



**REPORT ON
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
452 RAGLAN STREET
COLLINGWOOD, ONTARIO**

**REPORT NO. : 4688-17-EB
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Toronto Inspection Ltd

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1. EXECUTIVE SUMMARY

Toronto Inspection Ltd. was retained by Urban Pro Developments (Collingwood) Inc. to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) for the property with municipal address of 452 Raglan Street in Collingwood, Ontario (hereinafter referred to as 'the Site'). The Phase Two ESA was conducted in accordance to Ontario Regulation 153/04, as amended, Records of Site Condition – Part XV.1 of the Environmental Protection Act, (O.Reg. 153/04, as amended), for purposes of a proposed re-development plan for the Site for the purposes of residential land use, hence, requiring a filing of a Record of Site Condition.

The Site, having an area of approximately 22.22 acres, is located on the west side of the Raglan Street just south of Lynden Street, Peel Street and William Street in Collingwood, Ontario. It should be noted that Raglan Street was assumed in a north-south orientation in this report.

At the time of this Phase Two ESA, the north portion of the Site consisted of a single-storey residential building with a full basement (Subject Building), a small storage shed, a driveway with a bridge that crosses Pretty River, and landscaped. Portions of the Site (along the east, south and southwest property boundaries) consisted of natural woodlands, forest areas and a meandering Pretty River. The remaining areas of the Site was used as agricultural land. The Subject Building contained a garage that was attached to the southeast side of the Subject Building and an enclosed pool at the southwest corner. Vehicular access to the Site was a gravel driveway off Raglan Street located on the northeast corner of the Site. The footprint area of the residential building was approximately 570 m² (6,144.78 ft²).

The Site is bounded to the north by residential dwellings (2 – 22 Lynden Street, 64 William Street, and 499 Peel Street), Pretty River and undeveloped areas; to the south by woodlands/forests; to the east by woodlands and open fields (490 Raglan Street and 7200 Poplar Sideroad); and to the west by a walking trail, the Canadian Pacific Railway (CPR) line, followed by a school. The surrounding areas consisted primarily of agricultural, residential, community, institutional, natural forest/woodland areas and industrial usage (railway line).

The inferred regional groundwater flow at the Site and in the vicinity of the Site is anticipated to be north-easterly direction towards Pretty River, which is located within the northeast and southeast portions of the Site. Pretty River drains into Lake Huron which is approximately 1.85 km north of the Site boundary.

At the time of this Phase Two ESA, the Site was used for residential, agricultural farmlands, and natural forest/woodland areas. Thus, the land-use is considered

residential and agricultural use. It is *Toronto Inspection Ltd.*'s understanding that residential buildings will be developed at the Site. Thus, the land use of the Site will be residential in the future.

The Phase One ESA identified the following Areas of Potential Environmental Concern within the Phase One Property:

APEC	LOCATION OF APEC ON SITE	LOCATION OF PCA	Contaminant of potential concern
1	Northwest portion of the Site. (current and historical onsite structures)	-Historical and present ASTs located in the Subject Building and potential usage of USTs from former structures	PHCs, VOCs
2	North-Central portion of the Site	-Historical potential usage of pesticide on the former orchard	OC Pesticides, Metals, As, Sb, Se, Hg
3	North portion of the Site	-Historical potential usage of fill materials of unknown environmental quality near the driveway crossing located in the north-central portion of the Site and in the vicinity of the Subject Building and former structures	PAHs, Metals, As, Sb, Se, Cr(VI), Hg, B-HWS

The Phase Two ESA was conducted in general accordance with the Canadian Standard Association (CSA) Standard Z769-00 reaffirmed 2013, "Phase II Environmental Site Assessment".

For the purposes of evaluating laboratory analytical results, Table 2 : Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional property use with medium-fine soil texture (Table 2 SCS Criteria) and Table 8 : Generic Site Condition Standards for use within 30 m of a water body in a Potable Ground Water Condition for Residential/Parkland/Institutional property use (Table 8 SCS Criteria).

A summary of the findings of the Phase Two ESA conducted at the Site is presented below:

- Drilling work was undertaken on November 14, November 16, November 17, November 18, November 19, November 20, November 23 and November 24, 2017 to advance a total of 24 (twenty four) boreholes 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 17BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17MW-21, 17MW-22, 17BH-23 and 17BH-24 were installed, of



which 7 (seven) were completed as monitoring wells. Boreholes were installed to a maximum depth of 9.2m bg. Seven of boreholes (17MW-2, 17MW-5, 17MW-9, 17MW-18, 17MW-21 and 17MW-22) were completed as monitoring wells. Monitoring wells (17MW-2, 17MW-18, 17MW-21 and 17MW-22) were drilled mainly for environmental purpose while others boreholes or monitoring wells were installed for geotechnical aspects.

- In general, the stratigraphy encountered at the Site consisted a fill layer underlain by native silty sand and sandy silt, clayey silt, silt till, sand and gravel and silty gravelly sand above the bedrock.
- No visual and olfactory evidence of petroleum hydrocarbons or Light Non-Aqueous Phase Liquid (LNAPL) were encountered in the boreholes or monitoring wells during drilling, groundwater monitoring or sampling.
- Groundwater level on the site varied between 1.71 m and 6.96 m bg below the existing grade on November 29, 2017. No evidence of free product, film or sheen was noted on the surface of the groundwater during the monitoring and sampling round.
- The analyzed pH results were within the limits specified in O.Reg. 153/04 (between 5 and 9 for surface soil, and between 5 and 11 for subsurface soil).
- Selected soil and groundwater samples were analyzed for parameter groups of Metals and Inorganics, Petroleum Hydrocarbons, Volatile Organic Compounds, Polycyclic Aromatic Hydrocarbons, Organochlorine Pesticides and pH.
- The soil analytical results met Table 2 SCS and Table 8 SCS Criteria.
- The groundwater analytical results met Table 2 SCS and Table 8 SCS Criteria.

No further action with respect to the environmental condition at the Site is recommended at this time.

2. INTRODUCTION

Toronto Inspection Ltd. was retained by Urban Pro Developments (Collingwood) Inc. to conduct a Phase Two Environmental Site Assessment (Phase Two ESA) for the property with municipal address of 452 Raglan Street in Collingwood, Ontario (hereinafter referred to as 'the Site'). The Phase Two ESA was conducted in accordance to Ontario Regulation 153/04, as amended, Records of Site Condition – Part XV.1 of the Environmental Protection Act, (O.Reg. 153/04, as amended), for purposes of a proposed re-development plan for the Site for the purposes of residential land use, hence, requiring a filing of a Record of Site Condition.

The purpose of this Phase Two ESA is to identify potential environmental concerns from the current and past activities on the Site and surrounding properties, specifically addressing Areas of Potential Environmental Concern identified in a Phase One ESA prepared by *Toronto Inspection Ltd.*, for purposes of Record of Site Condition. The Phase Two ESA was conducted in accordance to Ontario Regulation 153/04, as amended, Records of Site Condition – Part XV.1 of the Environmental Protection Act, (O. Reg. 153/04, as amended).

2.1. Site Description

The Site, having an area of approximately 22.22 acres, is located on the west side of the Raglan Street just south of Lynden Street, Peel Street and William Street in Collingwood, Ontario. It should be noted that Raglan Street was assumed in a north-south orientation in this report.

At the time of this Phase Two ESA, the north portion of the Site consisted of a single-storey residential building with a full basement (Subject Building), a small storage shed, a driveway with a bridge that crosses Pretty River, and landscaped. Portions of the Site (along the east, south and southwest property boundaries) consisted of natural woodlands, forest areas and a meandering Pretty River. The remaining areas of the Site was used as agricultural land. The Subject Building contained a garage that was attached to the southeast side of the Subject Building and an enclosed pool at the southwest corner. Vehicular access to the Site was a gravel driveway off Raglan Street located on the northeast corner of the Site. The footprint area of the residential building was approximately 570 m² (6,144.78 ft²). An aerial view of the Phase Two property is presented in Image No. 1, below :



Image No. 1: Aerial image of Phase Two Property (EcoLog ESRI)

2.2. Property Ownership

Client contact information is provided below:

Urban Pro Developments (Collingwood) Inc.
 1885 Wilson Avenue, #202
 Toronto, Ontario
 M9M 1A2

2.3. Legal Description

A legal survey, dated 1974 and 1984, was provided by the Client. The legal description of the Site was described as Part of Lot 40, in Concession Seven and Eight Township of Nottawasaga, County of Simcoe.

2.4. Adjacent and Surrounding Areas

The Site is bounded to the north by residential dwellings (2 – 22 Lynden Street, 64 William Street, and 499 Peel Street), Pretty River and undeveloped areas; to the south by woodlands/forests; to the east by woodlands and open fields (490 Raglan Street and 7200 Poplar Sideroad); and to the west by a walking trail, the Canadian Pacific Railway (CPR) line, followed by a school. The surrounding areas consisted primarily of agricultural, residential, community, institutional, natural forest/woodland

areas and industrial usage (railway line).

2.5. General Hydrogeology

The inferred regional groundwater flow at the Site and in the vicinity of the Site is anticipated to be north-easterly direction towards Pretty River, which is located within the northeast and southeast portions of the Site. Pretty River drains into Lake Huron which is approximately 1.85 km north of the Site boundary.

2.6. Current & Proposed Future Uses

At the time of this Phase Two ESA, the Site was used for residential, agricultural farmlands, and natural forest/woodland areas. Thus, the land-use is considered residential and agricultural use. It is *Toronto Inspection Ltd.*'s understanding that residential buildings will be developed at the Site. Thus, the land use of the Site will be residential in the future.

2.7. Applicable Site Condition Standard

Toronto Inspection Ltd. has used the below conditions established in Ontario Regulation 153/04, as amended, Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act to determine the applicable Site Condition Standard for the Phase Two property.

Condition	Evaluation
Current land use	Residential
Proposed land use	Residential
Area of natural significance	The Site is not included nor is adjacent to an area of natural significance nor is part of such an area nor does it include land that is within 30m of an area of natural significance nor part of such an area. Therefore, Section 41 of the Regulation does not apply.
Proximity to surface water body	The Site does includes part of a water body and is also adjacent to the same water body along portions of the Site. Therefore, Section 43.1 of the Regulation does apply.
pH of soil	Accredited laboratory chemical test results indicated that the surface (1.5m depth) soil at the property has a pH value between 5 and 9 and the sub-surface (greater than 1.5m depth) soil has a pH value between 5 and 11. Therefore, Section 41 of the Regulation does not apply.
Potable or Non Potable Ground Water	Potable groundwater condition has been used.
Depth to bedrock	Based on the Phase Two investigation, the depth to bedrock is



Condition	Evaluation
	greater than 2m and shallow soil was not observed on 1/3 or more of the Site. Therefore, Section 43.1 pertaining to a shallow depth of bedrock does not apply.
Soil texture	Based on the results of the grain-size analysis carried out on soil samples collected from 17MW-2 at a depth of 6.1 m bg (41.9% medium-fine), 17BH-17 at a depth of 3 m bg (97.6% medium-fine), 17BH-23 at a depth of 3 m bg (92.1% medium-fine) and 17BH-24 at a depth of 3 m bg (96.4% medium-fine), medium-fine grained texture was used.

Based on the above evaluation, Ontario Regulation 153/04, as amended, Table 8 : Generic Site Condition Standards for use within 30 m of a water body in a Potable Ground Water Condition for Residential/Parkland/Institutional property use (Table 8 SCS Criteria) has been used. Additionally, Table 2 : Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional property use with medium-fine soil texture (Table 2 SCS Criteria) has also been used.

3. BACKGROUND INFORMATION

3.1. Physical Setting

3.1.1. Water Bodies and Area of Natural Significance

Pretty River is located within the northeast and southeast portions of the Site. According to information from the Ministry of Natural Resources and Forestry, and the County of Simcoe interactive map, the Site and the Phase Two Study Area were within the following areas:

- Hedgerow Areas and Ministry of Natural Resource Unevaluated Wetlands;
- Significant Groundwater Recharge Area;
- Highly Vulnerable Aquifer; and
- Pretty River traverses south to north through the Site on the southeast and northeast portions of the Site.

Furthermore, according to the Town of Collingwood's Official Plan (2015) and correspondences with the Client indicated that the natural forest area within the Site and the immediate areas surrounding Pretty River were also classified as:

- Environmental Protection Lands according to Schedule A of the official plan; Environmental Protection Lands are lands unsuited for development to the inherent natural hazards and were protected lands to the Town of Collingwood's most significant natural heritage features;
- Category 1 Valleylands – defined as lands that are prohibited for development, considered to provide important functions (i.e. significant functions, attributes and linkages) to the natural heritage system of the Town of Collingwood which include lands such as Provincially-significant wetlands, major river valleys, fish habitat located within significant valley-lands and primary woodlands encompassing in excess of 4 hectares (9.9 acres) that are more than 75 years old
- Habitat of Butternut woodlot - Butternut is an Endangered species according to Ontario's Endangered Species Act (ESA). Butternut were observed on the property and adjacent lands according to the correspondences with the Client.

The official plan dictates that a 30 m no development buffer zone from these lands is recommended. Should reducing the buffer zone be proposed, approvals from the Ministry of Natural Resources and Forestry is required.

3.1.2. Site Drainage

The aerial photographs did not indicate ponds, swales or ditches around the Site. Surface drainage was expected to infiltrate into the ground or drain into the on-site Pretty River.

3.1.3. Groundwater Flow

Based on the topographic map, available online from the website of Natural Resources of Canada – The Atlas of Canada – Toporama the inferred regional groundwater flow at the Site and in the vicinity of the Site is anticipated to be north-easterly direction towards Pretty River (based on the true north), which is located within the northeast and southeast portions of the Site. Pretty River drains into Lake Huron, approximately 1.85 km north of the Site boundary.

3.1.4. Topography

Based on the topographic map, available online from the website of Natural Resources of Canada – The Atlas of Canada – Toporama, the Site is located at an approximate elevation of 189 m above mean sea level. The general directions of the elevation contours were identified to slope towards the north direction towards Lake Huron.

3.2. Past Investigations

A Phase One ESA completed by *Toronto Inspection Ltd.*, titled “Report on Phase One Environmental Site Assessment, 452 Raglan Street, Collingwood, Ontario”, dated December 8, 2017, was reviewed prior to completing this investigation.

4. SCOPE OF INVESTIGATION

4.1. Overview of site investigation

The objective of this Phase Two ESA was to evaluate the subsoil and groundwater quality at the Site.

The following scope of work was developed and implemented at the Site :

- Evaluated the Areas of Potential Environmental Concern (APEC) on the Site and developed a site specific Sampling and Analysis Plan (SAP);
- Cleared public utilities through Ontario One call;
- Advanced twenty-four boreholes, seven of which were installed as monitoring wells;
- Measured soil headspace vapour concentrations of the soil samples collected for field screening purposes;
- Inspected the monitoring wells for presence of Light Non-Aqueous Phase Liquid (LNAPL);
- Select soil and groundwater samples were analyzed for parameter groups of Metals & Inorganics (M&Is), Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Organochlorine Pesticides (OC Pesticides) and pH;
- Completed an elevation survey;
- Reviewed and interpreted the laboratory analytical results; and Provided a Phase Two ESA report.

4.2. Media Investigated

Soil and groundwater investigation was undertaken.

4.3. Phase One Conceptual Site Model

1	Existing buildings and structures	The Site consisted of a one-storey residential building with a full basement (Subject Building) and a small storage shed at the northwest corner, landscaped and natural vegetation cover at the north portion and agricultural land on the remainder, to the south. The footprint of the Subject Building was approximately 570 m ² (6,144.78 ft ²)
2	Water Bodies	Pretty River traverses south to north through the Site and the Phase One Study Area along the southeast boundary of and through the north-central portion of the Site.

3	Areas of natural significance in the Study Area.	<p>the Site and the Phase I Study Area were with the following areas:</p> <ul style="list-style-type: none"> • Hedgerow Areas and Ministry of Natural Resource Unevaluated Wetlands; • Significant Groundwater Recharge Area; and • Highly Vulnerable Aquifer. <p>Furthermore, according to the Town of Collingwood's Official Plan (2015) and correspondences with the Client indicated that the natural forest area within the Site and the immediate areas surrounding Pretty River were also classified as:</p> <ul style="list-style-type: none"> • Environmental Protection Lands according to Schedule A of the official plan; Environmental Protection Lands are lands unsuited for development to the inherent natural hazards and were protected lands to the Town of Collingwood's most significant natural heritage features; • Category 1 Valleylands – defined as lands that are prohibited for development, considered to provide important functions (i.e. significant functions, attributes and linkages) to the natural heritage system of the Town of Collingwood which include lands such as Provincially-significant wetlands, major river valleys, fish habitat located within significant valley-lands and primary woodlands encompassing in excess of 4 hectares (9.9 acres) that are more than 75 years old • Habitat of Butternut woodlot - Butternut is an Endangered species according to Ontario's Endangered Species Act (ESA). Butternut were observed on the property and adjacent lands according to the correspondences with the Client. <p>The official plan dictates that a 30 m no development buffer zone from these lands is recommended. Should reducing the buffer zone be proposed, approvals from the Ministry of Natural Resources and Forestry is required.</p>
4	Drinking water wells at the Phase One property	The Site was serviced by a private drinking water well located at the east exterior of the residential building.
5	Roads within Study Area	Roads within the Study Area are indicated in Figure No. 2.
6	Property uses adjacent to Phase One Property	The Site is bounded to the north by residential dwellings (2 – 22 Lynden Street, 64 William Street, and 499 Peel Street), Pretty River and undeveloped areas; to the south by woodlands; to the east by woodlands/forests and open fields (490 Raglan Street and 7200 Poplar Sideroad); and to the west by a walking trail, the CPR line, followed by a school.
7	Areas of Potentially Contaminating Activity (PCA)	<p>PCAs identified within the Phase One Property include :</p> <ul style="list-style-type: none"> • PCA#28 : Gasoline and Associated Products Storage in Fixed Tanks • PCA#30 : Importation of Fill Material of Unknown Quality • PCA#40 : Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications <p>PCAs identified within the Phase One Study Area include :</p> <ul style="list-style-type: none"> • PCA#28 : Gasoline and Associated Products Storage in Fixed Tanks • PCA#46 : Rail Yards, Tracks and Spurs

8	Areas of Potential Environmental Concern (APEC)	<p>Three Areas of Potential Environmental Concern were identified within the Site during this ESA.</p> <ul style="list-style-type: none"> • APEC-1 : Historical and present ASTs located in the Subject Building (PCA#28) • APEC-2 : Historical potential usage of pesticide on the former orchard located in southeast of the Subject Building (PCA#40) • APEC-3 : Historical potential usage of fill materials of unknown source near the driveway crossing located in the north-central portion of the Site (PCA#30) 				
9	Description of PCAs	<p>PCAs identified within the Phase One Property include :</p> <ul style="list-style-type: none"> • heating oil ASTs were present in the Subject Building • pesticide use of the historical orchard • fill materials of unknown environmental quality placed on the Site <p>PCAs within the Phase One Study Area include :</p> <ul style="list-style-type: none"> • heating oil supplier with ASTs and silos to the north at 387 Raglan Street, • CPR line approximately 10 m west of the Site 				
10	Description of APECs and Contaminants of Concern (COC)	<p>Area of potential environmental concern</p>	<p>Location of area of potential environmental concern on phase one property</p>	<p>Location of PCA (on-site or off-site)</p>	<p>Contaminants of potential concern</p>	<p>Media potentially Impacted (Ground water, soil and/or sediment)</p>
		A1	Northwest portion of the Site. (current and historical onsite structures)	onsite	PHCs, VOCs	Soil, GW
		A2	North-Central portion of the Site	onsite	OC Pesticides, Metals, As, Sb, Se, Hg	Soil
		A3	North portion of the Site	onsite	PAHs, Metals, As, Sb, Se, Cr(VI), Hg, B-HWS	Soil, GW
11	Underground utilities	<p>A septic tank was present south of the Subject Building and a private drinking water well was present on the east exterior of the Subject Building. A communications line was noted during the private subsurface locate activities. It is believed that this communications line runs through the subsurface along the driveway leading to the Site building.</p>				

12	Regional or site specific geological and hydrogeological information	<p>According to the Ontario Geophysical Survey “OGS Earth” application, the Phase One Study Area is situated within an area of coarse-textured glaciolacustrine deposits consisted of sand, gravel, minor silt and clay foreshore and basinal deposits, modern alluvial deposits consisted of clay, silt, sand, gravel, and may contain organic remains, and stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain. The underlying physiography consisted of Sand Plain, Beach, and Bevelled Till Plain landforms within the Simcoe Lowland region. The bedrock geology within the Study Area is the Shadow Lake Formation (Simcoe Group), generally consisting of limestone, dolestone, shale, arkose, and sandstone.</p> <p>Based on the information in the WWIS database of the EcoLog ERIS report, the depth of bedrock in the vicinity of the Study Area is expected to be between approximately 1.2 m (4 ft) and 5.2 m (17 ft) m below grade.</p>
13	Uncertainty or absence of information.	No uncertainties were encountered during this ESA.

4.3.1. Potentially Contaminating Activity (PCA)

Based on the information obtained through records review, and visual observations during site reconnaissance, the Phase Two ESA has revealed the following Potentially Contaminating Activities (PCAs) within the Site and Phase Two Study Area.

Table 4.3-1 : Table of PCAs

Location	Environmental Concern	O. Reg. PCA*	Source	APEC onto Site
452 Raglan Street Site	<ul style="list-style-type: none"> - ASTs in the Subject Building since 1983 as per site visit - Rectangular orchard from the 1970s to the 2000s as per photographs - soil disturbance in the north-central portion of the Site near the crossing as per 1973 aerial photographs - potential fill and potential heating oil from historical development of former structures as per site visit, interview, and aerial photographs 	28, 30, 40	SR, AP	Given the long duration of the PCAs, these PCAs were anticipated to cause APECs onto Site.
West adjacent to Site	- CPR line immediately west of the Site	46	SR	Given that the CPR line was 10 m west of the Site boundary, and the CPR was no longer in use, this PCA was not anticipated to cause an an APEC onto Site.
15 Dey Drive Approximately 20 m west of Site	- Waste generation related to school related activities from 2015-2017	58	EE	Given the nature of the operation (i.e school operations) and the duration, this PCA was not anticipated to cause an an APEC onto Site.

Location	Environmental Concern	O. Reg. PCA*	Source	APEC onto Site
387 Raglan Street Approximately 235 m north of the Site	– Bird Fuels; heating oil supplier with ASTs and Silos	28	SR	Given the distance and the down-gradient orientation of the property, this PCA was not anticipated to cause an an APEC onto Site.

*Ontario Regulation 153/04, as amended, Records of Site Condition – Part XV.1 of the Act, Table 2 : Potentially Contaminating Activities

EE : EcoLog ERIS report; SR : Site Reconnaissance; AP : Aerial Photographs

Identified PCAs are presented in Figure No. 2.

Other identified PCAs are not anticipated to cause APECs due to down-gradient orientation and/or significant distance from the Site.

4.3.2. Areas of Potential Environmental Concern (APEC)

Based on identified PCAs, the following Areas of Potential Environmental Concern were identified within the Phase Two Property :

Table 4.3-2 : Areas of Potential Environmental Concern

APEC ID	Location	Description of Issues	O. Reg. PCA	PCA Location
1	Northwest portion of the Site. (current and historical onsite structures)	-Historical and present ASTs located in the Subject Building and potential usage of USTs from former structures	28	onsite
2	North-Central portion of the Site	-Historical potential usage of pesticide on the former orchard	40	onsite
3	North portion of the Site	-Historical potential usage of fill materials of unknown environmental quality near the driveway crossing located in the north-central portion of the Site and in the vicinity of the Subject Building and former structures	30	onsite

A total of three APECs were identified for PCAs within the Site, and no APEC was identified from the surrounding properties within the Phase One Study Area.

The Table of Areas of Potential Environmental Concern with Contaminants of Concern (CoCs) and media potential impacted is provided below :

Table 4.3-3 : Areas of Potential Environmental Concern & Contaminants of Concern

Area of potential environmental concern	Location of area of potential environmental concern on phase one property	Potentially contaminating activity	Location of PCA (on-site or off-site)	Contaminants of potential concern	Media potentially Impacted (Ground water, soil and/or sediment)
A1	Northwest portion of the Site. (current and historical onsite structures)	28 : Gasoline and Associated Products Storage in Fixed Tanks	onsite	PHCs, VOCs	Soil, GW
A2	North-Central portion of the Site	40. Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	onsite	OC Pesticides, Metals, As, Sb, Se, Hg	Soil
A3	North portion of the Site	30 : Importation of Fill Material of Unknown Quality	onsite	PAHs, Metals, As, Sb, Se, Cr(VI), Hg, B-HWS	Soil, GW

PHCs – petroleum hydrocarbons; VOCs – volatile organic compounds; PAHs- polycyclic aromatic hydrocarbons

4.4. Sampling and analysis plan

Based on identified APECs in the Phase One ESA conducted by *Toronto Inspection Ltd.* for the Site, a Sampling and Analysis Plan (SAP) was developed to determine potential environmental concerns. The SAP is presented in Appendix A.

