter	Category	Sample(s)	Comment/Rationale
INORGANICS	Chloride Sodium	Parameter associated with salt that has been applied to surfaces for the safety of vehicular or pedestrian traffic.	Nineteen chloride samples and eighteen sodium samples from across the Site.	The presence of sodium and chloride in groundwater at the Site are related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act should a substance be applied to surfaces for hte safety of vehicularor pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, sodium and chloride were not considered to be COCs for the Phase Two Property.
VOC	Chloroform	Parameter with "introduced" exceedance; exemptions in Section 49.1 of O. Reg. 153/04	Twelve samples (MW101 x 3, MW104, MW105, MW107 x 4, MW113 x 3) had a detected exceedance of the SCS from September and/or December 2019, or April 2020.	The initial groundwater samples collected in early September 2019 from each location listed (or April 2020 for MW113) after drilling/bedrock coring, purging, and well development had concentrations of chloroform ranging from 3.2 µg/L to 12 µg/L, greater than the SCS of 2.4 µg/L. The source of the chloroform exceedance was believed to be related to the municipal water that was used during the bedrock coring process. Jacobs has encountered a similar issue during a previous drilling program in the City of Guelph in 2018. For that project, two samples, one from the water truck and one from the water truck hose that was used during the coring activities, were analyzed for VOCs. All VOCs were non detect in the municipal water water samples apart from bromodichloromethane (12.5 to 12.9 µg/L), dibromochloromethane (11.5 to 11.8 µg/L), and chloroform (9.8 to 10.1 µg/L). These analytes are trihalomethanes that are typically present in municipally-treated water substantiating that municipal water introduced during drilling activities as the likely source of trihalomethanes in groundwater. For the current project, all VOCs were nondetect in groundwater apart from these same three analytes, and from one sample for 1,1-dichloroethane. Additional groundwater samples were collected in late September 2019 and December 2019 from the two locations with the highest reported chloroform concentrations (MW101 and MW107). Slightly lower concentrations of chloroform were detected in the second set of samples and in the third set of samples. MW113 was installed in April 2020, and three samples have been collected (two normal and one field duplicate) with concentrations of chloroform ranging from 3.2 to 4.4 µg/L. Based on the available information, the QPESA determined there was a discharge of drinking water (within the meaning of the Safe Drinking Water Act, 2002), resulting in chloroform exceeding the SCS. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act. Therefore, at the discretion of the QPESA, chloroform was not considered to be a COC for the Phase Two Property.

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

µg/L = micrograms per gram
COC = contaminant of concern
O. Reg. = Ontario Regulation
RL = laboratory reporting limit
PCA = potentially contaminating activity
QPESA = MECP Qualified Person for Environmental Site Assessment
SCS = Site Condition Standards
VOC = volatile organic compound

Table 6-10d. Contaminants of Concern Identified in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analytical Group	Analyte
Metals	Cadmium