All sampling procedures, field procedures, analytical testing and QA/QC procedures complied with 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).

4.5. Deviations from Sampling and Analysis Plan (SAP)

There were no deviations from the Sampling and Analysis Plan.

4.6. Impediments

No impediments were encountered during the completion of this investigation.

5. INVESTIGATION METHOD

5.1. General

Public utilities were cleared through Ontario One call.

5.2. Drilling and Excavating

Drilling work was undertaken on November 14, November 16, November 17, November 18, November 19, November 20, November 23 and November 24, 2017 by Canadian Soil Drilling, who are a MOECC licensed drilling contractor. Representatives from Toronto Inspection Ltd. Were present on Site to supervise drilling and complete the soil sampling. A track mounted drill rig equipped with continuous flight solid stem augers, using a split spoon sampler in conjunction with Standard Penetration Tests using a driving force of 140 lbs dropped from a height of 30 inches was used to advance a total of 24 (twenty four) boreholes 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 17BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17MW-21, 17MW-22, 17BH-23 and 17BH-24 were installed, of which 7 (seven) were completed as monitoring wells. Boreholes were installed to a maximum depth of 9.2m bg. Seven of boreholes (17MW-2, 17MW-5, 17MW-9, 17MW-18, 17MW-21 and 17MW-22) were completed as monitoring wells. Monitoring wells (17MW-2, 17MW-18, 17MW-21 and 17MW-22) were drilled mainly for environmental purpose while others boreholes or monitoring wells were installed for geotechnical aspects.

5.3. Soil Sampling

The soil samples were collected using a split spoon sampler during the drilling rounds. Soil samples that were collected on site were divided into two portions—visual examination/laboratory submission and for field vapour screening. Upon visual identification in the field, a portion of the sample was placed into a Ziploc Bag for later visual examination at *Toronto Inspection Ltd.* laboratory. Another portion of the sample was placed into laboratory supplied sample bottles and vials, as applicable, based on the field screening results. The Ziploc Bags, laboratory supplied bottles and vials were adequately identified with the project location, borehole ID and sampling depth.

5.4. Field Screening Measurements

Soil samples for field vapour screening were placed in labelled clean plastic bags, broken into pieces, and set aside to come to ambient room temperature before conducting head space screening measurements. The soil vapour headspace measurements were recorded on the field borehole logs, and documented in the finalized logs.

A vapour screening process was undertaken for the retrieved soil samples from the boreholes. The procedure was followed as outlined in “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario” using an RKI Eagle 2 gas monitor meter. Specifics of the equipment are provided below:

Equipment	Parameters	Detection Limit	Accuracy	Calibration Standard	Calibration Frequency
RKI Eagle 2	Combustible gas	0-50,000 ppm	±5%	Hexane	Yearly by supplier (Maxim Environmental), and manufacturer instructions prior to field work
	VOC	0-2,000 ppm	±5%	Isobutylene	

5.5. Cross Contamination Mitigation

To avoid potential for cross contamination disposable nitrile gloves were used during sampling. The gloves were changed between collection of each soil sample.

Non-dedicated equipment such as split spoon sampler was washed between sampling rounds using Alconox detergent and distilled water. The augers were brushed clean of spoils.

5.6. Groundwater Monitoring Well Installation

Screens and solid stem piping consisted of 50mm diameter Schedule 40 polyvinyl chloride (PVC) well piping. In general, silica sand was used to cover the section of the PVC screen and 300/600 mm above that, as applicable. The remaining borehole was backfilled with bentonite pellet hole plug placed above the silica sand and activated with distilled water. The top of the boreholes were sealed with stick up casing.

For the purpose of well development, the depth of the installed wells and groundwater were measured and the volume of groundwater calculated, including the auger surround. The monitoring wells were purged using dedicated bailers to a minimum of three well volume quantity or until dry. The groundwater was then allowed to stabilize prior to sample collection.

5.7. Groundwater Field Measurement of Water Quality Parameters

An interface meter, HERON H.01L, was used to identify presence of LNAPL in the water column. A water quality meter, model Hanna HI98129 was used to measure water quality parameters of pH, Electrical Conductivity, Total Dissolved Solids, and Temperature. A portion of the groundwater was collected in a clean container and the water quality meter was placed in the container for a few minutes. Measurements from the meter were documented in the field before sampling of groundwater.

5.8. Groundwater Sampling

A Geotech peristaltic low flow pump, was used to obtain groundwater samples from the monitoring wells. The flow rate of the pump was adjusted to ensure a continuous flow when the groundwater was collected into the sampling bottles and vials supplied by the laboratory. The tubing was placed near the bottom of the bottles and vials to prevent sample agitation. Dedicated tubing was used at each monitoring well to prevent cross contamination.

5.9. Sediment Sampling

There is a surface water body present on the Site, however the identified APECs did not extend to the surface water body. Hence no sediment sampling was conducted.

5.10. Soil Vapour Sampling

This section is not applicable.

5.11. Analytical Testing

The soil samples were delivered to Paracel Laboratories Ltd. (Paracel), a Canadian Association for Laboratory Accreditation Inc. (CALA) accredited environmental laboratory located in Ottawa.

5.12. Residue Management Procedures

The soil spoils from the drilling were left in sealed metal drums. These will be removed at the time of remediation of contaminated soil.

5.13. Elevation Surveying

Following drilling of the boreholes, an elevation survey was completed by Toronto Inspection Ltd. using an arbitrary bench mark.

5.14. Quality Assurance and Quality Control Measures

Soil sampling was conducted in accordance to procedures outlined in the previous sections. The following QA/QC measures were implemented during the scope of this investigation :

- The field personnel were briefed by the QP (“qualified person” as per Ontario Regulation 153/04).
- QP and field personnel ensured all field work was conducted in accordance to the required procedures for drilling, soil and groundwater collection, sample preservation and delivery to the laboratory.
- Field personnel ensured that all soil samples were adequately identified for company Information, Project Number, Sample ID, Date Collected, Time Collected and Parameters to be Tested.
- Field personnel ensured that a Chain of Custody was completed for each round of submission to the laboratory by verifying the sample details and information on the Chain of Custody, to ensure the analytical parameters were correct.
- All samples were placed in a cooler packed with ice from the office and/or field and transported to the laboratory.
- Field personnel ensured that sample containers were packed upright and not lying on their sides.
- QP and field personnel ensured that all samples were analyzed within the established protocol times for each parameter groups.
- A copy of the original chain of custody form was included with the cooler, with a copy obtained after delivery to the laboratory.

6. REVIEW AND EVALUATION

6.1. Geology

Drilling work was undertaken on November 14, November 16, November 17, November 18, November 19, November 20, November 23 and November 24, 2017. A total of 24 (twenty four) boreholes 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 17BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17MW-21, 17MW-22, 17BH-23 and 17BH-24 were installed, of which 7 (seven) were completed as monitoring wells. The borehole and monitoring well location plan is shown as Figure 4. Brief descriptions of the subsoils, encountered at the borehole locations, were as follows:

Ground Surface

The surficial materials at borehole locations were observed to consist of topsoil with approximate thickness ranging from 250mm to 310mm.

Fill

Fill materials, consisting of silty sand/sandy silt were encountered directly below the surficial topsoil at all borehole locations and extended to approximate depth of 0.8m to 1.4m below existing grades. The fill materials were encountered with inclusion of occasional organic stains, in a very loose to compact and moist to very moist state.

Silty Sand and Sandy Silt

Natural, loose to compact, silty sand and sandy silt subsoils were observed to underlay the fill materials at all borehole locations, with the exception of borehole 17MW-21, and extended to approximate depths of 2.0m to 2.9m below existing grades.

Clayey Silt

The upper fill materials at borehole 17MW-21 and natural silty sand subsoils at boreholes 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 17BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17BH-23 and 17BH-24 were observed to be overlying natural, very soft to very stiff, clayey silt subsoils, which extended to approximate depths of 3.0m to 6.1m below existing grades.

Silt Till

Natural, clayey silt subsoils at borehole locations 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 17BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17MW-

21, 17BH-23, 17BH-24 and natural, silty sand subsoils at borehole location 17MW-22 were observed to be overlying natural, silt till subsoils, which extended to explored depths of 5.3m to 7.3m below existing grades at borehole locations 17BH-1, 17BH-3, 17BH-4, 17MW-18, 17MW-21 and 17MW-22 and to depths of 5.0m to 9.2m below existing grades at borehole locations 17MW-2, 17MW-5, 16BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17BH-19, 17MW-20, 17BH-23 and 17BH-24.

Sand and Gravel

Natural, very dense, sand and gravels subsoils were observed to underlay silt till subsoils at borehole location 17BH-19 and extended to explored depth of 7.9m below existing grade.

Silty Gravelly Sand

Natural, very dense, silty gravelly sand with some clay subsoils in borehole 17MW-2 were observed to underlay silt till subsoils at a depths of 6m below existing grade and extended down to the explored depth of 6.5m below existing grade.

Bedrock

The surface of bedrock was encountered at depths ranging from 5.0m to 9.2m below existing grades at borehole locations 17MW-5, 16BH-6, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17BH-19, 17MW-20, 17BH-23 and 17BH-24. The bedrock was observed to consist of Limestone in grey colour. The upper 0.1m to 0.9m of the limestone bedrock was found to be in a weathered condition, as evidence by relatively easy advancement of the augers. Refusal to further penetration by the auger equipment used occurred at depths ranging from 5.2m to 7.9m below existing grades.

Recoveries of the rock samples at Borehole locations 17MW-5, 17MW-9 and 17MW-20 were found to be from 100% to 89% and RQD (Rock Quality Designation) measurements were observed to range from 83% to 92% indicating good rock condition, below the upper, weathered zone, with a general absence of fractures and weathered zones. The borehole logs are presented in Appendix A.

6.2. Groundwater Elevations and Flow Direction

Groundwater level on the site varied between 1.71 m and 6.96 m bg below the existing grade on November 29, 2017. No evidence of free product, film or sheen was noted on the surface of the groundwater during the monitoring and sampling round. The most recent groundwater elevations were recorded on November 29, 2017 and are summarized in Table 6.2-1.

Table 6.2-1: Groundwater Elevations

Monitoring Well	Existing Grade Elevation (m asl)	Nov. 29, 2017 Depth to Water (m)	Nov. 29, 2017 Groundwater Elevation (m asl)
17MW-2	191.61	1.71	189.9
17MW-5	192.13	6.14	185.99
17MW-9	193.59	6.96	186.63
17MW-18	190.10	5.12	184.98
17MW-20	191.45	5.4	186.05
17MW-21	192.42	3.38	189.04
17MW-22	191.31	1.74	189.57

Using the elevation survey data, groundwater elevations were calculated and flow direction was assessed. The shallow groundwater flow direction in the area of the Site appears to be generally in an northeasterly and southeasterly direction. However, it should be noted that this could be influenced by seasonal variation as well as subsurface infrastructure. Groundwater contours presented in Figure No. 5.

6.3. Groundwater : Hydraulic Gradients

6.3.1. Horizontal Gradient

The groundwater elevations indicate a horizontal hydraulic gradient of 0.024 m/m in an easterly direction. The groundwater contours are presented in Figure No. 5.

6.3.2. Vertical Gradient

No vertical gradient has been calculated.

6.4. Fine-Medium Soil Texture

Medium-fine soil texture has been used.

6.5. Soil : Field Screening

Vapour concentrations measured in the soil samples collected during the drilling investigation are presented in the borehole logs in Appendix A. The readings were <5ppm.

6.6. Soil Quality

The boreholes were placed to determine the quality of subsoil within the identified APECs as shown in Figure 3.

APEC	Borehole/Monitoring Well/Test Pit	Parameters Analyzed	Result
APEC-1	17MW-2 and 17MW21	Soil: PHCs, VOCs,	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-2	17MW-22	Soil: M&Is and OC Pesticides	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-3	17MW2, 17MW-18, 17MW21 and 17MW22	Soil: M&Is, PAHs	Results met Table 2 SCS Criteria and Table 8 SCS Criteria

PHCs: Petroleum Hydrocarbons; VOCs: Volatile Organic Compounds; PAHs : Polycyclic Aromatic Hydrocarbons; M&Is: Metals & Inorganics

A minimum duplicate ratio of 1:10 was maintained for each parameter group during the soil analytical testing. The soil duplicates are summarized below :

Borehole or Well ID	Sample Media	Investigation Depths or Screened Intervals* (m bg)	Test Parameters						Summary
			BTEX & PHCs F1	PHCs F2-F4	PHCs & VOCs	M&Is	PAHs	pH	
Duplicate AA (duplicate of 17MW-21 SS4)	Soil	2.3 – 3.7			X				Results met Table 2 SCS Criteria and Table 8 SCS Criteria
Duplicate BB (duplicate of 17MW-18 SS1)	Soil	0.0 – 0.6				X	X		Results met Table 2 SCS Criteria and Table 8 SCS Criteria

A layout of soil samples and analysis is presented in Figure 5.

6.7. Groundwater Quality

Groundwater sampling was conducted on December 8, 2017. Groundwater analyses conducted at the Phase Two Property are summarized below :

APEC	Borehole/Monitoring Well	Parameters Analyzed	Result
APEC-1	17MW-2 and 17MW-21	Groundwater: PHCs, VOCs,	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-2	17MW-22	Groundwater: M&Is and OC Pesticides	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-3	17MW-2, 17MW-18, 17MW-21 and 17MW-22	Groundwater: PAHs and M&Is	Results met Table 2 SCS Criteria and Table 8 SCS Criteria

A duplicate ratio of 1:10 was maintained, and trip blanks were included during VOC sampling round. All parameters met Table 2 SCS Criteria.

Duplicate Sample Identification	Media	Parameters Analyzed	Result
Duplicate Dup-A (duplicate of 17MW22)	Groundwater	PHCs and VOCs, PAHs, M&Is and OC Pesticides	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
Trip Blank	Water	VOCs	Results met Table 2 SCS Criteria and Table 8 SCS Criteria

Analysed groundwater parameters are presented in Figure No. 6.

6.8. Sediment Quality

There is a surface water body present on the Site, however the identified APECs did not extend to the surface water body. Hence no sediment sampling was conducted.

6.9. Soil Vapour

No vapour probes were installed. Therefore, this section is not applicable.

6.10. Quality Assurance and Quality Control Results

Field QA/QC procedures were followed by *Toronto Inspection Ltd.* field staff as outlined in Section 5.12, which included appropriate decontamination of sampling equipment, using dedicated samplers and laboratory supplied jars and vials. Duplicates for QA/QC included duplicate samples for every parameter group analyzed with a minimum ratio of 1 in 10.

All the laboratory results, sample delivery temperatures and General Comments in the Certificate of Analysis were reviewed by the QP. All samples were analyzed within the holding time as prescribed in Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario (Dec. 1996) and 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).

The soil and groundwater samples were analyzed by Paracel Laboratories Ltd., an independent laboratory in Ottawa, which is accredited by CALA. The analytical results were performed under a Quality Assurance/Quality Control (QA/QC) program by laboratory. The Certificate of Analysis are attached in Appendix C.

In general, no concerns were identified. Relative Percentage Differences (RPD) were



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calculated to determine the variation of results between the original and duplicate samples. The RPD percentages were compared to limits provided in 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. The RPD percentages were found to be within the acceptable tolerances.

6.11. Phase Two Conceptual Site Model

At the time of the Phase Two ESA, soil and groundwater were investigated to assess soil and groundwater conditions with respect to APECs identified in the previous Phase One ESA completed by *Toronto Inspection Ltd.*

The Site, having an area of approximately 22.22 acres, is located on the west side of the Raglan Street just south of Lynden Street, Peel Street and William Street in Collingwood, Ontario. It should be noted that Raglan Street was assumed in a north-south orientation in this report. At the time of this Phase Two ESA, the north portion of the Site consisted of a single-storey residential building with a full basement (Subject Building), a small storage shed, a driveway with a bridge that crosses Pretty River, and landscaped. Portions of the Site (along the east, south and southwest property boundaries) consisted of natural woodlands, forest areas and a meandering Pretty River. The remaining areas of the Site was used as agricultural land. The Subject Building contained a garage that was attached to the southeast side of the Subject Building and an enclosed pool at the southwest corner. Vehicular access to the Site was a gravel driveway off Raglan Street located on the northeast corner of the Site. The footprint area of the residential building was approximately 570 m² (6,144.78 ft²).

The Site is bounded to the north by residential dwellings (2 – 22 Lynden Street, 64 William Street, and 499 Peel Street), Pretty River and undeveloped areas; to the south by woodlands; to the east by woodlands and open fields (490 Raglan Street and 7200 Poplar Sideroad); and to the west by a walking trail, the Canadian Pacific Railway (CPR) line, followed by a school. The surrounding areas consisted primarily of agricultural, residential, community, institutional, natural forest/woodland areas and industrial usage (railway line).

At the time of this Phase Two ESA, the Site was used for residential, agricultural farmlands, and natural forest/woodland areas. Thus, the land-use is considered residential and agricultural use. It is *Toronto Inspection Ltd.*'s understanding that residential buildings will be developed at the Site. Thus, the land use of the Site will be residential in the future.

Toronto Inspection Ltd. has used the below conditions established in Ontario Regulation 153/04, as amended, Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act to determine the applicable Site Condition Standard for the Phase Two property.

Condition	Evaluation
Current land use	Residential

Condition	Evaluation
Proposed land use	Residential
Area of natural significance	The Site is not included nor is adjacent to an area of natural significance nor is part of such an area nor does it include land that is within 30m of an area of natural significance nor part of such an area. Therefore, Section 41 of the Regulation does not apply.
Proximity to surface water body	The Site does includes part of a water body and is also adjacent to the same water body along portions of the Site. Therefore, Section 43.1 of the Regulation does apply.
pH of soil	Accredited laboratory chemical test results indicated that the surface (1.5m depth) soil at the property has a pH value between 5 and 9 and the sub-surface (greater than 1.5m depth) soil has a pH value between 5 and 11. Therefore, Section 41 of the Regulation does not apply.
Potable or Non Potable Ground Water	Potable groundwater condition has been used.
Depth to bedrock	Based on the Phase Two investigation, the depth to bedrock is greater than 2m and shallow soil was not observed on 1/3 or more of the Site. Therefore, Section 43.1 pertaining to a shallow depth of bedrock does not apply.
Soil texture	Based on the results of the grain-size analysis carried out on soil samples collected from 17MW-2 at a depth of 6.1 m bg (41.9% medium-fine), 17BH-17 at a depth of 3 m bg (97.6% medium-fine), 17BH-23 at a depth of 3 m bg (92.1% medium-fine) and 17BH-24 at a depth of 3 m bg (96.4% medium-fine), medium-fine grained texture was used.

Based on the above evaluation, Ontario Regulation 153/04, as amended, Table 8 : Generic Site Condition Standards for use within 30 m of a water body in a Potable Ground Water Condition for Residential/Parkland/Institutional property use (Table 8 SCS Criteria) has been used. Additionally, Table 2 : Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional property use with medium-fine soil texture (Table 2 SCS Criteria) has also been used.

Potentially Contaminating Activities

Based on the information obtained through records review, and visual observations during site reconnaissance, the Phase Two ESA has revealed the following Potentially Contaminating Activities (PCAs) within the Site and Phase One Study Area.

Table of PCAs

Location	Environmental Concern	O. Reg. PCA*	Source	APEC onto Site
452 Raglan Street Site	<ul style="list-style-type: none"> - ASTs in the Subject Building since 1983 as per site visit - Rectangular orchard from the 1970s to the 2000s as per photographs - soil disturbance in the north-central portion of the Site near the crossing as per 1973 aerial photographs - potential fill and potential heating oil from historical development of former structures as per site visit, interview, and aerial photographs 	28, 30, 40	SR, AP	Given the long duration of the PCAs, these PCAs were anticipated to cause APECs onto Site.
West adjacent to Site	<ul style="list-style-type: none"> - CPR line immediately west of the Site 	46	SR	Given that the CPR line was 10 m west of the Site boundary, and the CPR was no longer in use, this PCA was not anticipated to cause an an APEC onto Site.
15 Dey Drive Approximately 20 m west of Site	<ul style="list-style-type: none"> - Waste generation related to school related activities from 2015-2017 	58	EE	Given the nature of the operation (i.e. school operations) and the duration, this PCA was not anticipated to cause an an APEC onto Site.
387 Raglan Street Approximately 235 m north of the Site	<ul style="list-style-type: none"> - Bird Fuels; heating oil supplier with ASTs and Silos 	28	SR	Given the distance and the down-gradient orientation of the property, this PCA was not anticipated to cause an an APEC onto Site.

*Ontario Regulation 153/04, as amended, Records of Site Condition – Part XV.1 of the Act, Table 2 : Potentially Contaminating Activities, EE : EcoLog ERIS report; SR : Site Reconnaissance; AP : Aerial Photographs

Identified PCAs are presented in Figure No. 2.

Areas of Potential Environmental Concern (APECS)

Based on identified PCAs, the following Areas of Potential Environmental Concern (APECs) were identified within the Phase Two Property :

Table of APECs

APEC ID	Location	Description of Issues	O. Reg. PCA	PCA Location
1	Northwest portion of the Site. (current and historical onsite structures)	-Historical and present ASTs located in the Subject Building and potential usage of USTs from former structures	28	onsite
2	North-Central portion of the Site	-Historical potential usage of pesticide on the former orchard	40	onsite

APEC ID	Location	Description of Issues	O. Reg. PCA	PCA Location
1	Northwest portion of the Site. (current and historical onsite structures)	-Historical and present ASTs located in the Subject Building and potential usage of USTs from former structures	28	onsite
3	North portion of the Site	-Historical potential usage of fill materials of unknown environmental quality near the driveway crossing located in the north-central portion of the Site and in the vicinity of the Subject Building and former structures	30	onsite

Identified APECs are presented in Figure No. 3.

Subsurface Structures and Utilities

The building on site contains a one-storey building with a full basement. The Site is serviced by a potable well and septic sewer system including a septic tank located on Site. Furthermore, the Site building was heated using home heating oil as fuel. A communications line was noted during the private subsurface locate activities. It is believed that this communications line runs through the subsurface along the driveway leading to the Site building.

Stratigraphy

Ground Surface: The surficial materials at borehole locations were observed to consist of topsoil with approximate thickness ranging from 250mm to 310mm.

Fill: Fill materials, consisting of silty sand/sandy silt were encountered directly below the surficial topsoil at all borehole locations and extended to approximate depth of 0.8m to 1.4m below existing grades. The fill materials were encountered with inclusion of occasional organic stains, in a very loose to compact and moist to very moist state.

Silty Sand and Sandy Silt: Natural, loose to compact, silty sand and sandy silt subsoils were observed to underlay the fill materials at all borehole locations, with the exception of borehole 17MW-21, and extended to approximate depths of 2.0m to 2.9m below existing grades.

Clayey Silt: The upper fill materials at borehole 17MW-21 and natural silty sand subsoils at boreholes 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 16BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17BH-23 and 17BH-24 were observed to be overlying natural, very soft to very stiff, clayey silt subsoils, which extended to approximate depths of 3.0m to 6.1m below existing grades.

Silt Till: Natural, clayey silt subsoils at borehole locations 17BH-1, 17MW-2, 17BH-3, 17BH-4, 17MW-5, 16BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17MW-18, 17BH-19, 17MW-20, 17MW-21, 17BH-23, 17BH-24 and natural, silty sand subsoils at borehole location 17MW-22 were observed to be overlying natural, silt till subsoils, which extended to explored depths of 5.3m to 7.3m below existing grades at borehole locations 17BH-1, 17BH-3, 17BH-4, 17MW-18, 17MW-21 and 17MW-22 and to depths of 5.0m to 9.2m below existing grades at borehole locations 17MW-2, 17MW-5, 16BH-6, 17BH-7, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17BH-19, 17MW-20, 17BH-23 and 17BH-24.

Sand and Gravel: Natural, very dense, sand and gravels subsoils were observed to underlay silt till subsoils at borehole location 17BH-19 and extended to explored depth of 7.9m below existing grade.

Silty Gravelly Sand: Natural, very dense, silty gravelly sand with some clay subsoils in borehole 17MW-2 were observed to underlay silt till subsoils at a depths of 6m below existing grade and extended down to the explored depth of 6.5m below existing grade. A grain size analysis was conducted on a selected soil sample, obtained from 17MW-2 (SS7, at a depth of 6.1m). The grain size distribution indicated a composition of 22.5% gravels, 35.5% sand, 28.3% silt and 13.6% clay.

Bedrock: The surface of bedrock was encountered at depths ranging from 5.0m to 9.2m below existing grades at borehole locations 17MW-5, 16BH-6, 17BH-8, 17MW-9, 17BH-10, 17BH-11, 17BH-12, 17BH-13, 17BH-14, 17BH-15, 17BH-16, 17BH-17, 17BH-19, 17MW-20, 17BH-23 and 17BH-24. The bedrock was observed to consist of Limestone in grey colour. The upper 0.1m to 0.9m of the limestone bedrock was found to be in a weathered condition, as evidence by relatively easy advancement of the augers. Refusal to further penetration by the auger equipment used occurred at depths ranging from 5.2m to 7.9m below existing grades.

Recoveries of the rock samples at Borehole locations 17MW-5, 17MW-9 and 17MW-20 were found to be from 100% to 89% and RQD (Rock Quality Designation) measurements were observed to range from 83% to 92% indicating good rock condition, below the upper, weathered zone, with a general absence of fractures and weathered zones.

Hydrogeological Characteristics

Groundwater level on the site varied between 1.71 m and 6.96 m bg below the existing grade on November 29, 2017. No evidence of free product, film or sheen was noted on the surface of the groundwater during the monitoring and sampling round. The most recent groundwater elevations were recorded on November 29, 2017 and

are summarized below.

Groundwater Elevations

Monitoring Well	Existing Grade Elevation (m asl)	Nov. 29, 2017 Depth to Water (m)	Nov. 29, 2017 Groundwater Elevation (m asl)
17MW-2	191.61	1.71	189.9
17MW-5	192.13	6.14	185.99
17MW-9	193.59	6.96	186.63
17MW-18	190.10	5.12	184.98
17MW-20	191.45	5.4	186.05
17MW-21	192.42	3.38	189.04
17MW-22	191.31	1.74	189.57

Using the elevation survey data, groundwater elevations were calculated and flow direction was assessed. The shallow groundwater flow direction in the area of the Site appears to be generally in an northeasterly and southeasterly direction.

Depth to Bedrock

The depth of bedrock in the vicinity of the Site was observed to vary between depths of 5.0m to 9.2 m bg.

Depth to Water Table

Groundwater level on the site varied between 1.71m and 6.96m below the existing grade on November 29, 2017.

Risk Assessment Applicability

Upon completion of remediation activities, all soil results met Table 2 SCS and Table 8 SCS Criteria. Therefore, Risk Assessment is not required.

Soil From Another Property

No soil importation from another property was identified.

Description & Assessment

The sampling and analysis plan is as follows in the table below:

Borehole or Well ID	Rationale	Sample Media	Investigation Depths or Screened Intervals* (m bg)	Test Parameters			
				PHCs & VOCs	M&Is	PAHs	OC Pesticide
17MW-2 SS1	To investigate soil and groundwater conditions with respect to APEC-3	Soil	0.0-0.6		X	X	X
17MW-2 SS5	To investigate soil and groundwater conditions with respect to APEC-1	Soil	3.1-3.5	X			
		Groundwater		X	X	X	
17MW-18 SS1	To investigate soil and groundwater conditions with respect to APEC-3	Soil	0.0-0.6		X	X	X
		Groundwater		X	X	X	X
17MW-21 SS4	To investigate soil and groundwater conditions with respect to APEC-1	Soil	2.3-2.7	X			
		Groundwater		X	X	X	
17MW-22 SS1	To investigate soil and groundwater condition with respect to APEC-2 and APEC-3	Soil	0.0-0.6		X	X	X
		Groundwater		X	X	X	X
17 DUP AA Duplicate (17MW21 SS4)	QA/QC	Soil		X			
17 Dup BB Duplicate (17MW18 SS1)	QA/QC	Soil			X	X	
DUPA Duplicate (17MW22)	QA/QC	GW		X	X	X	X

Soil Quality

The boreholes were placed to determine the quality of subsoil within the identified APECs as shown in Figure 5.

APEC	Borehole/Monitoring Well/Test Pit	Parameters Analyzed	Result
APEC-1	17MW-2 and 17MW21	Soil: PHCs, VOCs,	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-2	17MW-22	Soil: M&Is and OC Pesticides	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-3	17MW2, 17MW-18, 17MW21 and 17MW22	Soil: M&Is, PAHs	Results met Table 2 SCS Criteria and Table 8 SCS Criteria

PHCs: Petroleum Hydrocarbons; VOCs: Volatile Organic Compounds; PAHs : Polycyclic Aromatic Hydrocarbons; M&Is: Metals & Inorganics

A minimum duplicate ratio of 1:10 was maintained for each parameter group during the soil analytical testing. The soil duplicates are summarized below :

Borehole or Well ID	Sample Media	Investigation Depths or Screened Intervals* (m bg)	Test Parameters						Summary
			BTEX & PHCs F1	PHCs F2-F4	PHCs & VOCs	M&Is	PAHs	pH	
Duplicate AA (duplicate of 17MW-21 SS4)	Soil	2.3 – 3.7			X				Results met Table 2 SCS Criteria and Table 8 SCS Criteria
Duplicate BB (duplicate of 17MW-18 SS1)	Soil	0.0 – 0.6				X	X		Results met Table 2 SCS Criteria and Table 8 SCS Criteria

As indicated above, the soil sampling and analysis results met Table 2 SCS and Table 8 SCS Criteria.

Groundwater Quality

Groundwater sampling was conducted on December 8, 2017. Groundwater analyses conducted at the Phase Two Property are summarized below :

APEC	Borehole/Monitoring Well	Parameters Analyzed	Result
APEC-1	17MW-2 and 17MW-21	Groundwater: PHCs, VOCs,	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-2	17MW-22	Groundwater: M&Is and OC Pesticides	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
APEC-3	17MW-2, 17MW-18, 17MW-21 and 17MW-22	Groundwater: PAHs and M&Is	Results met Table 2 SCS Criteria and Table 8 SCS Criteria

A duplicate ratio of 1:10 was maintained, and trip blanks were included during VOC sampling round. All parameters met Table 2 SCS Criteria.

Duplicate Sample Identification	Media	Parameters Analyzed	Result
Duplicate Dup-A (duplicate of 17MW22)	Groundwater	PHCs and VOCs, PAHs, M&Is and OC Pesticides	Results met Table 2 SCS Criteria and Table 8 SCS Criteria
Trip Blank	Water	VOCs	Results met Table 2 SCS Criteria and Table 8 SCS Criteria

As indicated above, the groundwater sampling and analysis results met Table 2 SCS and Table 8 SCS Criteria.

Distribution of Contamination

The results of the soil and groundwater sampling and analysis met the applicable criteria. Hence this section is not applicable.

Reason for Contamination

This section is not applicable.

Migration of Contamination

This section is not applicable.

Climatic or Meteorological Conditions

This section is not applicable.

Soil Vapour Intrusion

Not Applicable as no exceedances for volatile compounds were identified.

Existing Building Features

A one-storey residential building and a storage shed were present on the Site.

Building Heating, Ventilation and Air Conditioning

Heating was provided by a furnace fired by fuel oil. Cooling is provided by a ground level air conditioning unit.

Subsurface Utilities

The Subject Building was heated using a fuel oil fired furnace. Cooling was provided by a ground level, air conditioning unit. Hydro to the building was overhead from Raglan Street to the east. Water was supplied by a private drinking water well located on the east exterior of the Subject Building.

Human & Ecological Receptor Conceptual Model

Not Applicable.

Release Mechanisms

Not Applicable.

Contaminant Transport Pathway

Not Applicable.

Receptors

Not Applicable.



Toronto Inspection Ltd

Receptor Exposure Points

Not Applicable.

Routes of Exposure

Not Applicable.

7. CONCLUSION

Toronto Inspection Ltd. conducted a Phase Two Environmental Site Assessment to evaluate the subsoil and groundwater conditions within the Site.

Based on Areas of Potential Environmental Concerns (APECs), select soil and groundwater samples were analyzed for parameter groups of M&Is, PHCs, VOCs, PAHs and OC Pesticides. All soil and groundwater results were compared to Ontario Regulation 153/04, as amended, Table 2 : Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for Residential/Parkland/Institutional property use with medium-fine soil texture (Table 2 SCS Criteria) and Table 8 : Generic Site Condition Standards for use within 30 m of a water body in a Potable Ground Water Condition for Residential/Parkland/Institutional property use (Table 8 SCS Criteria).

The results of the soil and groundwater analysis met both Table 2 SCS and Table 8 SCS Criteria. No further action with respect to the environmental conditions at the Site are recommended at this time.

7.1. Limitations – Phase Two ESA

No limitations were encountered during this ESA.

7.2. Participants

This Phase Two Environmental Site Assessment has been conducted under the direct supervision of a Qualified Person, Jian Geng, M.A.Sc., P.Eng., who is registered with the Ministry of Environment and Climate Change. The findings and conclusions in this report are formed on the basis of soil and groundwater analysis undertaken at the site.

7.3. Qualifications

The *Toronto Inspection Ltd.* staff have extensive experience over the years in conducting Phase One and Two Environmental Audits, ranging from single-storey industrial buildings of several thousand square feet to mega malls of over several million square feet. They have gained experience that extends across Canada, viewing a variety of operations such as, scrap yards, gas stations, chemical factories, dry cleaners, gravel pits, parklands, various manufacturing plants, food producers, office buildings, apartments, residential homes, grocery stores, schools and shopping malls.



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8. REFERENCES

1. Ontario Regulation 153/04, as amended Records of Site Condition – Part XV.1 of the Environmental Protection Act.
2. Previous Reports – as indicated in Section 3.2



9. GENERAL STATEMENT OF LIMITATION

The comments presented in this report are based on the soil and groundwater samples gathered from the borehole/monitoring well locations indicated on the plan of this report. There is no warranty expressed or implied or representations made by *Toronto Inspection Ltd.* that this program has discovered all potential environmental risks or liabilities associated with the subject site.


Although we consider this report to be representative of the subsurface conditions at the subject property in the areas investigated, any interpretation of factual data or unexpected soil conditions which exhibit noticeable discolouration, odour, etc. in areas not investigated in this report, should be discussed in consultation with us prior to any initiation of activity. Our responsibility is limited to an accurate assessment of the soil condition prevailing at the locations investigated at the time of the study.


To the fullest extent permitted by law, the clients maximum aggregate recovery against *Toronto Inspection Ltd.*, its directors, employees, sub-contractors and representatives, for any and all claims by *Urban Pro Developments (Collingwood) Inc.* for all causes including, but not limited to, claims of breach of contract, breach of warranty and/or negligence, shall be the amount of professional liability insurance carried by *Toronto Inspection Ltd.* for its professional engineering services rendered with respect to the particular site which is the subject of the claim by the client.

Any use and/or interpretation of the data presented in this report, and any decisions made on it by the third party are responsibility of the third party. *Toronto Inspection Ltd.* accepts no responsibility for loss of time and damages, if any, suffered by the third party as a result of decisions or actions based on this report.

Any legal actions arising directly or indirectly from this work and/or *Toronto Inspection Ltd.*'s performance of the services shall be filed no longer than two years from the date of *Toronto Inspection Ltd.*'s substantial completion of the services. *Toronto Inspection Ltd.* shall not be responsible to the client for lost revenues, loss of profits, cost of content, claims of customers, or other special indirect, consequential, or punitive damages.

Yours truly,
Toronto Inspection Ltd.

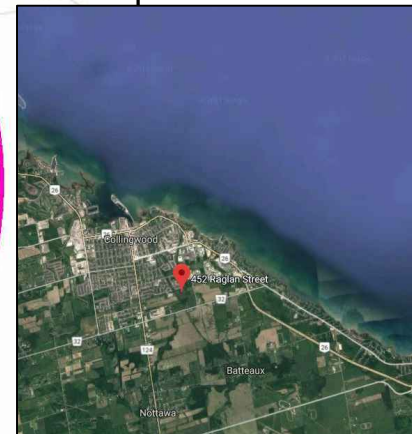
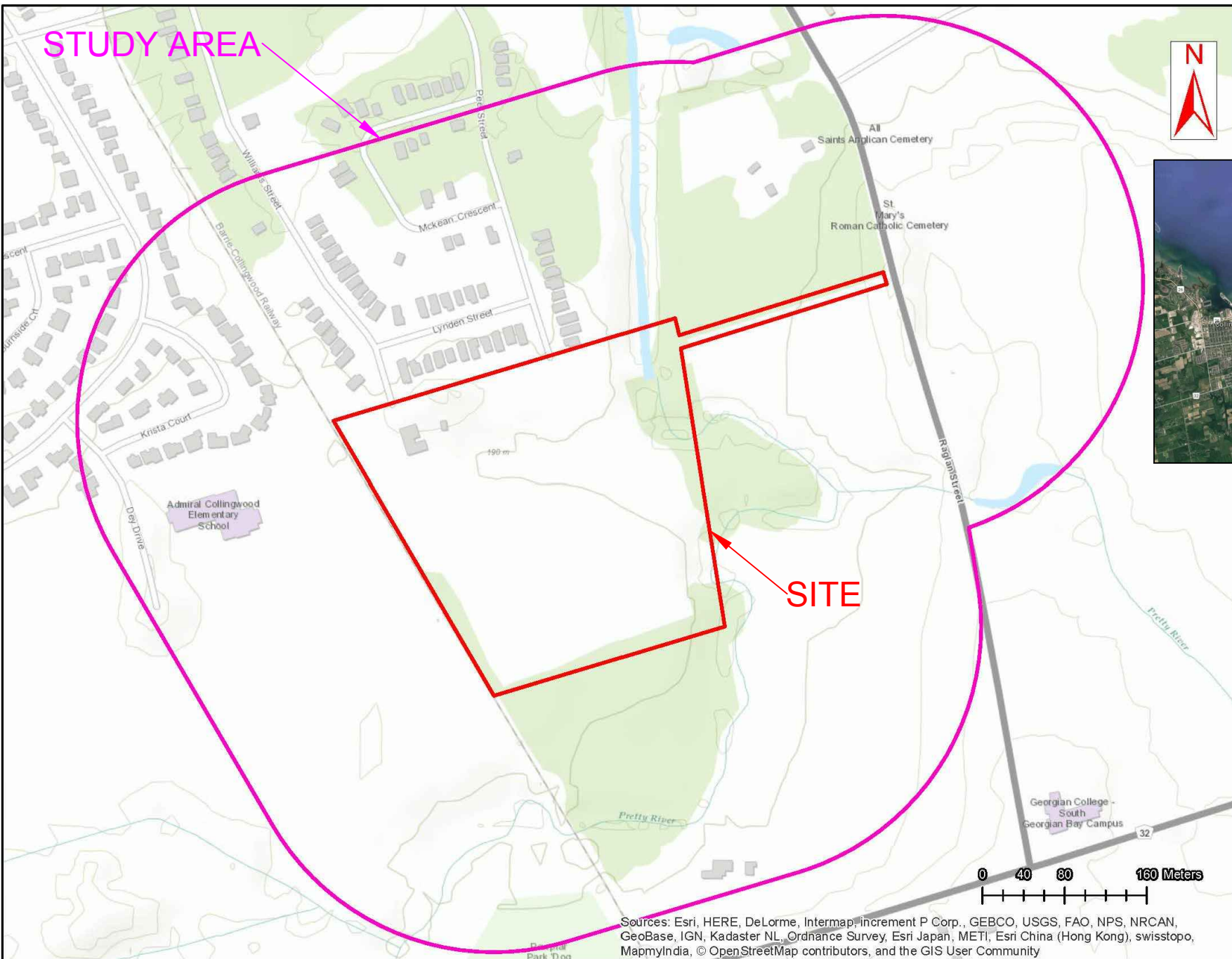

Sajjad Din, M.Sc., P.Geo., QP
Environmental Geoscientist


Jian Geng, M.A.Sc., P.Eng., QP_{ESA}
Project Engineer



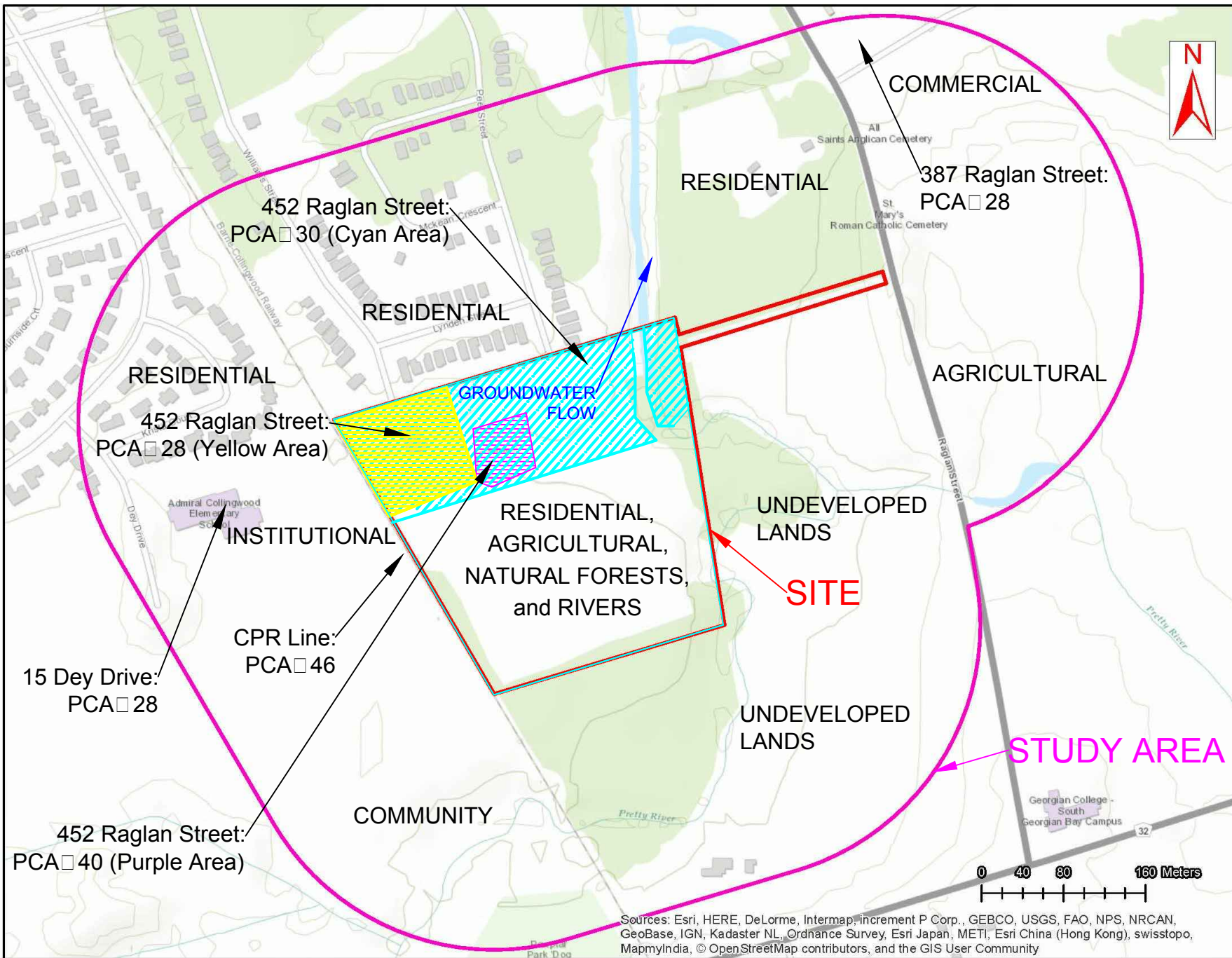
FIGURES

Site Location Map (from Phase One ESA)	Figure No. 1
PCA Layout (from Phase One ESA)	Figure No. 2
APEC Layout (from Phase One ESA)	Figure No. 3
Borehole and Monitoring Well Location Plan	Figure No. 4
Soil Analysis with Cross Sections (PHC, BTEX)	Figure No. 5
Groundwater Analysis with Cross Sections	Figure No. 6
Groundwater Contours	Figure No. 7



Note: Map Source -- Google Maps Application Program (2015 Aerial)

TITLE: Site Location Plan		
LOCATION: 452 Raglan Street, Collingwood, Ontario		
PROJECT NO. 4688-17-EA	DATE : December 2017	FIGURE NO : 1



Note:

PCA □ - Ontario Regulation 153.04, as amended, Records of Site Condition – Part XV.1 of the Act, Table 2 : Potentially Contaminating Activities

- PCA □28 : Gasoline and Associated Products Storage in Fixed Tanks
- PCA □30 : Importation of Fill Material of Unknown Quality
- PCA □40 : Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications
- PCA □46 : Rail Yards, Tracks and Spurs

Locations are for illustration purposes. These locations are based on current property addresses and boundaries. PCAs and Land Use for properties shown include both historical and current activities.

CPR - Canadian Pacific Railway

TITLE:

Phase One Conceptual Model - PCA Locations

LOCATION:

452 Raglan Street, Collingwood, Ontario

PROJECT NO.

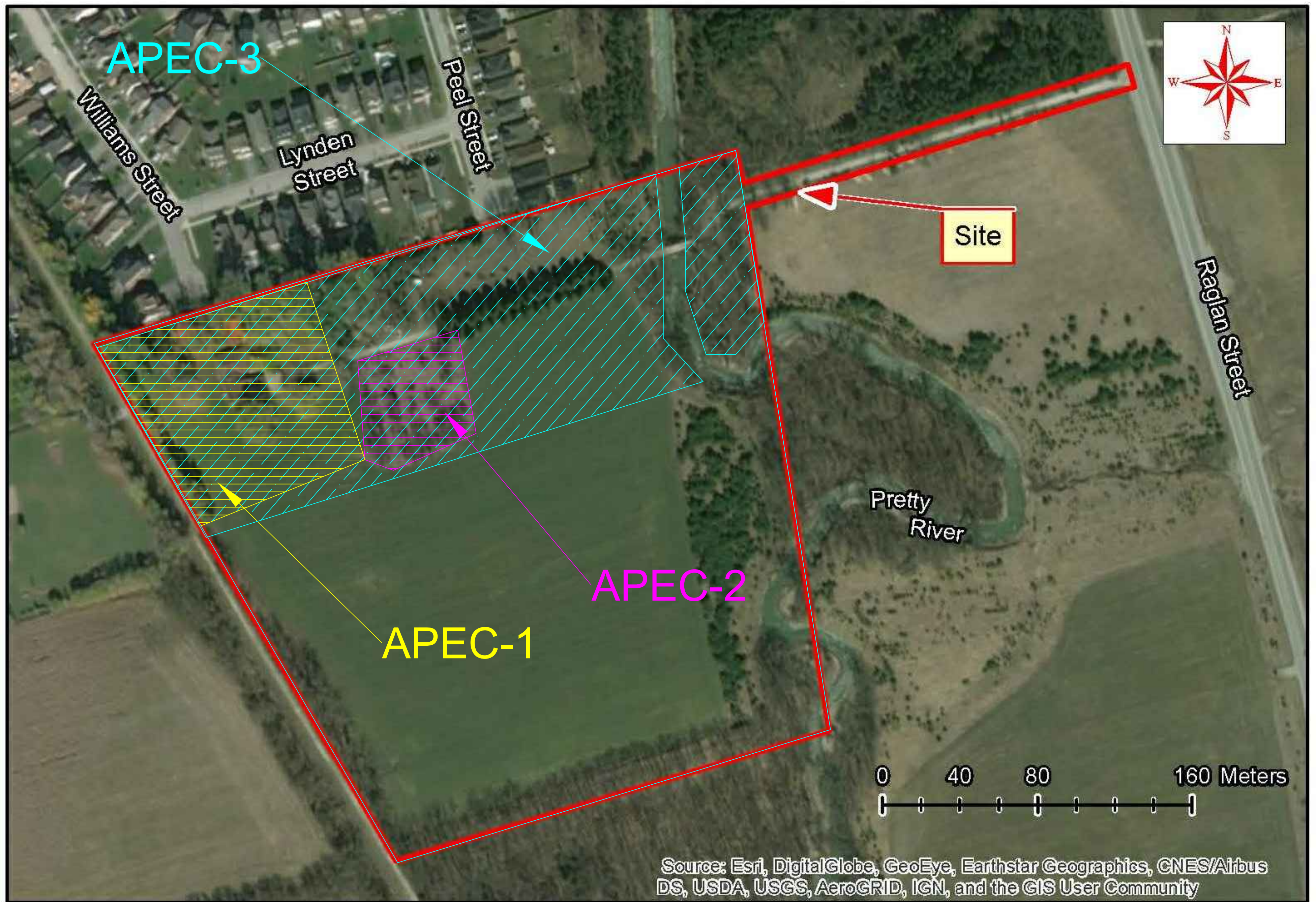
4688-17-EA

DATE :

December 2017

FIGURE NO :

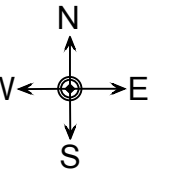
2



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Note: The Areas of Potential Environmental Concern (APECs) shown are for illustration purposes. These are approximate locations and do not represent the actual extent of any contamination.

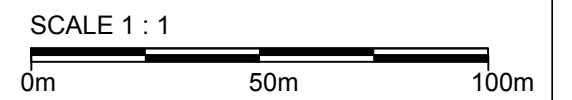
TITLE: APEC Locations		
LOCATION: 452 Raglan Street, Collingwood, Ontario		
PROJECT NO. 4688-17-EB	DATE : December 2017	FIGURE NO : 3



DAYSTAMP: M:\17 Projects\17-169 Raglan St Collingwood EIS\04.0 - Drafting\17-169.dwg

LEGEND :

-  Borehole / Monitoring Well Location (Geotechnical)
-  Monitoring Well Location (Environmental)



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GEO-ENVIRONMENTAL CONSULTANTS

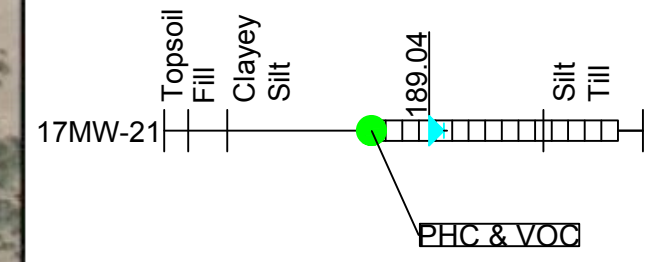
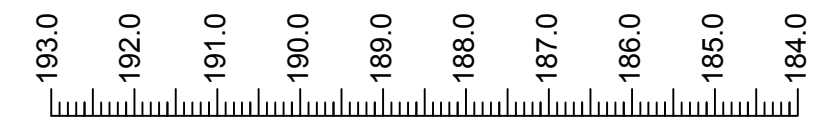
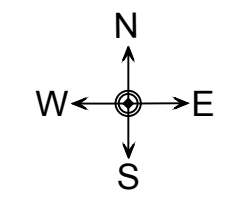
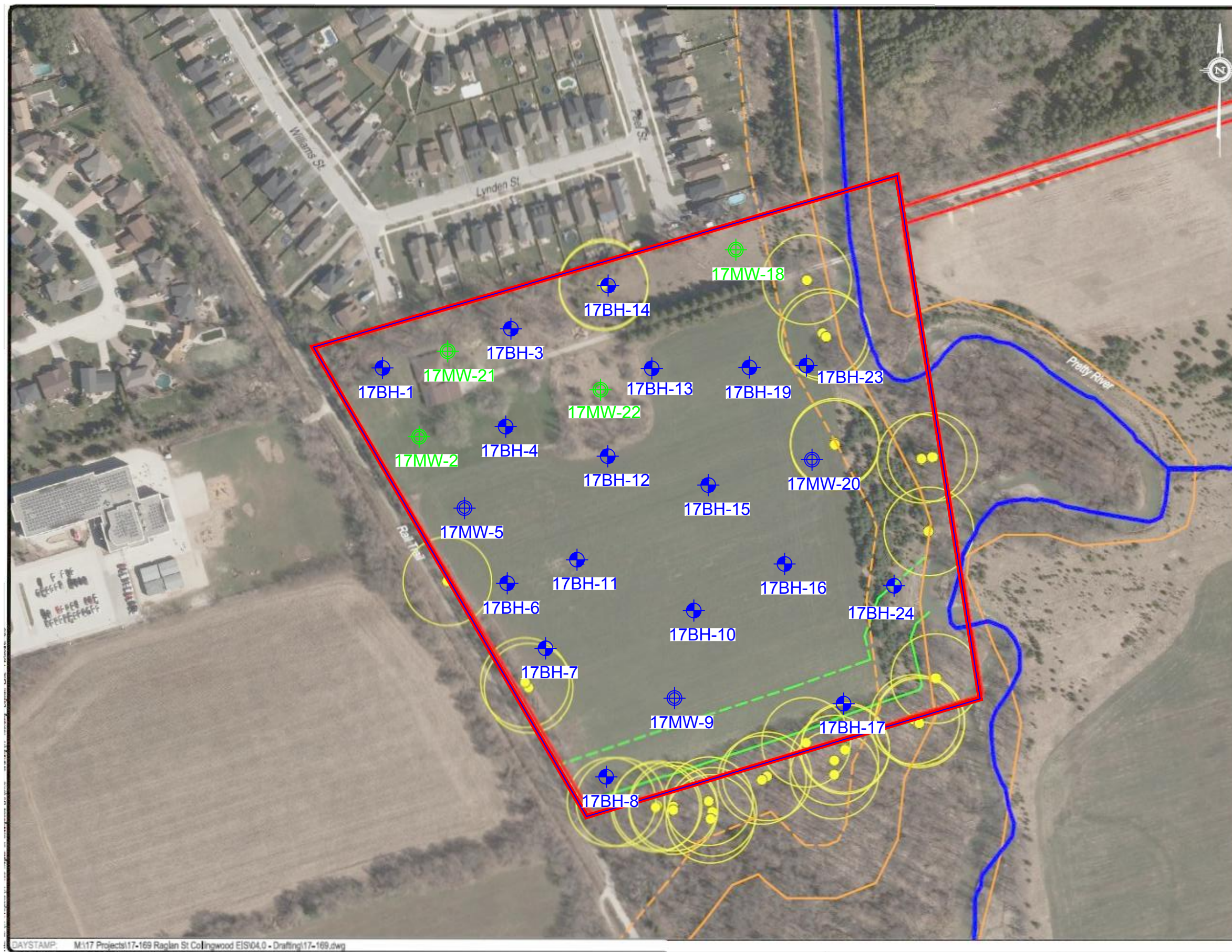
110 Konrad Crescent,
Unit 16
Markham, Ontario
L3R 9X2

Tel: 905-940 8509

Fax: 905-940 8192

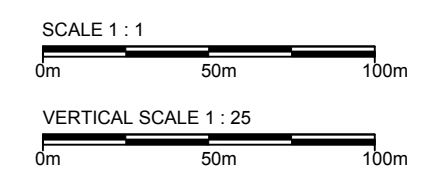
Email : til@torontoinspection.com

TITLE:		Borehole and Monitoring Well Location Plan	
LOCATION:		452 Raglan Street, Collingwood, Ontario	
PROJECT NO.	4688-17-EB	DATE :	January 2018
FIGURE NO.		4	



LEGEND :

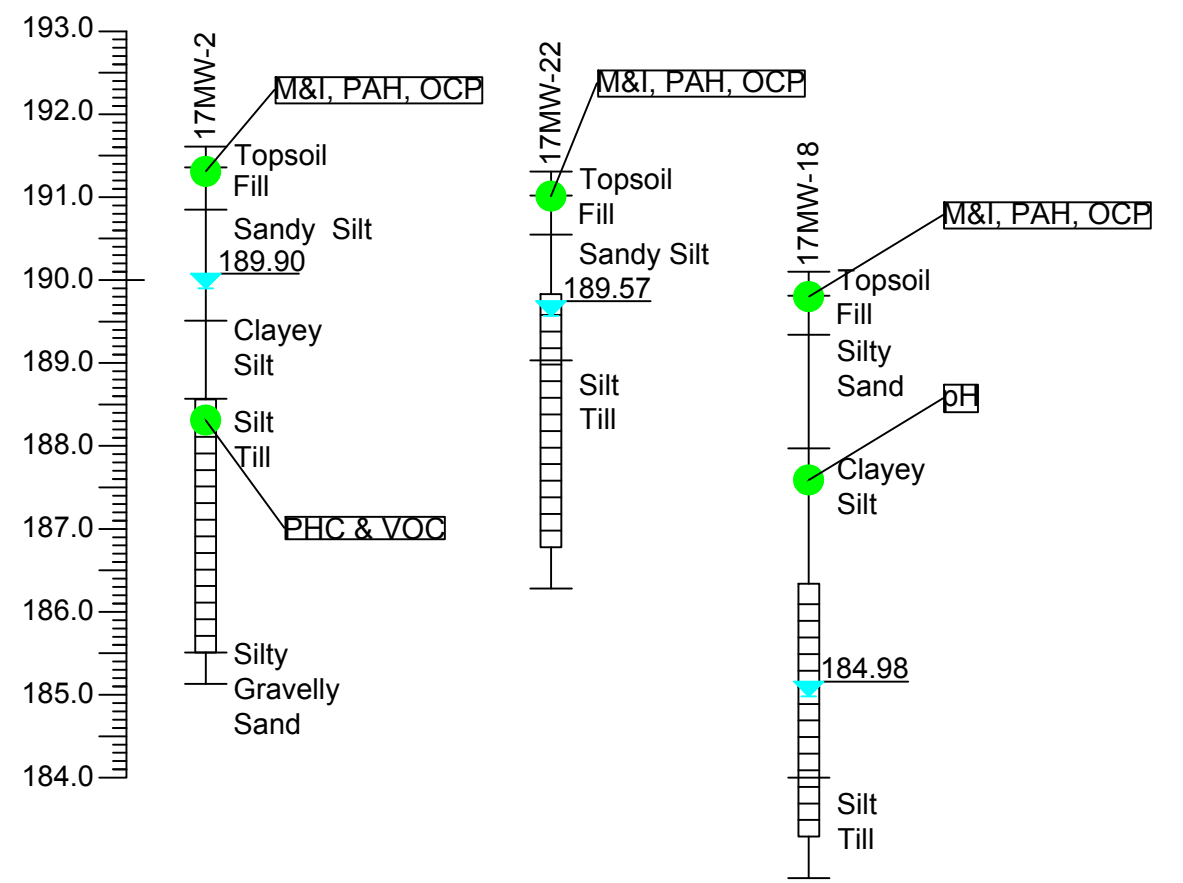
- Borehole / Monitoring Well Location (Geotechnical / Hydrogeological)
- Monitoring Well Location (Environmental)
- Indicates Sample Location meets Table 2 SCS Criteria
- Indicates Sample Location exceeds Table 2 SCS Criteria
- 189.57 Water Level and Elevation (November 29, 2017)
- Well Screen



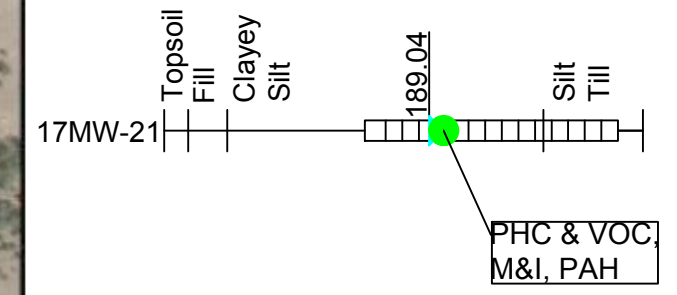
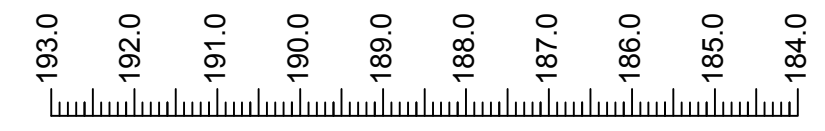
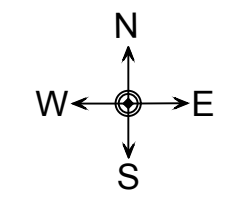
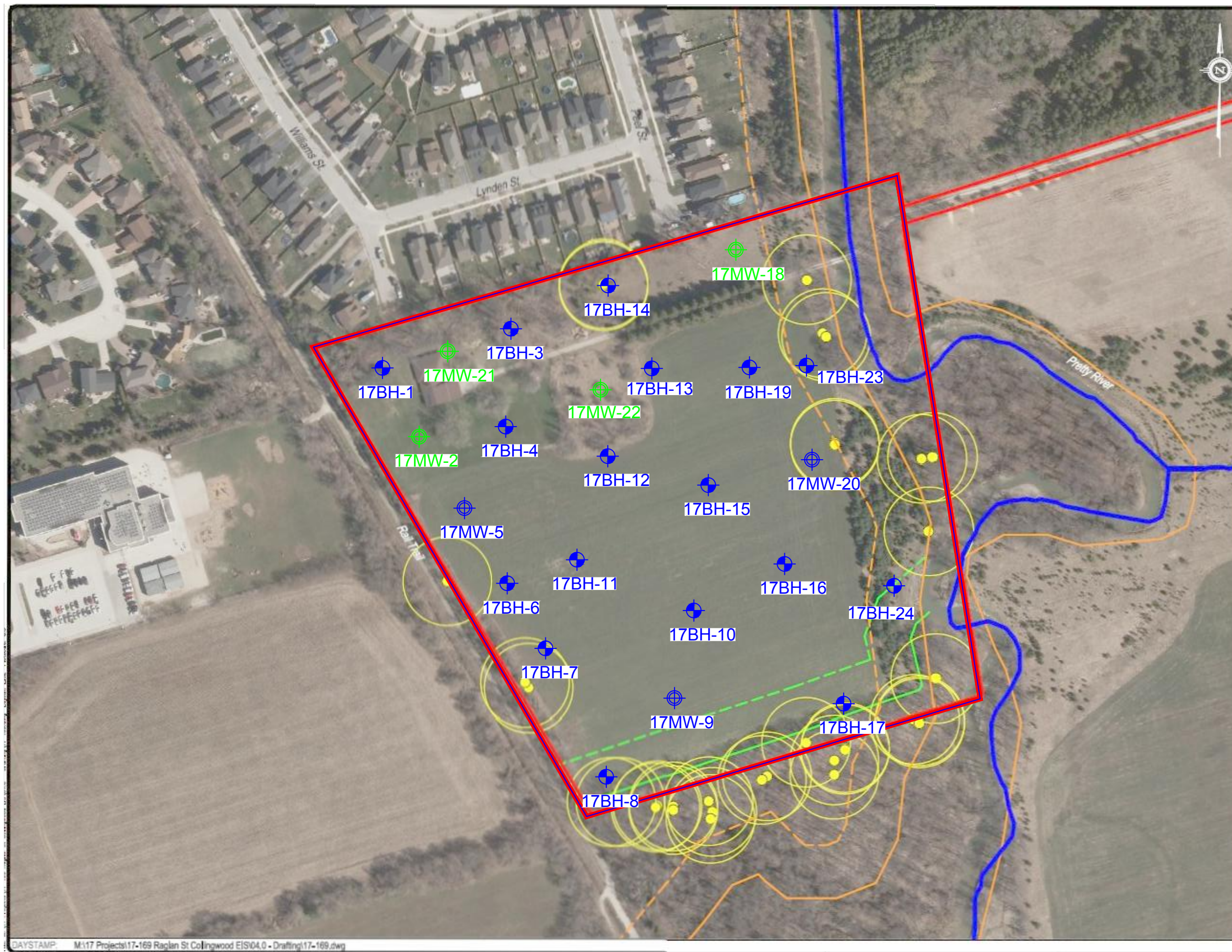
*MOECC Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (SCS) as listed in the "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the Environmental Protection Act", dated April 15, 2011 for Residential/Parkland/Institutional property uses, with Medium to fine textured soils.

*MOECC Table 8 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (SCS) as listed in the "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the Environmental Protection Act", dated April 15, 2011 for Residential/Parkland/Industrial/Commercial/Community property uses, All textured soils.

PHC: Petroleum Hydrocarbon
 VOC: Volatile Organics Compound
 PAH: Polycyclic Aromatic Hydrocarbon
 M&I: Metals and Inorganics
 OCP: OC Pesticides

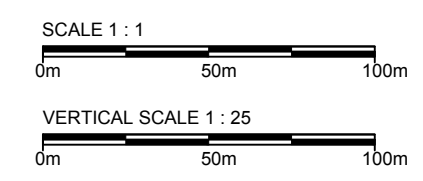


TITLE: Soil Analysis with Cross Sections	
LOCATION: 452 Raglan Street, Collingwood, Ontario	
PROJECT NO. 4688-17-EB	DATE : January 2018
	FIGURE NO. 5



LEGEND :

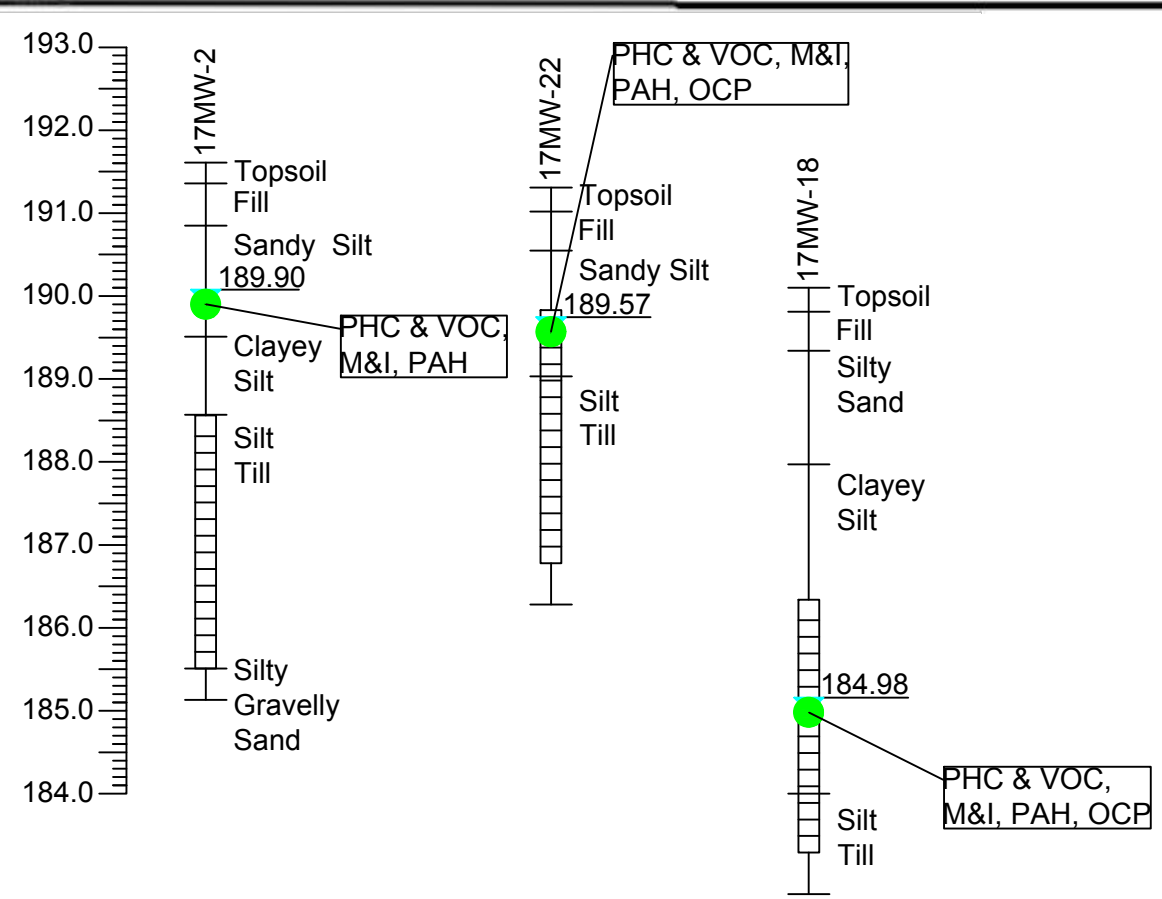
- Borehole / Monitoring Well Location (Geotechnical / Hydrogeological)
- Monitoring Well Location (Environmental)
- Indicates Sample Location meets Table 2 SCS Criteria
- Indicates Sample Location exceeds Table 2 SCS Criteria
- 189.57 Water Level and Elevation (November 29, 2017)
- Well Screen



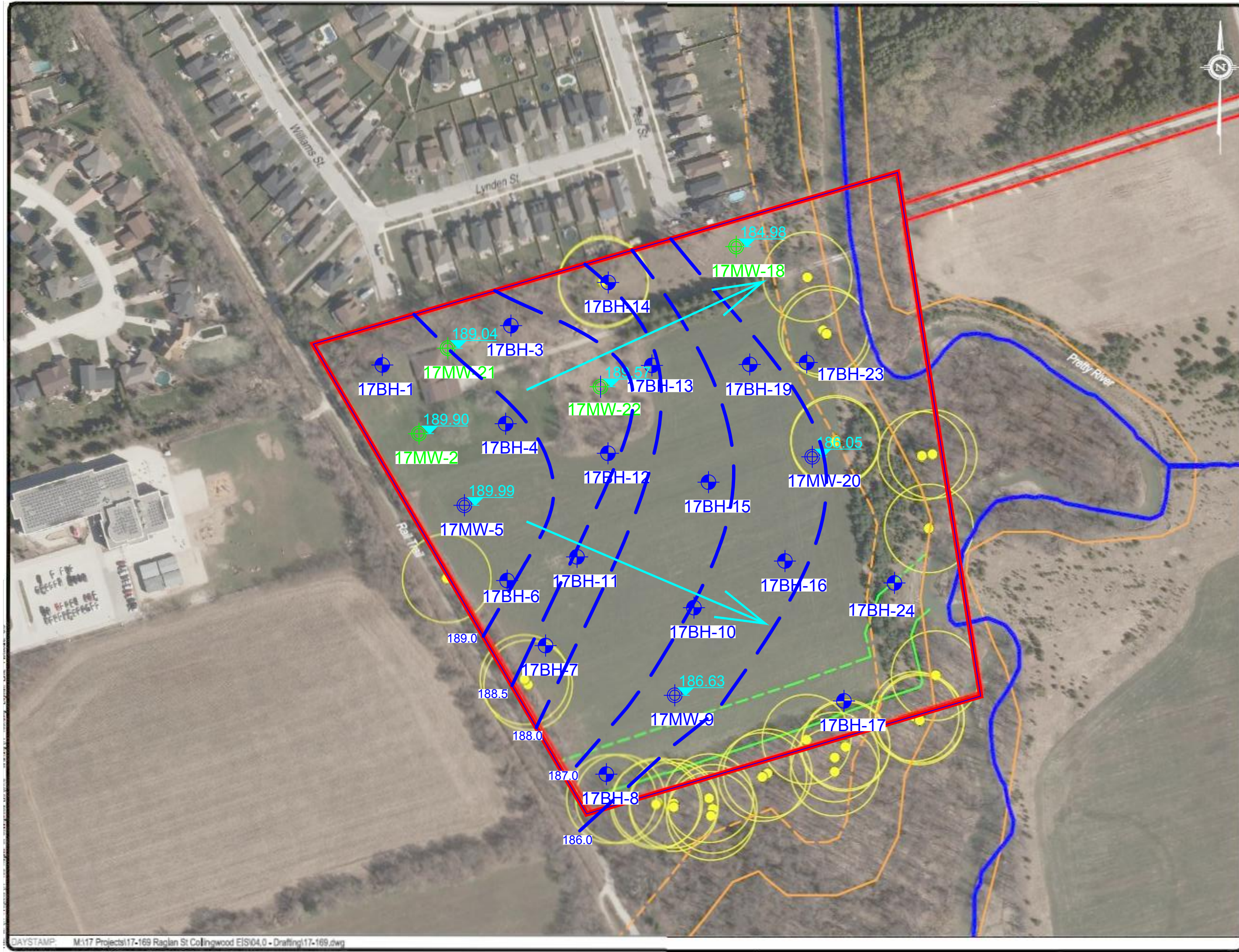
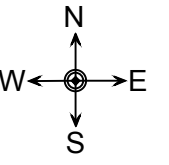
*MOECC Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (SCS) as listed in the "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the Environmental Protection Act", dated April 15, 2011 for All types of property uses, with Medium to fine textured soils.

*MOECC Table 8 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (SCS) as listed in the "Soil, Groundwater and Sediment Standards for use Under Part XV.1 of the Environmental Protection Act", dated April 15, 2011 for All types of property uses, with All textured soils.



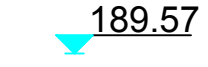

PHC: Petroleum Hydrocarbon
 VOC: Volatile Organics Compound
 PAH: Polycyclic Aromatic Hydrocarbon
 M&I: Metals and Inorganics
 OCP: OC Pesticides

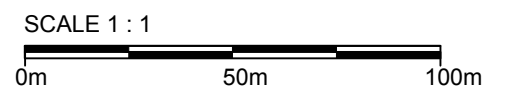


TITLE:		Groundwater Analysis with Cross Sections	
LOCATION:		452 Raglan Street, Collingwood, Ontario	
PROJECT NO.	4688-17-EB	DATE :	January 2018
		FIGURE NO.	6



LEGEND :

-  Borehole / Monitoring Well Location (Geotechnical / Hydrogeological)
-  Monitoring Well Location (Environmental)
-  Water Level and Elevation (November 29, 2017)
-  Groundwater Flow Direction



TITLE:		Groundwater Contour Plan	
LOCATION:		452 Raglan Street, Collingwood, Ontario	
PROJECT NO.	4688-17-EB	DATE :	January 2018
FIGURE NO.		7	

TABLES

Table 1 : Analytical Data – Soil

Table 2 : Analytical Data – Groundwater

Certificate of Analysis

Toronto Inspections

110 Konrad Cres, Unit 16
Markham, ON L3R 9X2
Attn: Janet Geng

Client PO:
Project: 4688
Custody:

Report Date: 5-Jan-2018
Order Date: 23-Nov-2017

Revised Report

Order #: 1747450

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
1747450-01	17 MW22 SS1
1747450-02	17 MW21 SS4
1747450-03	17 MW18 SS1
1747450-04	17 MW18 SS4
1747450-05	17 MW2 SS1
1747450-06	17 MW2 SS5
1747450-07	17 Dup AA
1747450-08	17 Dup BB

Approved By:



Dale Robertson, BSc
Laboratory Director

Certificate of Analysis
Client: Toronto Inspections
Client PO:

Report Date: 05-Jan-2018
 Order Date: 23-Nov-2017
Project Description: 4688

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Boron, available	MOE (HWE), EPA 200.7 - ICP-OES	29-Nov-17	29-Nov-17
Chromium, hexavalent - soil	MOE E3056 - Extraction, colourimetric	24-Nov-17	27-Nov-17
Conductivity	MOE E3138 - probe @25 °C, water ext	28-Nov-17	29-Nov-17
Cyanide, free	MOE E3015 - Auto Colour, water extraction	24-Nov-17	27-Nov-17
Mercury by CVAA	EPA 7471B - CVAA, digestion	29-Nov-17	29-Nov-17
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	27-Nov-17	27-Nov-17
PHC F1	CWS Tier 1 - P&T GC-FID	29-Nov-17	30-Nov-17
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	25-Nov-17	28-Nov-17
REG 153: Metals by ICP/OES, soil	based on MOE E3470, ICP-OES	28-Nov-17	28-Nov-17
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	26-Nov-17	27-Nov-17
REG 153: VOCs by P&T GC/MS	EPA 8260 - P&T GC-MS	29-Nov-17	30-Nov-17
SAR	Calculated	29-Nov-17	29-Nov-17
Solids, %	Gravimetric, calculation	27-Nov-17	28-Nov-17

Certificate of Analysis
 Client: Toronto Inspections
 Client PO:

Report Date: 05-Jan-2018
 Order Date: 23-Nov-2017
 Project Description: 4688

Client ID:	17 MW22 SS1	17 MW21 SS4	17 MW18 SS1	17 MW18 SS4
Sample Date:	19-Nov-17	19-Nov-17	19-Nov-17	19-Nov-17
Sample ID:	1747450-01	1747450-02	1747450-03	1747450-04
MDL/Units	Soil	Soil	Soil	Soil

Physical Characteristics

% Solids	0.1 % by Wt.	85.5	80.7	89.5	83.4
----------	--------------	------	------	------	------

General Inorganics

SAR	0.01 N/A	0.04	-	0.04	-
Conductivity	5 uS/cm	232	-	160	-
Cyanide, free	0.03 ug/g dry	<0.03	-	<0.03	-
pH	0.05 pH Units	7.87	-	7.78	7.95

Metals

Antimony	1.0 ug/g dry	<1.0	-	<1.0	-
Arsenic	1.0 ug/g dry	<1.0	-	<1.0	-
Barium	1.0 ug/g dry	14.5	-	13.0	-
Beryllium	1.0 ug/g dry	<1.0	-	<1.0	-
Boron	1.0 ug/g dry	3.3	-	4.8	-
Boron, available	0.5 ug/g dry	<0.5	-	<0.5	-
Cadmium	0.5 ug/g dry	<0.5	-	<0.5	-
Chromium	1.0 ug/g dry	6.3	-	7.1	-
Chromium (VI)	0.2 ug/g dry	<0.2	-	<0.2	-
Cobalt	1.0 ug/g dry	1.9	-	2.4	-
Copper	1.0 ug/g dry	4.3	-	6.2	-
Lead	1.0 ug/g dry	8.4	-	9.5	-
Mercury	0.1 ug/g dry	<0.1	-	<0.1	-
Molybdenum	1.0 ug/g dry	<1.0	-	<1.0	-
Nickel	1.0 ug/g dry	4.7	-	5.4	-
Selenium	1.0 ug/g dry	<1.0	-	<1.0	-
Silver	0.5 ug/g dry	<0.5	-	<0.5	-
Thallium	1.0 ug/g dry	<1.0	-	<1.0	-
Uranium	1.0 ug/g dry	<1.0	-	<1.0	-
Vanadium	1.0 ug/g dry	10.8	-	14.5	-
Zinc	1.0 ug/g dry	12.1	-	23.7	-

Volatiles

Acetone	0.50 ug/g dry	-	<0.50	-	<0.50
Benzene	0.02 ug/g dry	-	<0.02	-	<0.02
Bromodichloromethane	0.05 ug/g dry	-	<0.05	-	<0.05
Bromoform	0.05 ug/g dry	-	<0.05	-	<0.05
Bromomethane	0.05 ug/g dry	-	<0.05	-	<0.05
Carbon Tetrachloride	0.05 ug/g dry	-	<0.05	-	<0.05

Certificate of Analysis
 Client: Toronto Inspections
 Client PO:

Report Date: 05-Jan-2018
 Order Date: 23-Nov-2017
 Project Description: 4688

	Client ID: Sample Date: Sample ID:	17 MW22 SS1 19-Nov-17 1747450-01	17 MW21 SS4 19-Nov-17 1747450-02	17 MW18 SS1 19-Nov-17 1747450-03	17 MW18 SS4 19-Nov-17 1747450-04
	MDL/Units	Soil	Soil	Soil	Soil
Chlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
Chloroform	0.05 ug/g dry	-	<0.05	-	<0.05
Dibromochloromethane	0.05 ug/g dry	-	<0.05	-	<0.05
Dichlorodifluoromethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,2-Dichlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
1,3-Dichlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
1,4-Dichlorobenzene	0.05 ug/g dry	-	<0.05	-	<0.05
1,1-Dichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,2-Dichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,1-Dichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
cis-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
trans-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
1,2-Dichloropropane	0.05 ug/g dry	-	<0.05	-	<0.05
cis-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	-	<0.05
trans-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	-	<0.05
1,3-Dichloropropene, total	0.05 ug/g dry	-	<0.05	-	<0.05
Ethylbenzene	0.05 ug/g dry	-	<0.05	-	<0.05
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	-	<0.05	-	<0.05
Hexane	0.05 ug/g dry	-	<0.05	-	<0.05
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	-	<0.50	-	<0.50
Methyl Isobutyl Ketone	0.50 ug/g dry	-	<0.50	-	<0.50
Methyl tert-butyl ether	0.05 ug/g dry	-	<0.05	-	<0.05
Methylene Chloride	0.05 ug/g dry	-	<0.05	-	<0.05
Styrene	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,1,2,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
Tetrachloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
Toluene	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,1-Trichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
1,1,2-Trichloroethane	0.05 ug/g dry	-	<0.05	-	<0.05
Trichloroethylene	0.05 ug/g dry	-	<0.05	-	<0.05
Trichlorofluoromethane	0.05 ug/g dry	-	<0.05	-	<0.05
Vinyl chloride	0.02 ug/g dry	-	<0.02	-	<0.02
m,p-Xylenes	0.05 ug/g dry	-	<0.05	-	<0.05
o-Xylene	0.05 ug/g dry	-	<0.05	-	<0.05
Xylenes, total	0.05 ug/g dry	-	<0.05	-	<0.05

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	Client ID:	17 MW22 SS1	17 MW21 SS4	17 MW18 SS1	17 MW18 SS4
	Sample Date:	19-Nov-17	19-Nov-17	19-Nov-17	19-Nov-17
	Sample ID:	1747450-01	1747450-02	1747450-03	1747450-04
	MDL/Units	Soil	Soil	Soil	Soil
4-Bromofluorobenzene	Surrogate	-	104%	-	105%
Dibromofluoromethane	Surrogate	-	102%	-	94.5%
Toluene-d8	Surrogate	-	104%	-	105%

Hydrocarbons

F1 PHCs (C6-C10)	7 ug/g dry	-	<7	-	<7
F2 PHCs (C10-C16)	4 ug/g dry	-	<4	-	<4
F3 PHCs (C16-C34)	8 ug/g dry	-	<8	-	<8
F4 PHCs (C34-C50)	6 ug/g dry	-	<6	-	<6

Semi-Volatiles

Acenaphthene	0.02 ug/g dry	<0.02	-	<0.02	-
Acenaphthylene	0.02 ug/g dry	<0.02	-	<0.02	-
Anthracene	0.02 ug/g dry	<0.02	-	<0.02	-
Benzo [a] anthracene	0.02 ug/g dry	<0.02	-	<0.02	-
Benzo [a] pyrene	0.02 ug/g dry	<0.02	-	<0.02	-
Benzo [b] fluoranthene	0.02 ug/g dry	<0.02	-	<0.02	-
Benzo [g,h,i] perylene	0.02 ug/g dry	<0.02	-	<0.02	-
Benzo [k] fluoranthene	0.02 ug/g dry	<0.02	-	<0.02	-
Chrysene	0.02 ug/g dry	<0.02	-	<0.02	-
Dibenzo [a,h] anthracene	0.02 ug/g dry	<0.02	-	<0.02	-
Fluoranthene	0.02 ug/g dry	<0.02	-	<0.02	-
Fluorene	0.02 ug/g dry	<0.02	-	<0.02	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	<0.02	-	<0.02	-
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	<0.02	-
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	<0.02	-
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	<0.04	-
Naphthalene	0.01 ug/g dry	<0.01	-	<0.01	-
Phenanthrene	0.02 ug/g dry	<0.02	-	<0.02	-
Pyrene	0.02 ug/g dry	<0.02	-	<0.02	-
2-Fluorobiphenyl	Surrogate	76.2%	-	103%	-
Terphenyl-d14	Surrogate	90.4%	-	101%	-

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Client ID:	17 MW2 SS1	17 MW2 SS5	17 Dup AA	17 Dup BB
Sample Date:	19-Nov-17	19-Nov-17	19-Nov-17	19-Nov-17
Sample ID:	1747450-05	1747450-06	1747450-07	1747450-08
MDL/Units	Soil	Soil	Soil	Soil

Physical Characteristics					
% Solids	0.1 % by Wt.	83.4	84.6	84.3	88.3

General Inorganics					
SAR	0.01 N/A	0.04	-	-	0.04
Conductivity	5 uS/cm	159	-	-	168
Cyanide, free	0.03 ug/g dry	<0.03	-	-	<0.03
pH	0.05 pH Units	7.76	-	-	7.79

Metals					
Antimony	1.0 ug/g dry	<1.0	-	-	<1.0
Arsenic	1.0 ug/g dry	<1.0	-	-	<1.0
Barium	1.0 ug/g dry	11.7	-	-	11.4
Beryllium	1.0 ug/g dry	<1.0	-	-	<1.0
Boron	1.0 ug/g dry	3.6	-	-	4.2
Boron, available	0.5 ug/g dry	<0.5	-	-	<0.5
Cadmium	0.5 ug/g dry	<0.5	-	-	<0.5
Chromium	1.0 ug/g dry	7.6	-	-	6.2
Chromium (VI)	0.2 ug/g dry	0.3	-	-	<0.2
Cobalt	1.0 ug/g dry	1.8	-	-	2.5
Copper	1.0 ug/g dry	4.2	-	-	5.5
Lead	1.0 ug/g dry	5.0	-	-	7.6
Mercury	0.1 ug/g dry	<0.1	-	-	<0.1
Molybdenum	1.0 ug/g dry	<1.0	-	-	<1.0
Nickel	1.0 ug/g dry	5.0	-	-	4.9
Selenium	1.0 ug/g dry	<1.0	-	-	<1.0
Silver	0.5 ug/g dry	<0.5	-	-	<0.5
Thallium	1.0 ug/g dry	<1.0	-	-	<1.0
Uranium	1.0 ug/g dry	<1.0	-	-	<1.0
Vanadium	1.0 ug/g dry	11.5	-	-	11.9
Zinc	1.0 ug/g dry	15.4	-	-	20.9

Volatiles					
Acetone	0.50 ug/g dry	-	<0.50	<0.50	-
Benzene	0.02 ug/g dry	-	<0.02	<0.02	-
Bromodichloromethane	0.05 ug/g dry	-	<0.05	<0.05	-
Bromoform	0.05 ug/g dry	-	<0.05	<0.05	-
Bromomethane	0.05 ug/g dry	-	<0.05	<0.05	-
Carbon Tetrachloride	0.05 ug/g dry	-	<0.05	<0.05	-

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	MDL/Units	Client ID: Sample Date: Sample ID: 17 MW2 SS1 19-Nov-17 1747450-05 Soil	17 MW2 SS5 19-Nov-17 1747450-06 Soil	17 Dup AA 19-Nov-17 1747450-07 Soil	17 Dup BB 19-Nov-17 1747450-08 Soil
Chlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
Chloroform	0.05 ug/g dry	-	<0.05	<0.05	-
Dibromochloromethane	0.05 ug/g dry	-	<0.05	<0.05	-
Dichlorodifluoromethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,3-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,4-Dichlorobenzene	0.05 ug/g dry	-	<0.05	<0.05	-
1,1-Dichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,1-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
cis-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
trans-1,2-Dichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
1,2-Dichloropropane	0.05 ug/g dry	-	<0.05	<0.05	-
cis-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	<0.05	-
trans-1,3-Dichloropropylene	0.05 ug/g dry	-	<0.05	<0.05	-
1,3-Dichloropropene, total	0.05 ug/g dry	-	<0.05	<0.05	-
Ethylbenzene	0.05 ug/g dry	-	<0.05	<0.05	-
Ethylene dibromide (dibromoethane, 1	0.05 ug/g dry	-	<0.05	<0.05	-
Hexane	0.05 ug/g dry	-	<0.05	<0.05	-
Methyl Ethyl Ketone (2-Butanone)	0.50 ug/g dry	-	<0.50	<0.50	-
Methyl Isobutyl Ketone	0.50 ug/g dry	-	<0.50	<0.50	-
Methyl tert-butyl ether	0.05 ug/g dry	-	<0.05	<0.05	-
Methylene Chloride	0.05 ug/g dry	-	<0.05	<0.05	-
Styrene	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,1,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,1,2,2-Tetrachloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
Tetrachloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
Toluene	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,1-Trichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
1,1,2-Trichloroethane	0.05 ug/g dry	-	<0.05	<0.05	-
Trichloroethylene	0.05 ug/g dry	-	<0.05	<0.05	-
Trichlorofluoromethane	0.05 ug/g dry	-	<0.05	<0.05	-
Vinyl chloride	0.02 ug/g dry	-	<0.02	<0.02	-
m,p-Xylenes	0.05 ug/g dry	-	<0.05	<0.05	-
o-Xylene	0.05 ug/g dry	-	<0.05	<0.05	-

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	Client ID:	17 MW2 SS1	17 MW2 SS5	17 Dup AA	17 Dup BB
	Sample Date:	19-Nov-17	19-Nov-17	19-Nov-17	19-Nov-17
	Sample ID:	1747450-05	1747450-06	1747450-07	1747450-08
	MDL/Units	Soil	Soil	Soil	Soil
Xylenes, total	0.05 ug/g dry	-	<0.05	<0.05	-
4-Bromofluorobenzene	Surrogate	-	105%	104%	-
Dibromofluoromethane	Surrogate	-	101%	108%	-
Toluene-d8	Surrogate	-	105%	105%	-

Hydrocarbons

F1 PHCs (C6-C10)	7 ug/g dry	-	<7	<7	-
F2 PHCs (C10-C16)	4 ug/g dry	-	<4	<4	-
F3 PHCs (C16-C34)	8 ug/g dry	-	<8	<8	-
F4 PHCs (C34-C50)	6 ug/g dry	-	<6	<6	-

Semi-Volatiles

Acenaphthene	0.02 ug/g dry	<0.02	-	-	<0.02
Acenaphthylene	0.02 ug/g dry	<0.02	-	-	<0.02
Anthracene	0.02 ug/g dry	<0.02	-	-	<0.02
Benzo [a] anthracene	0.02 ug/g dry	<0.02	-	-	<0.02
Benzo [a] pyrene	0.02 ug/g dry	<0.02	-	-	<0.02
Benzo [b] fluoranthene	0.02 ug/g dry	<0.02	-	-	<0.02
Benzo [g,h,i] perylene	0.02 ug/g dry	<0.02	-	-	<0.02
Benzo [k] fluoranthene	0.02 ug/g dry	<0.02	-	-	<0.02
Chrysene	0.02 ug/g dry	<0.02	-	-	<0.02
Dibenzo [a,h] anthracene	0.02 ug/g dry	<0.02	-	-	<0.02
Fluoranthene	0.02 ug/g dry	<0.02	-	-	<0.02
Fluorene	0.02 ug/g dry	<0.02	-	-	<0.02
Indeno [1,2,3-cd] pyrene	0.02 ug/g dry	<0.02	-	-	<0.02
1-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	<0.02
2-Methylnaphthalene	0.02 ug/g dry	<0.02	-	-	<0.02
Methylnaphthalene (1&2)	0.04 ug/g dry	<0.04	-	-	<0.04
Naphthalene	0.01 ug/g dry	<0.01	-	-	<0.01
Phenanthrene	0.02 ug/g dry	<0.02	-	-	<0.02
Pyrene	0.02 ug/g dry	<0.02	-	-	<0.02
2-Fluorobiphenyl	Surrogate	64.0%	-	-	94.0%
Terphenyl-d14	Surrogate	75.2%	-	-	84.1%

Certificate of Analysis
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Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Conductivity	ND	5	uS/cm						
Cyanide, free	ND	0.03	ug/g						
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g						
F2 PHCs (C10-C16)	ND	4	ug/g						
F3 PHCs (C16-C34)	ND	8	ug/g						
F4 PHCs (C34-C50)	ND	6	ug/g						
Metals									
Antimony	ND	1.0	ug/g						
Arsenic	ND	1.0	ug/g						
Barium	ND	1.0	ug/g						
Beryllium	ND	1.0	ug/g						
Boron, available	ND	0.5	ug/g						
Boron	ND	1.0	ug/g						
Cadmium	ND	0.5	ug/g						
Chromium (VI)	ND	0.2	ug/g						
Chromium	ND	1.0	ug/g						
Cobalt	ND	1.0	ug/g						
Copper	ND	1.0	ug/g						
Lead	ND	1.0	ug/g						
Mercury	ND	0.1	ug/g						
Molybdenum	ND	1.0	ug/g						
Nickel	ND	1.0	ug/g						
Selenium	ND	1.0	ug/g						
Silver	ND	0.5	ug/g						
Thallium	ND	1.0	ug/g						
Uranium	ND	1.0	ug/g						
Vanadium	ND	1.0	ug/g						
Zinc	ND	1.0	ug/g						
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g						
Acenaphthylene	ND	0.02	ug/g						
Anthracene	ND	0.02	ug/g						
Benzo [a] anthracene	ND	0.02	ug/g						
Benzo [a] pyrene	ND	0.02	ug/g						
Benzo [b] fluoranthene	ND	0.02	ug/g						
Benzo [g,h,i] perylene	ND	0.02	ug/g						
Benzo [k] fluoranthene	ND	0.02	ug/g						
Chrysene	ND	0.02	ug/g						
Dibenzo [a,h] anthracene	ND	0.02	ug/g						
Fluoranthene	ND	0.02	ug/g						
Fluorene	ND	0.02	ug/g						
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g						
1-Methylnaphthalene	ND	0.02	ug/g						
2-Methylnaphthalene	ND	0.02	ug/g						
Methylnaphthalene (1&2)	ND	0.04	ug/g						
Naphthalene	ND	0.01	ug/g						
Phenanthrene	ND	0.02	ug/g						
Pyrene	ND	0.02	ug/g						
Surrogate: 2-Fluorobiphenyl	0.820		ug/g		61.5	50-140			
Surrogate: Terphenyl-d14	1.64		ug/g		123	50-140			
Volatiles									
Acetone	ND	0.50	ug/g						
Benzene	ND	0.02	ug/g						
Bromodichloromethane	ND	0.05	ug/g						
Bromoform	ND	0.05	ug/g						
Bromomethane	ND	0.05	ug/g						

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Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Carbon Tetrachloride	ND	0.05	ug/g						
Chlorobenzene	ND	0.05	ug/g						
Chloroform	ND	0.05	ug/g						
Dibromochloromethane	ND	0.05	ug/g						
Dichlorodifluoromethane	ND	0.05	ug/g						
1,2-Dichlorobenzene	ND	0.05	ug/g						
1,3-Dichlorobenzene	ND	0.05	ug/g						
1,4-Dichlorobenzene	ND	0.05	ug/g						
1,1-Dichloroethane	ND	0.05	ug/g						
1,2-Dichloroethane	ND	0.05	ug/g						
1,1-Dichloroethylene	ND	0.05	ug/g						
cis-1,2-Dichloroethylene	ND	0.05	ug/g						
trans-1,2-Dichloroethylene	ND	0.05	ug/g						
1,2-Dichloropropane	ND	0.05	ug/g						
cis-1,3-Dichloropropylene	ND	0.05	ug/g						
trans-1,3-Dichloropropylene	ND	0.05	ug/g						
1,3-Dichloropropene, total	ND	0.05	ug/g						
Ethylbenzene	ND	0.05	ug/g						
Ethylene dibromide (dibromoethane, 1,2)	ND	0.05	ug/g						
Hexane	ND	0.05	ug/g						
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g						
Methyl Isobutyl Ketone	ND	0.50	ug/g						
Methyl tert-butyl ether	ND	0.05	ug/g						
Methylene Chloride	ND	0.05	ug/g						
Styrene	ND	0.05	ug/g						
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g						
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g						
Tetrachloroethylene	ND	0.05	ug/g						
Toluene	ND	0.05	ug/g						
1,1,1-Trichloroethane	ND	0.05	ug/g						
1,1,2-Trichloroethane	ND	0.05	ug/g						
Trichloroethylene	ND	0.05	ug/g						
Trichlorofluoromethane	ND	0.05	ug/g						
Vinyl chloride	ND	0.02	ug/g						
m,p-Xylenes	ND	0.05	ug/g						
o-Xylene	ND	0.05	ug/g						
Xylenes, total	ND	0.05	ug/g						
Surrogate: 4-Bromofluorobenzene	9.21		ug/g		115	50-140			
Surrogate: Dibromofluoromethane	8.75		ug/g		109	50-140			
Surrogate: Toluene-d8	8.31		ug/g		104	50-140			

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Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
SAR	10.3	0.01	N/A	10.5			1.9	200	
Conductivity	425	5	uS/cm	420			1.1	6.2	
Cyanide, free	ND	0.03	ug/g dry	ND				35	
pH	7.93	0.05	pH Units	7.90			0.4	10	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g dry	ND				40	
F2 PHCs (C10-C16)	ND	4	ug/g dry	ND				30	
F3 PHCs (C16-C34)	ND	8	ug/g dry	ND				30	
F4 PHCs (C34-C50)	ND	6	ug/g dry	ND				30	
Metals									
Antimony	ND	1.0	ug/g dry	ND				30	
Arsenic	ND	1.0	ug/g dry	ND				30	
Barium	118	1.0	ug/g dry	122			3.8	30	
Beryllium	ND	1.0	ug/g dry	ND			0.0	30	
Boron, available	0.88	0.5	ug/g dry	0.72			19.7	35	
Boron	9.03	1.0	ug/g dry	9.30			3.0	30	
Cadmium	ND	0.5	ug/g dry	ND			0.0	30	
Chromium (VI)	ND	0.2	ug/g dry	ND				35	
Chromium	21.1	1.0	ug/g dry	22.1			4.9	30	
Cobalt	6.57	1.0	ug/g dry	7.06			7.2	30	
Copper	15.4	1.0	ug/g dry	16.3			5.8	30	
Lead	5.00	1.0	ug/g dry	6.03			18.6	30	
Mercury	ND	0.1	ug/g dry	ND			0.0	30	
Molybdenum	ND	1.0	ug/g dry	ND			0.0	30	
Nickel	12.9	1.0	ug/g dry	13.4			3.3	30	
Selenium	ND	1.0	ug/g dry	ND			0.0	30	
Silver	ND	0.5	ug/g dry	ND			0.0	30	
Thallium	ND	1.0	ug/g dry	ND			0.0	30	
Uranium	ND	1.0	ug/g dry	ND				30	
Vanadium	36.9	1.0	ug/g dry	38.7			4.6	30	
Zinc	32.6	1.0	ug/g dry	34.4			5.5	30	
Physical Characteristics									
% Solids	86.5	0.1	% by Wt.	86.4			0.1	25	
Semi-Volatiles									
Acenaphthene	0.087	0.02	ug/g dry	0.081			6.9	40	
Acenaphthylene	0.256	0.02	ug/g dry	0.267			4.3	40	
Anthracene	0.437	0.02	ug/g dry	0.370			16.6	40	
Benzo [a] anthracene	1.03	0.02	ug/g dry	0.858			18.5	40	
Benzo [a] pyrene	1.30	0.02	ug/g dry	1.20			7.8	40	
Benzo [b] fluoranthene	1.08	0.02	ug/g dry	1.19			10.3	40	
Benzo [g,h,i] perylene	1.31	0.02	ug/g dry	0.808			47.7	40	QR-04
Benzo [k] fluoranthene	0.548	0.02	ug/g dry	0.624			12.9	40	
Chrysene	1.40	0.02	ug/g dry	0.908			42.5	40	QR-04
Dibenzo [a,h] anthracene	0.259	0.02	ug/g dry	0.119			73.9	40	QR-04
Fluoranthene	2.42	0.02	ug/g dry	2.34			3.6	40	
Fluorene	0.112	0.02	ug/g dry	0.088			24.0	40	
Indeno [1,2,3-cd] pyrene	1.06	0.02	ug/g dry	0.471			77.3	40	QR-04
1-Methylnaphthalene	0.098	0.02	ug/g dry	0.191			64.5	40	QR-04
2-Methylnaphthalene	0.106	0.02	ug/g dry	0.193			57.9	40	QR-04
Naphthalene	0.093	0.01	ug/g dry	0.150			46.4	40	QR-04
Phenanthrene	1.47	0.02	ug/g dry	1.21			19.2	40	
Pyrene	2.15	0.02	ug/g dry	2.33			7.7	40	
Surrogate: 2-Fluorobiphenyl	1.60		ug/g dry		101	50-140			
Surrogate: Terphenyl-d14	1.64		ug/g dry		104	50-140			
Volatiles									
Acetone	ND	0.50	ug/g dry	ND				50	

Certificate of Analysis

Report Date: 05-Jan-2018

Client: Toronto Inspections

Order Date: 23-Nov-2017

Client PO:

Project Description: 4688

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	ND	0.02	ug/g dry	ND				50	
Bromodichloromethane	ND	0.05	ug/g dry	ND				50	
Bromoform	ND	0.05	ug/g dry	ND				50	
Bromomethane	ND	0.05	ug/g dry	ND				50	
Carbon Tetrachloride	ND	0.05	ug/g dry	ND				50	
Chlorobenzene	ND	0.05	ug/g dry	ND				50	
Chloroform	ND	0.05	ug/g dry	ND				50	
Dibromochloromethane	ND	0.05	ug/g dry	ND				50	
Dichlorodifluoromethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,3-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,4-Dichlorobenzene	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,2-Dichloroethane	ND	0.05	ug/g dry	ND				50	
1,1-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g dry	ND				50	
1,2-Dichloropropane	ND	0.05	ug/g dry	ND				50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g dry	ND				50	
Ethylbenzene	ND	0.05	ug/g dry	ND				50	
Ethylene dibromide (dibromoethane, 1,2-	ND	0.05	ug/g dry	ND				50	
Hexane	ND	0.05	ug/g dry	ND				50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g dry	ND				50	
Methyl Isobutyl Ketone	ND	0.50	ug/g dry	ND				50	
Methyl tert-butyl ether	ND	0.05	ug/g dry	ND				50	
Methylene Chloride	ND	0.05	ug/g dry	ND				50	
Styrene	ND	0.05	ug/g dry	ND				50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g dry	ND				50	
Tetrachloroethylene	ND	0.05	ug/g dry	ND				50	
Toluene	ND	0.05	ug/g dry	ND				50	
1,1,1-Trichloroethane	ND	0.05	ug/g dry	ND				50	
1,1,2-Trichloroethane	ND	0.05	ug/g dry	ND				50	
Trichloroethylene	ND	0.05	ug/g dry	ND				50	
Trichlorofluoromethane	ND	0.05	ug/g dry	ND				50	
Vinyl chloride	ND	0.02	ug/g dry	ND				50	
m,p-Xylenes	ND	0.05	ug/g dry	ND				50	
o-Xylene	ND	0.05	ug/g dry	ND				50	
Surrogate: 4-Bromofluorobenzene	9.61		ug/g dry		102	50-140			
Surrogate: Dibromofluoromethane	9.72		ug/g dry		103	50-140			
Surrogate: Toluene-d8	9.55		ug/g dry		102	50-140			

Certificate of Analysis
 Client: Toronto Inspections
 Client PO:

Report Date: 05-Jan-2018
 Order Date: 23-Nov-2017
 Project Description: 4688

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	0.176	0.03	ug/g	ND	56.7	70-130			QM-07
Hydrocarbons									
F1 PHCs (C6-C10)	192	7	ug/g		96.0	80-120			
F2 PHCs (C10-C16)	107	4	ug/g	ND	95.8	60-140			
F3 PHCs (C16-C34)	262	8	ug/g	ND	113	60-140			
F4 PHCs (C34-C50)	185	6	ug/g	ND	121	60-140			
Metals									
Antimony	270		ug/L	ND	108	70-130			
Arsenic	310		ug/L	ND	124	70-130			
Barium	253		ug/L		101	70-130			
Beryllium	228		ug/L	ND	91.4	70-130			
Boron, available	4.13	0.5	ug/g	0.72	68.1	70-122			QM-07
Boron	414		ug/L	186	91.3	70-130			
Cadmium	220		ug/L	ND	87.9	70-130			
Chromium (VI)	3.9	0.2	ug/g		77.5	70-130			
Chromium	636		ug/L	442	77.6	70-130			
Cobalt	340		ug/L	141	79.6	70-130			
Copper	561		ug/L	326	93.8	70-130			
Lead	318		ug/L	121	78.9	70-130			
Mercury	1.58	0.1	ug/g	ND	105	70-130			
Molybdenum	221		ug/L	15.4	82.3	70-130			
Nickel	469		ug/L	267	80.8	70-130			
Selenium	233		ug/L		93.2	70-130			
Silver	213		ug/L	ND	85.1	70-130			
Thallium	203		ug/L	ND	81.0	70-130			
Uranium	288		ug/L	ND	115	70-130			
Vanadium	978		ug/L	774	81.6	70-130			
Zinc	864		ug/L	689	70.2	70-130			
Semi-Volatiles									
Acenaphthene	0.176	0.02	ug/g		105	50-140			
Acenaphthylene	0.105	0.02	ug/g		63.0	50-140			
Anthracene	0.100	0.02	ug/g		59.7	50-140			
Benzo [a] anthracene	0.102	0.02	ug/g		61.4	50-140			
Benzo [a] pyrene	0.158	0.02	ug/g		94.8	50-140			
Benzo [b] fluoranthene	0.102	0.02	ug/g		61.3	50-140			
Benzo [g,h,i] perylene	0.127	0.02	ug/g		76.0	50-140			
Benzo [k] fluoranthene	0.097	0.02	ug/g		58.0	50-140			
Chrysene	0.173	0.02	ug/g		104	50-140			
Dibenzo [a,h] anthracene	0.092	0.02	ug/g		55.4	50-140			
Fluoranthene	0.133	0.02	ug/g		79.9	50-140			
Fluorene	0.128	0.02	ug/g		76.7	50-140			
Indeno [1,2,3-cd] pyrene	0.093	0.02	ug/g		55.5	50-140			
1-Methylnaphthalene	0.174	0.02	ug/g		105	50-140			
2-Methylnaphthalene	0.172	0.02	ug/g		103	50-140			
Naphthalene	0.157	0.01	ug/g		94.1	50-140			
Phenanthrene	0.162	0.02	ug/g		97.4	50-140			
Pyrene	0.135	0.02	ug/g		81.2	50-140			
Surrogate: 2-Fluorobiphenyl	1.31		ug/g		98.5	50-140			
Volatiles									
Acetone	6.59	0.50	ug/g		65.9	50-140			

Certificate of Analysis
 Client: Toronto Inspections
 Client PO:

Report Date: 05-Jan-2018
 Order Date: 23-Nov-2017
 Project Description: 4688

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	3.33	0.02	ug/g		83.3	60-130			
Bromodichloromethane	3.94	0.05	ug/g		98.6	60-130			
Bromoform	4.82	0.05	ug/g		120	60-130			
Bromomethane	3.97	0.05	ug/g		99.1	50-140			
Carbon Tetrachloride	3.89	0.05	ug/g		97.1	60-130			
Chlorobenzene	4.04	0.05	ug/g		101	60-130			
Chloroform	4.00	0.05	ug/g		100	60-130			
Dibromochloromethane	4.61	0.05	ug/g		115	60-130			
Dichlorodifluoromethane	3.64	0.05	ug/g		90.9	50-140			
1,2-Dichlorobenzene	3.64	0.05	ug/g		91.0	60-130			
1,3-Dichlorobenzene	4.38	0.05	ug/g		110	60-130			
1,4-Dichlorobenzene	4.26	0.05	ug/g		107	60-130			
1,1-Dichloroethane	3.68	0.05	ug/g		92.0	60-130			
1,2-Dichloroethane	4.15	0.05	ug/g		104	60-130			
1,1-Dichloroethylene	4.23	0.05	ug/g		106	60-130			
cis-1,2-Dichloroethylene	3.76	0.05	ug/g		94.0	60-130			
trans-1,2-Dichloroethylene	3.15	0.05	ug/g		78.7	60-130			
1,2-Dichloropropane	2.66	0.05	ug/g		66.5	60-130			
cis-1,3-Dichloropropylene	3.41	0.05	ug/g		85.2	60-130			
trans-1,3-Dichloropropylene	3.31	0.05	ug/g		82.8	60-130			
Ethylbenzene	3.51	0.05	ug/g		87.6	60-130			
Ethylene dibromide (dibromoethane, 1,2-	3.89	0.05	ug/g		97.4	60-130			
Hexane	4.37	0.05	ug/g		109	60-130			
Methyl Ethyl Ketone (2-Butanone)	7.02	0.50	ug/g		70.2	50-140			
Methyl Isobutyl Ketone	6.27	0.50	ug/g		62.7	50-140			
Methyl tert-butyl ether	9.70	0.05	ug/g		97.0	50-140			
Methylene Chloride	3.40	0.05	ug/g		85.0	60-130			
Styrene	3.57	0.05	ug/g		89.3	60-130			
1,1,1,2-Tetrachloroethane	4.67	0.05	ug/g		117	60-130			
1,1,2,2-Tetrachloroethane	3.96	0.05	ug/g		99.0	60-130			
Tetrachloroethylene	4.22	0.05	ug/g		106	60-130			
Toluene	3.19	0.05	ug/g		79.8	60-130			
1,1,1-Trichloroethane	3.62	0.05	ug/g		90.6	60-130			
1,1,2-Trichloroethane	3.27	0.05	ug/g		81.9	60-130			
Trichloroethylene	3.46	0.05	ug/g		86.4	60-130			
Trichlorofluoromethane	3.27	0.05	ug/g		81.6	50-140			
Vinyl chloride	3.25	0.02	ug/g		81.2	50-140			
m,p-Xylenes	7.48	0.05	ug/g		93.5	60-130			
o-Xylene	3.87	0.05	ug/g		96.7	60-130			

Certificate of Analysis
Client: Toronto Inspections
Client PO:

Report Date: 05-Jan-2018
Order Date: 23-Nov-2017
Project Description: 4688

Qualifier Notes:

QC Qualifiers :

- QM-07 : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.
- QR-04 : Duplicate results exceeds RPD limits due to non-homogeneous matrix.

Sample Data Revisions

None

Work Order Revisions / Comments:

REVISION-1: This report includes an updated sample ID, as per COC.

Other Report Notes:

- n/a: not applicable
- ND: Not Detected
- MDL: Method Detection Limit
- Source Result: Data used as source for matrix and duplicate samples
- %REC: Percent recovery.
- RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

Subcontracted Analysis

Toronto Inspections

110 Konrad Cres, Unit 16
Markham, ON L3R 9X2

Attn: Janet Geng

Tel: (905) 940-8509

Fax: (905) 940-8192

Paracel Report No **1747450**

Client Project(s): **4688**

Client PO:

Reference: **#17-156 TIL - 2017 Standing Offer - Environmental**

Order Date: 23-Nov-17

Report Date: 30-Nov-17

CoC Number:

Sample(s) from this project were subcontracted for the listed parameters. A copy of the subcontractor's report is attached

Paracel ID	Client ID	Analysis
1747450-01	17 MW22 SS1	Pesticides - Organochlorine in soil
1747450-03	17 MW18 SS1	Pesticides - Organochlorine in soil
1747450-05	17 MW2 SS1	Pesticides - Organochlorine in soil



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client: Dale Robertson
Company: Paracel Laboratories Ltd.- Ottawa
Address: 300-2319 St. Laurent Blvd.
Ottawa, ON, K1G 4J8
Phone/Fax: (613) 731-9577 / (613) 731-9064
Email: drobertson@paracellabs.com

Work Order Number: 322746
PO #:
Regulation: O.Reg 153 Table 2 Soil Stringent
Project #: 1747450
DWS #:
Sampled By:

Date Order Received: 11/28/2017
Arrival Temperature: 6 °C

Analysis Started: 11/28/2017
Analysis Completed: 11/30/2017

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
17MW22 SS1	1029796	Soil	None		11/19/2017	
17MW18 SS1	1029797	Soil	None		11/19/2017	
17MW2 SS1	1029798	Soil	None		11/19/2017	

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Moisture (A99)	Garson	Determination of Percent Moisture	In House
OCPs Soil (R19)	Garson	Determination of Organochlorine Pesticides in Soil by GC/ECD	Modified from SW846-8081B

This report has been approved by:

Khaled Omari, Ph.D.
Laboratory Director



CERTIFICATE OF ANALYSIS

Paracel Laboratories Ltd.- Ottawa

Work Order Number: 322746

WORK ORDER RESULTS

Sample Description	17MW22 SS1		17MW18 SS1		17MW2 SS1			
Lab ID	1029796		1029797		1029798			
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 2 Soil Stringent
% Moisture	15.5	0.1	21.5	0.1	22.4	0.1	%	~

Sample Description	17MW22 SS1		17MW18 SS1		17MW2 SS1			
Lab ID	1029796		1029797		1029798			
OC Pesticides	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 2 Soil Stringent
2,4'-DDD	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
2,4'-DDE	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
2,4'-DDT	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
4,4'-DDD	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
4,4'-DDE	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
4,4'-DDT	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
Aldrin	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.05
DDD (Total) (Calc.)	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	3.3
DDE (Total) (Calc.)	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.26
DDT (Total) (Calc.)	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.078
Decachlorobiphenyl (Surr.)	139	N/A	121	N/A	136	N/A	% Rec	~
Dieldrin	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.05
Endosulfan I	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
Endosulfan I + II (Calc.)	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.04
Endosulfan II	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
Endosulfan sulfate	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
Endrin	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.04
Endrin aldehyde	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~



CERTIFICATE OF ANALYSIS

Paracel Laboratories Ltd.- Ottawa

Work Order Number: 322746

Sample Description	17MW22 SS1		17MW18 SS1		17MW2 SS1			
Lab ID	1029796		1029797		1029798			
OC Pesticides	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: O.Reg 153 Table 2 Soil Stringent
Heptachlor	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.15
Heptachlor epoxide	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.05
Hexachlorobenzene	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.52
Hexachlorobutadiene	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.012
Hexachloroethane	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.071
Methoxychlor	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.13
Mirex	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
Oxychlorane	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
β-BHC	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
α - Chlordane	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
α + γ -Chlordane (Calc.)	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.05
α-BHC	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
γ - Chlordane	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~
γ-BHC (Lindane)	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	0.056
δ-BHC	<0.01	0.01	<0.01	0.01	<0.01	0.01	µg/g	~

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

MDL: Method detection limit or minimum reporting limit.

% Rec: Surrogate compounds are added to the sample in some cases and the recovery is reported as a % recovered.

~: In a criteria column indicates the criteria is not applicable for the parameter row..

Quality Control: All associated Quality Control data is available on request.

Certificate of Analysis

Toronto Inspections

110 Konrad Cres, Unit 16
Markham, ON L3R 9X2
Attn: Janet Geng

Client PO:
Project: 4688
Custody: 115137

Report Date: 6-Dec-2017
Order Date: 30-Nov-2017

Order #: 1748379

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Parcel ID	Client ID
1748379-01	17 MW2
1748379-02	17 MW18
1748379-03	17 MW21
1748379-04	17 MW22
1748379-05	Dup A
1748379-06	Trip Blank

Approved By:



Dale Robertson, BSc
Laboratory Director

Certificate of Analysis
Client: Toronto Inspections
Client PO:

Report Date: 06-Dec-2017
 Order Date: 30-Nov-2017
Project Description: 4688

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Anions	EPA 300.1 - IC	4-Dec-17	5-Dec-17
Chromium, hexavalent - water	MOE E3056 - colourimetric	6-Dec-17	6-Dec-17
Cyanide, free	MOE E3015 - Auto Colour	1-Dec-17	1-Dec-17
Mercury by CVAA	EPA 245.2 - Cold Vapour AA	5-Dec-17	5-Dec-17
Metals, ICP-MS	EPA 200.8 - ICP-MS	5-Dec-17	5-Dec-17
pH	EPA 150.1 - pH probe @25 °C	4-Dec-17	4-Dec-17
PHC F1	CWS Tier 1 - P&T GC-FID	4-Dec-17	5-Dec-17
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	1-Dec-17	4-Dec-17
REG 153: PAHs by GC-MS	EPA 625 - GC-MS, extraction	6-Dec-17	6-Dec-17
REG 153: Pesticides, OC	EPA 8081B - GC-ECD	4-Dec-17	4-Dec-17
REG 153: VOCs by P&T GC/MS	EPA 624 - P&T GC-MS	4-Dec-17	5-Dec-17

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Client ID:	17 MW2	17 MW18	17 MW21	17 MW22
Sample Date:	29-Nov-17	29-Nov-17	29-Nov-17	29-Nov-17
Sample ID:	1748379-01	1748379-02	1748379-03	1748379-04
MDL/Units	Ground Water	Ground Water	Ground Water	Ground Water

General Inorganics

Parameter	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
Cyanide, free	2 ug/L	<2	<2	<2	<2
pH	0.1 pH Units	7.7	7.9	7.6	7.7

Anions

Parameter	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
Chloride	1 mg/L	15	11	28	11

Metals

Parameter	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
Mercury	0.1 ug/L	<0.1	<0.1	<0.1	<0.1
Antimony	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Arsenic	1 ug/L	<1	<1	2	<1
Barium	1 ug/L	20	63	54	68
Beryllium	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Boron	10 ug/L	47	201	48	38
Cadmium	0.1 ug/L	<0.1	<0.1	<0.1	<0.1
Chromium	1 ug/L	<1	<1	<1	<1
Chromium (VI)	10 ug/L	<10	<10	<10	<10
Cobalt	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Copper	0.5 ug/L	0.9	<0.5	0.9	0.7
Lead	0.1 ug/L	<0.1	<0.1	<0.1	<0.1
Molybdenum	0.5 ug/L	1.5	4.0	6.0	9.0
Nickel	1 ug/L	<1	<1	1	<1
Selenium	1 ug/L	<1	<1	<1	<1
Silver	0.1 ug/L	<0.1	<0.1	<0.1	<0.1
Sodium	200 ug/L	14100	15200	24000	23100
Thallium	0.1 ug/L	<0.1	<0.1	<0.1	<0.1
Uranium	0.1 ug/L	1.2	0.7	2.0	2.9
Vanadium	0.5 ug/L	0.8	<0.5	<0.5	<0.5
Zinc	5 ug/L	<5	<5	<5	<5

Volatiles

Parameter	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
Acetone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5

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	Client ID:	17 MW2	17 MW18	17 MW21	17 MW22
	Sample Date:	29-Nov-17	29-Nov-17	29-Nov-17	29-Nov-17
	Sample ID:	1748379-01	1748379-02	1748379-03	1748379-04
	MDL/Units	Ground Water	Ground Water	Ground Water	Ground Water
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Ethylene dibromide (dibromoethane)	0.2 ug/L	<0.2	<0.2	<0.2	<0.2
Hexane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	<2.0	<2.0
Methylene Chloride	5.0 ug/L	<5.0	<5.0	<5.0	<5.0
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
Xylenes, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5
4-Bromofluorobenzene	Surrogate	95.5%	98.0%	98.3%	99.6%
Dibromofluoromethane	Surrogate	110%	108%	109%	110%

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	Client ID: Sample Date: Sample ID:	17 MW2 29-Nov-17 1748379-01 Ground Water	17 MW18 29-Nov-17 1748379-02 Ground Water	17 MW21 29-Nov-17 1748379-03 Ground Water	17 MW22 29-Nov-17 1748379-04 Ground Water
	MDL/Units				
Toluene-d8	Surrogate	92.9%	92.4%	92.1%	89.5%

Hydrocarbons

	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
F1 PHCs (C6-C10)	25 ug/L	<25	<25	<25	<25
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	<100
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	<100
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	<100

Semi-Volatiles

	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
Acenaphthene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Anthracene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01
Benzo [a] anthracene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01
Benzo [a] pyrene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01
Benzo [b] fluoranthene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Benzo [g,h,i] perylene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Benzo [k] fluoranthene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Chrysene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Dibenzo [a,h] anthracene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Fluoranthene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01
Fluorene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Indeno [1,2,3-cd] pyrene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
1-Methylnaphthalene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
2-Methylnaphthalene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Methylnaphthalene (1&2)	0.10 ug/L	<0.10	<0.10	<0.10	<0.10
Naphthalene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Phenanthrene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05
Pyrene	0.01 ug/L	<0.01	0.01	<0.01	0.02
2-Fluorobiphenyl	Surrogate	94.8%	104%	115%	134%
Terphenyl-d14	Surrogate	123%	121%	111%	124%

Pesticides, OC

	MDL/Units	17 MW2	17 MW18	17 MW21	17 MW22
Aldrin	0.01 ug/L	-	<0.01	-	<0.01
alpha-Chlordane	0.01 ug/L	-	<0.01	-	<0.01
gamma-Chlordane	0.01 ug/L	-	<0.01	-	<0.01
Chlordane	0.01 ug/L	-	<0.01	-	<0.01
o,p'-DDD	0.01 ug/L	-	<0.01	-	<0.01
p,p'-DDD	0.01 ug/L	-	<0.01	-	<0.01
DDD	0.01 ug/L	-	<0.01	-	<0.01
o,p'-DDE	0.01 ug/L	-	<0.01	-	<0.01

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	Client ID: Sample Date: Sample ID:	17 MW2 29-Nov-17 1748379-01 Ground Water	17 MW18 29-Nov-17 1748379-02 Ground Water	17 MW21 29-Nov-17 1748379-03 Ground Water	17 MW22 29-Nov-17 1748379-04 Ground Water
	MDL/Units				
p,p'-DDE	0.01 ug/L	-	<0.01	-	<0.01
DDE	0.01 ug/L	-	<0.01	-	<0.01
o,p'-DDT	0.01 ug/L	-	<0.01	-	<0.01
p,p'-DDT	0.01 ug/L	-	<0.01	-	<0.01
DDT	0.01 ug/L	-	<0.01	-	<0.01
Dieldrin	0.01 ug/L	-	<0.01	-	<0.01
Endosulfan I	0.01 ug/L	-	<0.01	-	<0.01
Endosulfan II	0.01 ug/L	-	<0.01	-	<0.01
Endosulfan I/II	0.01 ug/L	-	<0.01	-	<0.01
Endrin	0.01 ug/L	-	<0.01	-	<0.01
Heptachlor	0.01 ug/L	-	<0.01	-	<0.01
Heptachlor epoxide	0.01 ug/L	-	<0.01	-	<0.01
Hexachlorobenzene	0.01 ug/L	-	<0.01	-	<0.01
Hexachlorobutadiene	0.01 ug/L	-	<0.01	-	<0.01
Hexachlorocyclohexane, gamma	0.01 ug/L	-	<0.01	-	<0.01
Hexachloroethane	0.01 ug/L	-	<0.01	-	<0.01
Methoxychlor	0.01 ug/L	-	<0.01	-	<0.01
Decachlorobiphenyl	Surrogate	-	88.4%	-	89.7%

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Client ID:	Dup A	Trip Blank	-	-
Sample Date:	29-Nov-17	22-Nov-17	-	-
Sample ID:	1748379-05	1748379-06	-	-
MDL/Units	Ground Water	Water	-	-

General Inorganics

Cyanide, free	2 ug/L	<2	-	-
pH	0.1 pH Units	7.7	-	-

Anions

Chloride	1 mg/L	9	-	-
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Metals

Mercury	0.1 ug/L	<0.1	-	-
Antimony	0.5 ug/L	0.6	-	-
Arsenic	1 ug/L	<1	-	-
Barium	1 ug/L	64	-	-
Beryllium	0.5 ug/L	<0.5	-	-
Boron	10 ug/L	35	-	-
Cadmium	0.1 ug/L	<0.1	-	-
Chromium	1 ug/L	<1	-	-
Chromium (VI)	10 ug/L	<10	-	-
Cobalt	0.5 ug/L	<0.5	-	-
Copper	0.5 ug/L	0.8	-	-
Lead	0.1 ug/L	<0.1	-	-
Molybdenum	0.5 ug/L	9.3	-	-
Nickel	1 ug/L	<1	-	-
Selenium	1 ug/L	<1	-	-
Silver	0.1 ug/L	<0.1	-	-
Sodium	200 ug/L	22600	-	-
Thallium	0.1 ug/L	<0.1	-	-
Uranium	0.1 ug/L	3.4	-	-
Vanadium	0.5 ug/L	<0.5	-	-
Zinc	5 ug/L	<5	-	-

Volatiles

Acetone	5.0 ug/L	<5.0	<5.0	-	-
Benzene	0.5 ug/L	<0.5	<0.5	-	-
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	-	-
Bromoform	0.5 ug/L	<0.5	<0.5	-	-
Bromomethane	0.5 ug/L	<0.5	<0.5	-	-
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	-
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
Chloroform	0.5 ug/L	<0.5	<0.5	-	-

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	Client ID: Sample Date: Sample ID:	Dup A 29-Nov-17 1748379-05 Ground Water	Trip Blank 22-Nov-17 1748379-06 Water	-	-
	MDL/Units				
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	-
Dichlorodifluoromethane	1.0 ug/L	<1.0	<1.0	-	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	-
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-
Ethylene dibromide (dibromoethar	0.2 ug/L	<0.2	<0.2	-	-
Hexane	1.0 ug/L	<1.0	<1.0	-	-
Methyl Ethyl Ketone (2-Butanone)	5.0 ug/L	<5.0	<5.0	-	-
Methyl Isobutyl Ketone	5.0 ug/L	<5.0	<5.0	-	-
Methyl tert-butyl ether	2.0 ug/L	<2.0	<2.0	-	-
Methylene Chloride	5.0 ug/L	<5.0	<5.0	-	-
Styrene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Toluene	0.5 ug/L	<0.5	<0.5	-	-
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-
Trichloroethylene	0.5 ug/L	<0.5	<0.5	-	-
Trichlorofluoromethane	1.0 ug/L	<1.0	<1.0	-	-
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	-
4-Bromofluorobenzene	Surrogate	97.9%	100%	-	-

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	Client ID: Sample Date: Sample ID:	Dup A 29-Nov-17 1748379-05 Ground Water	Trip Blank 22-Nov-17 1748379-06 Water	-	-
	MDL/Units				
Dibromofluoromethane	Surrogate	110%	110%	-	-
Toluene-d8	Surrogate	91.8%	90.3%	-	-

Hydrocarbons

F1 PHCs (C6-C10)	25 ug/L	<25	-	-	-
F2 PHCs (C10-C16)	100 ug/L	<100	-	-	-
F3 PHCs (C16-C34)	100 ug/L	<100	-	-	-
F4 PHCs (C34-C50)	100 ug/L	<100	-	-	-

Semi-Volatiles

Acenaphthene	0.05 ug/L	<0.05	-	-	-
Acenaphthylene	0.05 ug/L	<0.05	-	-	-
Anthracene	0.01 ug/L	<0.01	-	-	-
Benzo [a] anthracene	0.01 ug/L	<0.01	-	-	-
Benzo [a] pyrene	0.01 ug/L	<0.01	-	-	-
Benzo [b] fluoranthene	0.05 ug/L	<0.05	-	-	-
Benzo [g,h,i] perylene	0.05 ug/L	<0.05	-	-	-
Benzo [k] fluoranthene	0.05 ug/L	<0.05	-	-	-
Chrysene	0.05 ug/L	<0.05	-	-	-
Dibenzo [a,h] anthracene	0.05 ug/L	<0.05	-	-	-
Fluoranthene	0.01 ug/L	<0.01	-	-	-
Fluorene	0.05 ug/L	<0.05	-	-	-
Indeno [1,2,3-cd] pyrene	0.05 ug/L	<0.05	-	-	-
1-Methylnaphthalene	0.05 ug/L	<0.05	-	-	-
2-Methylnaphthalene	0.05 ug/L	<0.05	-	-	-
Methylnaphthalene (1&2)	0.10 ug/L	<0.10	-	-	-
Naphthalene	0.05 ug/L	<0.05	-	-	-
Phenanthrene	0.05 ug/L	<0.05	-	-	-
Pyrene	0.01 ug/L	<0.01	-	-	-
2-Fluorobiphenyl	Surrogate	112%	-	-	-
Terphenyl-d14	Surrogate	113%	-	-	-

Pesticides, OC

Aldrin	0.01 ug/L	<0.01	-	-	-
alpha-Chlordane	0.01 ug/L	<0.01	-	-	-
gamma-Chlordane	0.01 ug/L	<0.01	-	-	-
Chlordane	0.01 ug/L	<0.01	-	-	-
o,p'-DDD	0.01 ug/L	<0.01	-	-	-

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	Client ID: Sample Date: Sample ID:	Dup A 29-Nov-17 1748379-05 Ground Water	Trip Blank 22-Nov-17 1748379-06 Water	-	-
	MDL/Units				
p,p'-DDD	0.01 ug/L	<0.01	-	-	-
DDD	0.01 ug/L	<0.01	-	-	-
o,p'-DDE	0.01 ug/L	<0.01	-	-	-
p,p'-DDE	0.01 ug/L	<0.01	-	-	-
DDE	0.01 ug/L	<0.01	-	-	-
o,p'-DDT	0.01 ug/L	<0.01	-	-	-
p,p'-DDT	0.01 ug/L	<0.01	-	-	-
DDT	0.01 ug/L	<0.01	-	-	-
Dieldrin	0.01 ug/L	<0.01	-	-	-
Endosulfan I	0.01 ug/L	<0.01	-	-	-
Endosulfan II	0.01 ug/L	<0.01	-	-	-
Endosulfan I/II	0.01 ug/L	<0.01	-	-	-
Endrin	0.01 ug/L	<0.01	-	-	-
Heptachlor	0.01 ug/L	<0.01	-	-	-
Heptachlor epoxide	0.01 ug/L	<0.01	-	-	-
Hexachlorobenzene	0.01 ug/L	<0.01	-	-	-
Hexachlorobutadiene	0.01 ug/L	<0.01	-	-	-
Hexachlorocyclohexane, gamma	0.01 ug/L	<0.01	-	-	-
Hexachloroethane	0.01 ug/L	<0.01	-	-	-
Methoxychlor	0.01 ug/L	<0.01	-	-	-
Decachlorobiphenyl	Surrogate	99.5%	-	-	-

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Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
General Inorganics									
Cyanide, free	ND	2	ug/L						
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L						
Metals									
Mercury	ND	0.1	ug/L						
Antimony	ND	0.5	ug/L						
Arsenic	ND	1	ug/L						
Barium	ND	1	ug/L						
Beryllium	ND	0.5	ug/L						
Boron	ND	10	ug/L						
Cadmium	ND	0.1	ug/L						
Chromium (VI)	ND	10	ug/L						
Chromium	ND	1	ug/L						
Cobalt	ND	0.5	ug/L						
Copper	ND	0.5	ug/L						
Lead	ND	0.1	ug/L						
Molybdenum	ND	0.5	ug/L						
Nickel	ND	1	ug/L						
Selenium	ND	1	ug/L						
Silver	ND	0.1	ug/L						
Sodium	ND	200	ug/L						
Thallium	ND	0.1	ug/L						
Uranium	ND	0.1	ug/L						
Vanadium	ND	0.5	ug/L						
Zinc	ND	5	ug/L						
Pesticides, OC									
Aldrin	ND	0.01	ug/L						
alpha-Chlordane	ND	0.01	ug/L						
gamma-Chlordane	ND	0.01	ug/L						
Chlordane	ND	0.01	ug/L						
o,p'-DDD	ND	0.01	ug/L						
p,p'-DDD	ND	0.01	ug/L						
DDD	ND	0.01	ug/L						
o,p'-DDE	ND	0.01	ug/L						
p,p'-DDE	ND	0.01	ug/L						
DDE	ND	0.01	ug/L						
o,p'-DDT	ND	0.01	ug/L						
p,p'-DDT	ND	0.01	ug/L						
DDT	ND	0.01	ug/L						
Dieldrin	ND	0.01	ug/L						
Endosulfan I	ND	0.01	ug/L						
Endosulfan II	ND	0.01	ug/L						
Endosulfan I/II	ND	0.01	ug/L						
Endrin	ND	0.01	ug/L						
Heptachlor	ND	0.01	ug/L						
Heptachlor epoxide	ND	0.01	ug/L						
Hexachlorobenzene	ND	0.01	ug/L						
Hexachlorobutadiene	ND	0.01	ug/L						
Hexachlorocyclohexane, gamma	ND	0.01	ug/L						
Hexachloroethane	ND	0.01	ug/L						
Methoxychlor	ND	0.01	ug/L						
Surrogate: Decachlorobiphenyl	0.446		ug/L		89.2	50-140			
Semi-Volatiles									
Acenaphthene	ND	0.05	ug/L						
Acenaphthylene	ND	0.05	ug/L						

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anthracene	ND	0.01	ug/L						
Benzo [a] anthracene	ND	0.01	ug/L						
Benzo [a] pyrene	ND	0.01	ug/L						
Benzo [b] fluoranthene	ND	0.05	ug/L						
Benzo [g,h,i] perylene	ND	0.05	ug/L						
Benzo [k] fluoranthene	ND	0.05	ug/L						
Chrysene	ND	0.05	ug/L						
Dibenzo [a,h] anthracene	ND	0.05	ug/L						
Fluoranthene	ND	0.01	ug/L						
Fluorene	ND	0.05	ug/L						
Indeno [1,2,3-cd] pyrene	ND	0.05	ug/L						
1-Methylnaphthalene	ND	0.05	ug/L						
2-Methylnaphthalene	ND	0.05	ug/L						
Methylnaphthalene (1&2)	ND	0.10	ug/L						
Naphthalene	ND	0.05	ug/L						
Phenanthrene	ND	0.05	ug/L						
Pyrene	ND	0.01	ug/L						
Surrogate: 2-Fluorobiphenyl	17.9		ug/L		89.3	50-140			
Surrogate: Terphenyl-d14	22.1		ug/L		110	50-140			

Volatiles

Acetone	ND	5.0	ug/L						
Benzene	ND	0.5	ug/L						
Bromodichloromethane	ND	0.5	ug/L						
Bromoform	ND	0.5	ug/L						
Bromomethane	ND	0.5	ug/L						
Carbon Tetrachloride	ND	0.2	ug/L						
Chlorobenzene	ND	0.5	ug/L						
Chloroform	ND	0.5	ug/L						
Dibromochloromethane	ND	0.5	ug/L						
Dichlorodifluoromethane	ND	1.0	ug/L						
1,2-Dichlorobenzene	ND	0.5	ug/L						
1,3-Dichlorobenzene	ND	0.5	ug/L						
1,4-Dichlorobenzene	ND	0.5	ug/L						
1,1-Dichloroethane	ND	0.5	ug/L						
1,2-Dichloroethane	ND	0.5	ug/L						
1,1-Dichloroethylene	ND	0.5	ug/L						
cis-1,2-Dichloroethylene	ND	0.5	ug/L						
trans-1,2-Dichloroethylene	ND	0.5	ug/L						
1,2-Dichloropropane	ND	0.5	ug/L						
cis-1,3-Dichloropropylene	ND	0.5	ug/L						
trans-1,3-Dichloropropylene	ND	0.5	ug/L						
1,3-Dichloropropene, total	ND	0.5	ug/L						
Ethylbenzene	ND	0.5	ug/L						
Ethylene dibromide (dibromoethane)	ND	0.2	ug/L						
Hexane	ND	1.0	ug/L						
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L						
Methyl Isobutyl Ketone	ND	5.0	ug/L						
Methyl tert-butyl ether	ND	2.0	ug/L						
Methylene Chloride	ND	5.0	ug/L						
Styrene	ND	0.5	ug/L						
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L						
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L						
Tetrachloroethylene	ND	0.5	ug/L						
Toluene	ND	0.5	ug/L						
1,1,1-Trichloroethane	ND	0.5	ug/L						
1,1,2-Trichloroethane	ND	0.5	ug/L						
Trichloroethylene	ND	0.5	ug/L						
Trichlorofluoromethane	ND	1.0	ug/L						
Vinyl chloride	ND	0.5	ug/L						
m,p-Xylenes	ND	0.5	ug/L						
o-Xylene	ND	0.5	ug/L						

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Xylenes, total	ND	0.5	ug/L						
Surrogate: 4-Bromofluorobenzene	84.4		ug/L		106	50-140			
Surrogate: Dibromofluoromethane	88.4		ug/L		110	50-140			
Surrogate: Toluene-d8	74.5		ug/L		93.1	50-140			

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Cyanide, free	ND	2	ug/L	ND				20	
pH	6.8	0.1	pH Units	6.8			0.4	10	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND				30	
Metals									
Mercury	ND	0.1	ug/L	ND			0.0	20	
Antimony	ND	0.5	ug/L	ND			0.0	20	
Arsenic	ND	1	ug/L	ND			0.0	20	
Barium	23.4	1	ug/L	23.7			1.3	20	
Beryllium	ND	0.5	ug/L	ND			0.0	20	
Boron	22	10	ug/L	26			19.0	20	
Cadmium	ND	0.1	ug/L	ND			0.0	20	
Chromium (VI)	ND	10	ug/L	ND				20	
Chromium	ND	1	ug/L	ND			0.0	20	
Cobalt	ND	0.5	ug/L	ND			0.0	20	
Copper	0.97	0.5	ug/L	1.00			3.1	20	
Lead	0.13	0.1	ug/L	0.12			6.3	20	
Molybdenum	1.05	0.5	ug/L	1.02			2.3	20	
Nickel	ND	1	ug/L	ND			0.0	20	
Selenium	ND	1	ug/L	ND			0.0	20	
Silver	ND	0.1	ug/L	ND			0.0	20	
Sodium	16000	200	ug/L	16400			2.4	20	
Thallium	ND	0.1	ug/L	ND			0.0	20	
Uranium	ND	0.1	ug/L	ND			0.0	20	
Vanadium	ND	0.5	ug/L	ND			0.0	20	
Zinc	9	5	ug/L	9			2.6	20	
Volatiles									
Acetone	ND	5.0	ug/L	ND				30	
Benzene	ND	0.5	ug/L	ND				30	
Bromodichloromethane	ND	0.5	ug/L	ND				30	
Bromoform	ND	0.5	ug/L	ND				30	
Bromomethane	ND	0.5	ug/L	ND				30	
Carbon Tetrachloride	ND	0.2	ug/L	ND				30	
Chlorobenzene	ND	0.5	ug/L	ND				30	
Chloroform	ND	0.5	ug/L	ND				30	
Dibromochloromethane	ND	0.5	ug/L	ND				30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND				30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND				30	
1,1-Dichloroethane	ND	0.5	ug/L	ND				30	
1,2-Dichloroethane	ND	0.5	ug/L	ND				30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND				30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND				30	
1,2-Dichloropropane	ND	0.5	ug/L	ND				30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND				30	
Ethylbenzene	ND	0.5	ug/L	ND				30	
Ethylene dibromide (dibromoethane)	ND	0.2	ug/L	ND				30	
Hexane	ND	1.0	ug/L	ND				30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND				30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND				30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND				30	
Methylene Chloride	ND	5.0	ug/L	ND				30	
Styrene	ND	0.5	ug/L	ND				30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	

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Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND				30	
Tetrachloroethylene	ND	0.5	ug/L	ND				30	
Toluene	ND	0.5	ug/L	ND				30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND				30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND				30	
Trichloroethylene	ND	0.5	ug/L	ND				30	
Trichlorofluoromethane	ND	1.0	ug/L	ND				30	
Vinyl chloride	ND	0.5	ug/L	ND				30	
m,p-Xylenes	ND	0.5	ug/L	ND				30	
o-Xylene	ND	0.5	ug/L	ND				30	
<i>Surrogate: 4-Bromofluorobenzene</i>	79.9		ug/L		99.8	50-140			
<i>Surrogate: Dibromofluoromethane</i>	87.9		ug/L		110	50-140			
<i>Surrogate: Toluene-d8</i>	73.4		ug/L		91.7	50-140			

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Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	10.1	1	mg/L		101	78-112			
General Inorganics									
Cyanide, free	23.7	2	ug/L	ND	78.8	70-130			
Hydrocarbons									
F1 PHCs (C6-C10)	2040	25	ug/L		102	68-117			
Metals									
Mercury	2.79	0.1	ug/L	ND	93.0	70-130			
Antimony	40.0		ug/L	ND	79.7	80-120			QM-07
Arsenic	49.8		ug/L	ND	98.8	80-120			
Barium	89.0		ug/L	23.7	131	80-120			QM-07
Beryllium	56.5		ug/L	ND	113	80-120			
Boron	77		ug/L	26	102	80-120			
Cadmium	44.4		ug/L	ND	88.8	80-120			
Chromium (VI)	200	10	ug/L	ND	100	70-130			
Chromium	45.2		ug/L	ND	90.2	80-120			
Cobalt	44.2		ug/L	ND	88.3	80-120			
Copper	44.3		ug/L	1.00	86.6	80-120			
Lead	55.0		ug/L	0.12	110	80-120			
Molybdenum	41.3		ug/L	1.02	80.5	80-120			
Nickel	44.6		ug/L	ND	88.6	80-120			
Selenium	50.0		ug/L	ND	99.6	80-120			
Silver	41.2		ug/L	ND	82.3	80-120			
Sodium	1000		ug/L		100	80-120			
Thallium	55.4		ug/L	ND	111	80-120			
Uranium	42.7		ug/L	ND	85.3	80-120			
Vanadium	46.9		ug/L	ND	93.4	80-120			
Zinc	51		ug/L	9	84.8	80-120			
Pesticides, OC									
Aldrin	0.34	0.01	ug/L		67.1	50-140			
alpha-Chlordane	0.32	0.01	ug/L		64.8	50-140			
gamma-Chlordane	0.33	0.01	ug/L		65.1	50-140			
o,p'-DDD	0.28	0.01	ug/L		56.1	50-140			
p,p'-DDD	0.32	0.01	ug/L		64.9	50-140			
o,p'-DDE	0.36	0.01	ug/L		71.6	50-140			
p,p'-DDE	0.34	0.01	ug/L		67.2	50-140			
o,p'-DDT	0.25	0.01	ug/L		50.0	50-140			
p,p'-DDT	0.22	0.01	ug/L		43.1	50-140			QS-02
Dieldrin	0.32	0.01	ug/L		64.4	50-140			
Endosulfan I	0.34	0.01	ug/L		67.5	50-140			
Endosulfan II	0.32	0.01	ug/L		63.5	50-140			
Endrin	0.29	0.01	ug/L		58.8	50-140			
Heptachlor	0.32	0.01	ug/L		64.2	50-140			
Heptachlor epoxide	0.30	0.01	ug/L		60.9	50-140			
Hexachlorobenzene	0.32	0.01	ug/L		64.1	50-140			
Hexachlorobutadiene	0.32	0.01	ug/L		63.3	50-140			
Hexachlorocyclohexane, gamma	0.30	0.01	ug/L		60.4	50-140			
Hexachloroethane	0.26	0.01	ug/L		52.4	50-140			
Methoxychlor	0.22	0.01	ug/L		44.7	50-140			QS-02
Surrogate: Decachlorobiphenyl	0.445		ug/L		88.9	50-140			

Semi-Volatiles

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Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Acenaphthene	6.60	0.05	ug/L		132	50-140			
Acenaphthylene	5.40	0.05	ug/L		108	50-140			
Anthracene	3.53	0.01	ug/L		70.6	50-140			
Benzo [a] anthracene	4.27	0.01	ug/L		85.4	50-140			
Benzo [a] pyrene	3.87	0.01	ug/L		77.5	50-140			
Benzo [b] fluoranthene	6.00	0.05	ug/L		120	50-140			
Benzo [g,h,i] perylene	5.03	0.05	ug/L		101	50-140			
Benzo [k] fluoranthene	6.03	0.05	ug/L		121	50-140			
Chrysene	5.51	0.05	ug/L		110	50-140			
Dibenzo [a,h] anthracene	5.48	0.05	ug/L		110	50-140			
Fluoranthene	5.72	0.01	ug/L		114	50-140			
Fluorene	5.95	0.05	ug/L		119	50-140			
Indeno [1,2,3-cd] pyrene	5.50	0.05	ug/L		110	50-140			
1-Methylnaphthalene	5.39	0.05	ug/L		108	50-140			
2-Methylnaphthalene	5.95	0.05	ug/L		119	50-140			
Naphthalene	5.97	0.05	ug/L		119	50-140			
Phenanthrene	5.42	0.05	ug/L		108	50-140			
Pyrene	5.67	0.01	ug/L		113	50-140			
Volatiles									
Acetone	53.9	5.0	ug/L		53.9	50-140			
Benzene	37.1	0.5	ug/L		92.8	60-130			
Bromodichloromethane	34.1	0.5	ug/L		85.2	60-130			
Bromoform	34.7	0.5	ug/L		86.8	60-130			
Bromomethane	36.6	0.5	ug/L		91.6	50-140			
Carbon Tetrachloride	29.4	0.2	ug/L		73.4	60-130			
Chlorobenzene	40.8	0.5	ug/L		102	60-130			
Chloroform	36.8	0.5	ug/L		92.1	60-130			
Dibromochloromethane	34.1	0.5	ug/L		85.2	60-130			
Dichlorodifluoromethane	27.1	1.0	ug/L		67.8	50-140			
1,2-Dichlorobenzene	44.3	0.5	ug/L		111	60-130			
1,3-Dichlorobenzene	41.8	0.5	ug/L		104	60-130			
1,4-Dichlorobenzene	44.8	0.5	ug/L		112	60-130			
1,1-Dichloroethane	32.6	0.5	ug/L		81.4	60-130			
1,2-Dichloroethane	31.6	0.5	ug/L		79.1	60-130			
1,1-Dichloroethylene	38.8	0.5	ug/L		97.0	60-130			
cis-1,2-Dichloroethylene	39.9	0.5	ug/L		99.8	60-130			
trans-1,2-Dichloroethylene	36.0	0.5	ug/L		90.1	60-130			
1,2-Dichloropropane	31.1	0.5	ug/L		77.8	60-130			
cis-1,3-Dichloropropylene	32.6	0.5	ug/L		81.6	60-130			
trans-1,3-Dichloropropylene	32.2	0.5	ug/L		80.5	60-130			
Ethylbenzene	37.9	0.5	ug/L		94.8	60-130			
Ethylene dibromide (dibromoethane)	35.3	0.2	ug/L		88.2	60-130			
Hexane	31.8	1.0	ug/L		79.6	60-130			
Methyl Ethyl Ketone (2-Butanone)	68.8	5.0	ug/L		68.8	50-140			
Methyl Isobutyl Ketone	55.6	5.0	ug/L		55.6	50-140			
Methyl tert-butyl ether	65.1	2.0	ug/L		65.1	50-140			
Methylene Chloride	40.3	5.0	ug/L		101	60-130			
Styrene	31.6	0.5	ug/L		79.0	60-130			
1,1,1,2-Tetrachloroethane	33.5	0.5	ug/L		83.8	60-130			
1,1,1,2,2-Tetrachloroethane	29.3	0.5	ug/L		73.3	60-130			
Tetrachloroethylene	45.9	0.5	ug/L		115	60-130			
Toluene	36.6	0.5	ug/L		91.5	60-130			

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Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,1-Trichloroethane	26.1	0.5	ug/L		65.2	60-130			
1,1,2-Trichloroethane	35.4	0.5	ug/L		88.4	60-130			
Trichloroethylene	39.5	0.5	ug/L		98.8	60-130			
Trichlorofluoromethane	31.4	1.0	ug/L		78.6	60-130			
Vinyl chloride	31.8	0.5	ug/L		79.5	50-140			
m,p-Xylenes	73.1	0.5	ug/L		91.4	60-130			
o-Xylene	33.8	0.5	ug/L		84.4	60-130			

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Qualifier Notes:

QC Qualifiers :

QM-07 : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

QS-02 : Spike level outside of control limits. Analysis batch accepted based on other QC included in the batch.

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

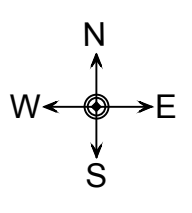
%REC: Percent recovery.

RPD: Relative percent difference.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.
- F1 range corrected for BTEX.
- F2 to F3 ranges corrected for appropriate PAHs where available.
- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.
- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

Appendix A
Sampling and Analysis Plan
Borehole Logs



DAYSTAMP: M:\17 Projects\17-169 Raglan St Collingwood EIS\04.0 - Drafting\17-169.dwg

LEGEND
● Borehole Locations

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/20/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



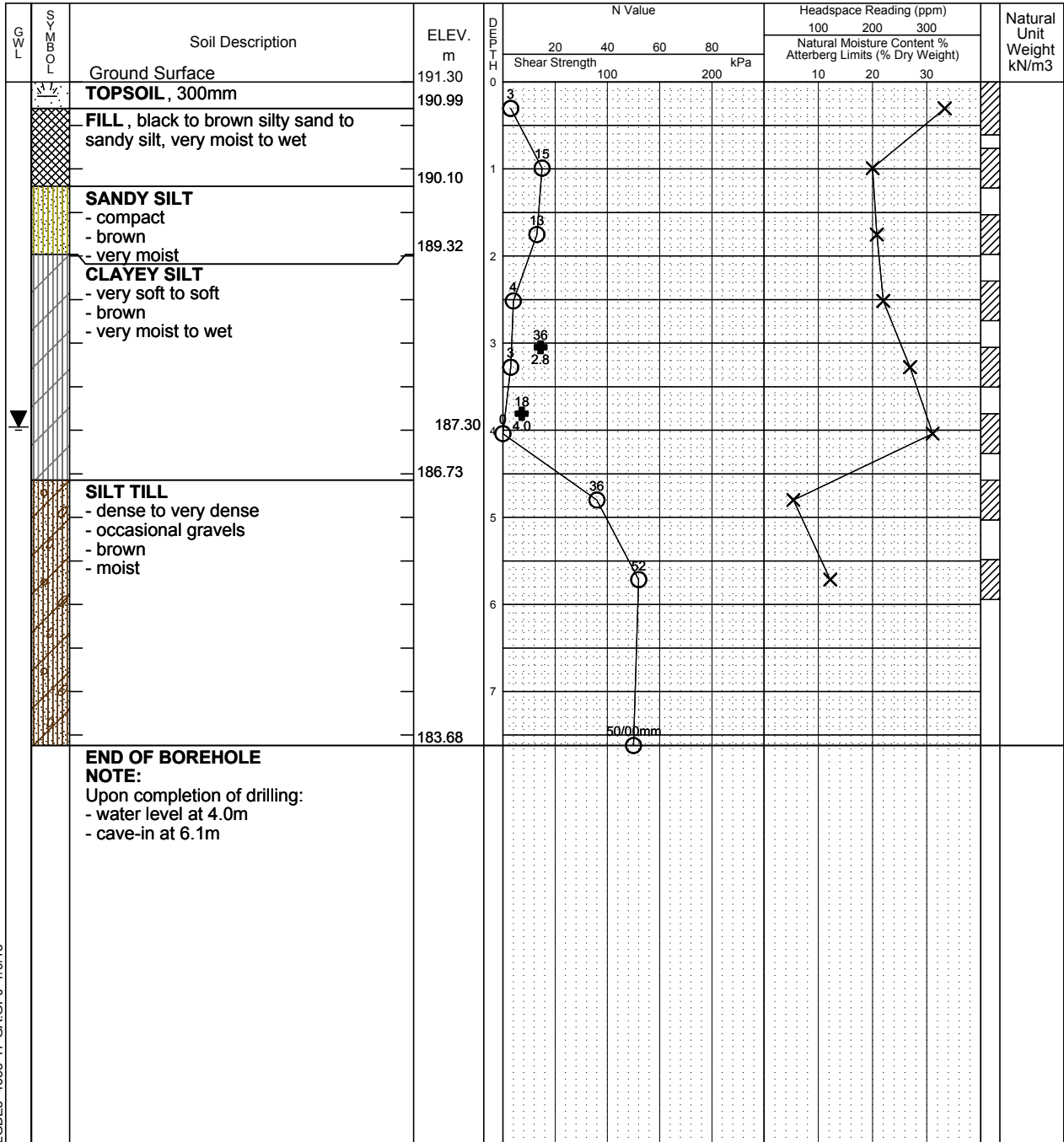
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/20/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value

Natural Moisture



Datum: Geodetic

Dynamic Cone Test

Plastic and Liquid Limit



Shelby Tube

Unconfined Compression

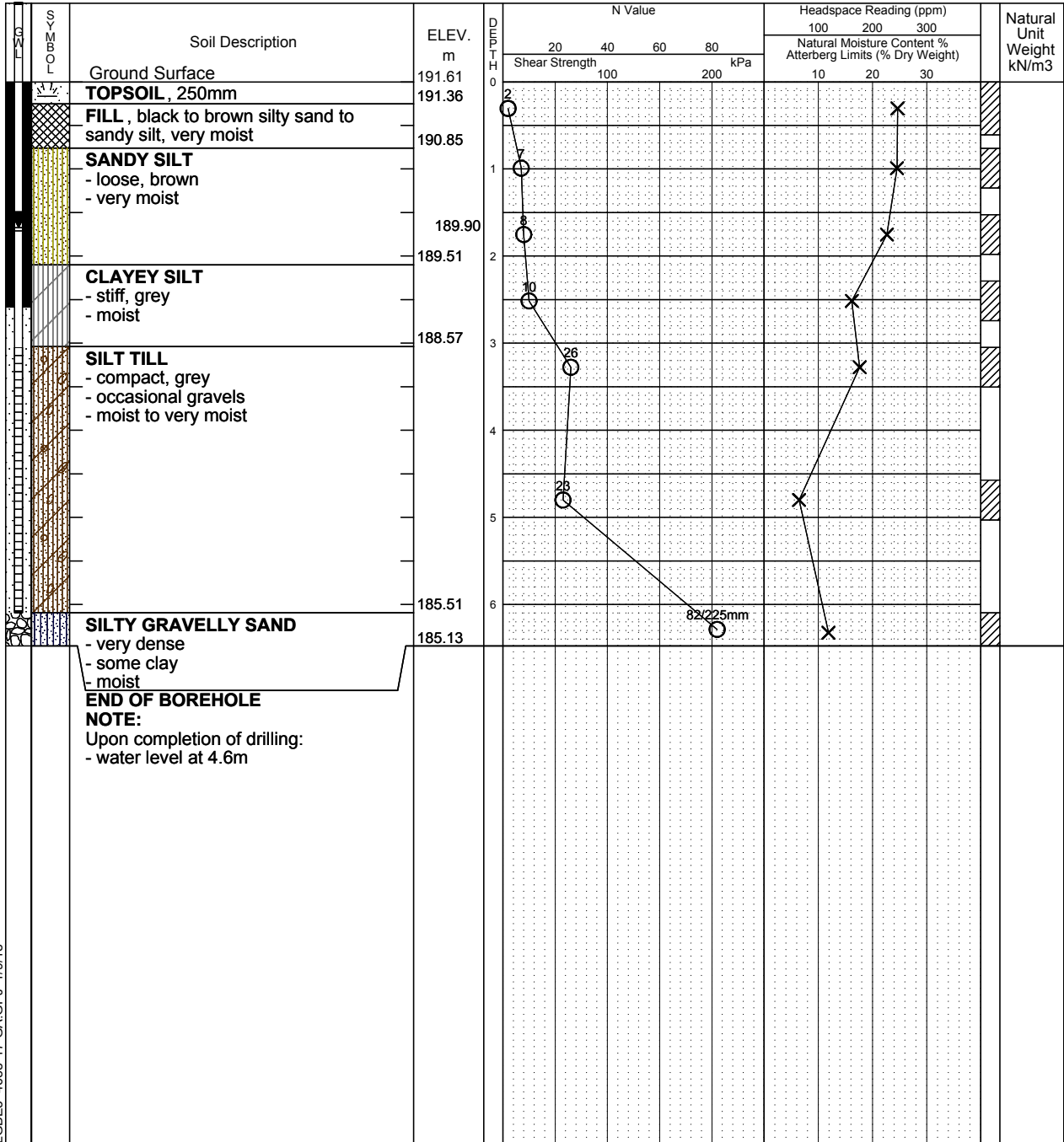


Field Vane Test

% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	1.71m	

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/20/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



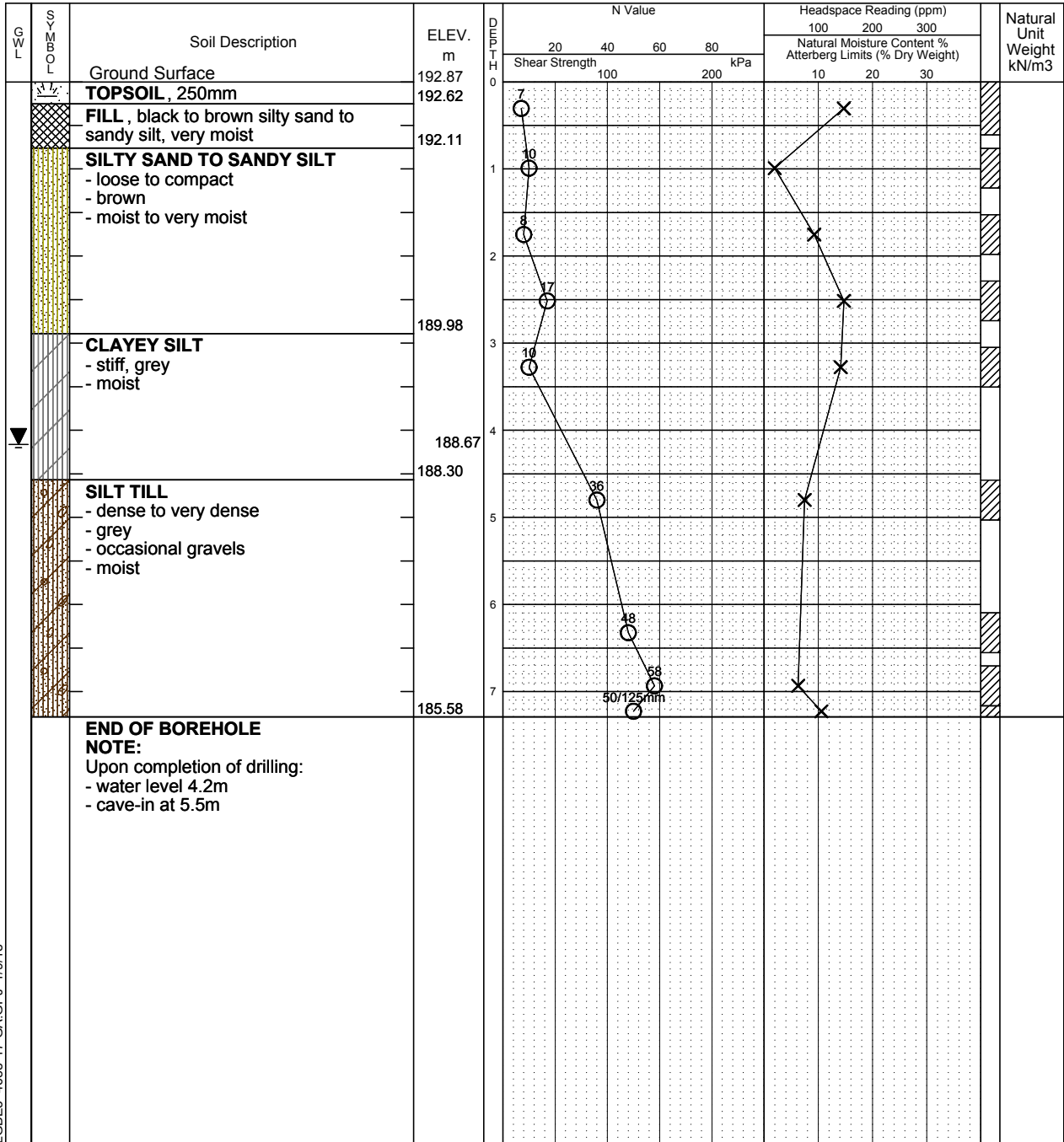
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/20/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



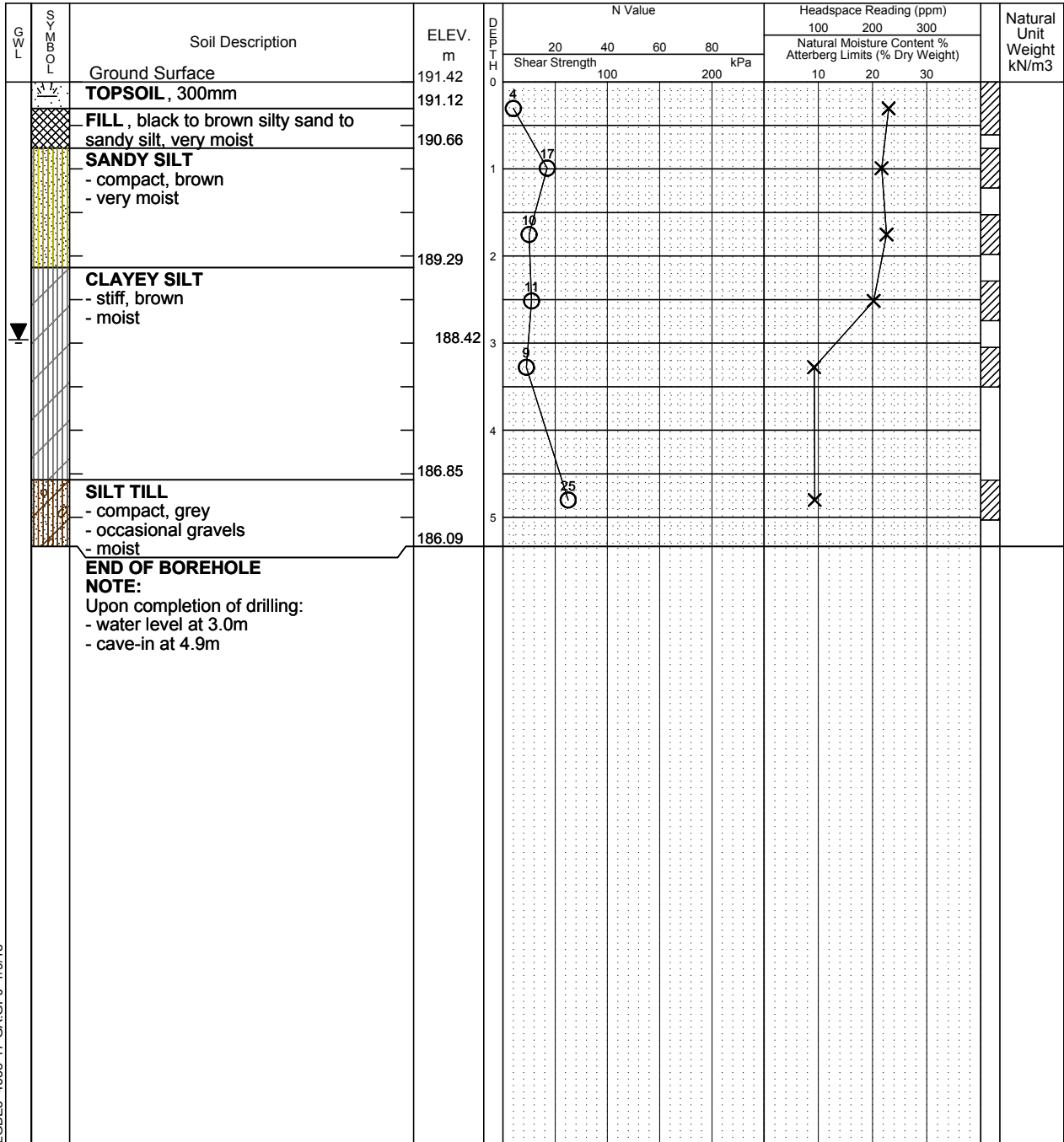
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/23/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



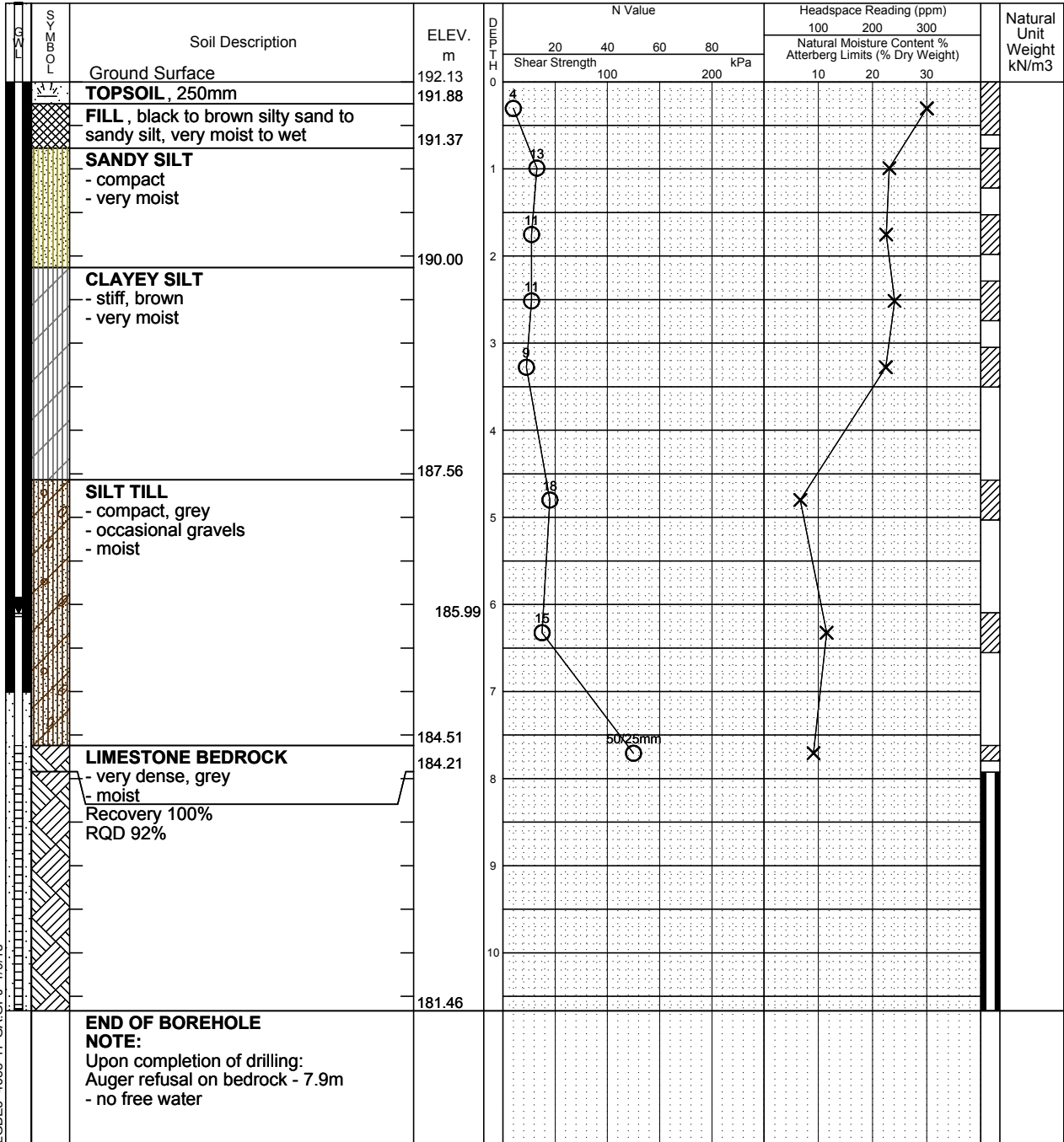
Field Vane Test



% Strain at Failure



Penetrometer



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	6.14m	

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/14/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



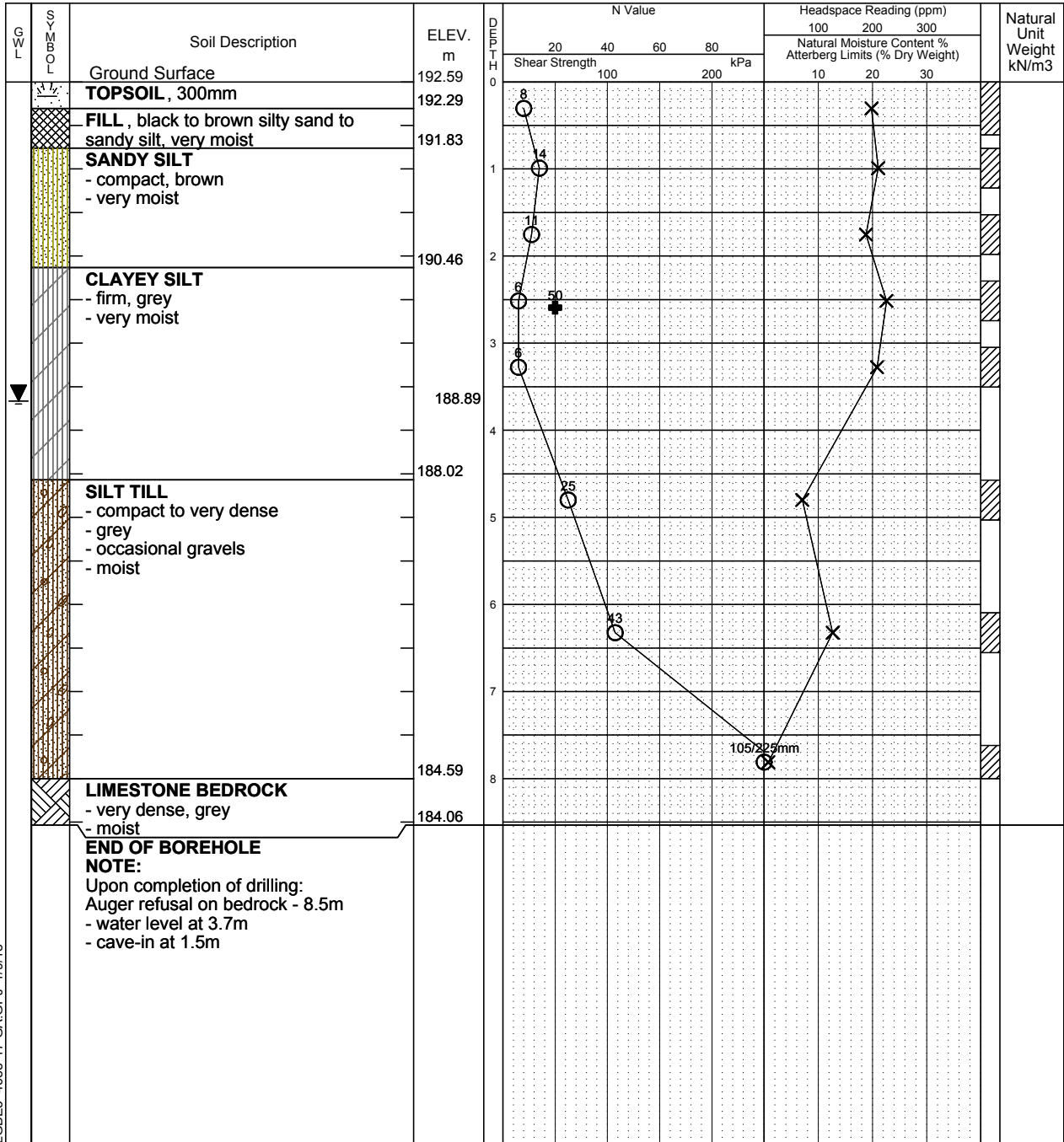
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Date Drilled: 11/14/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



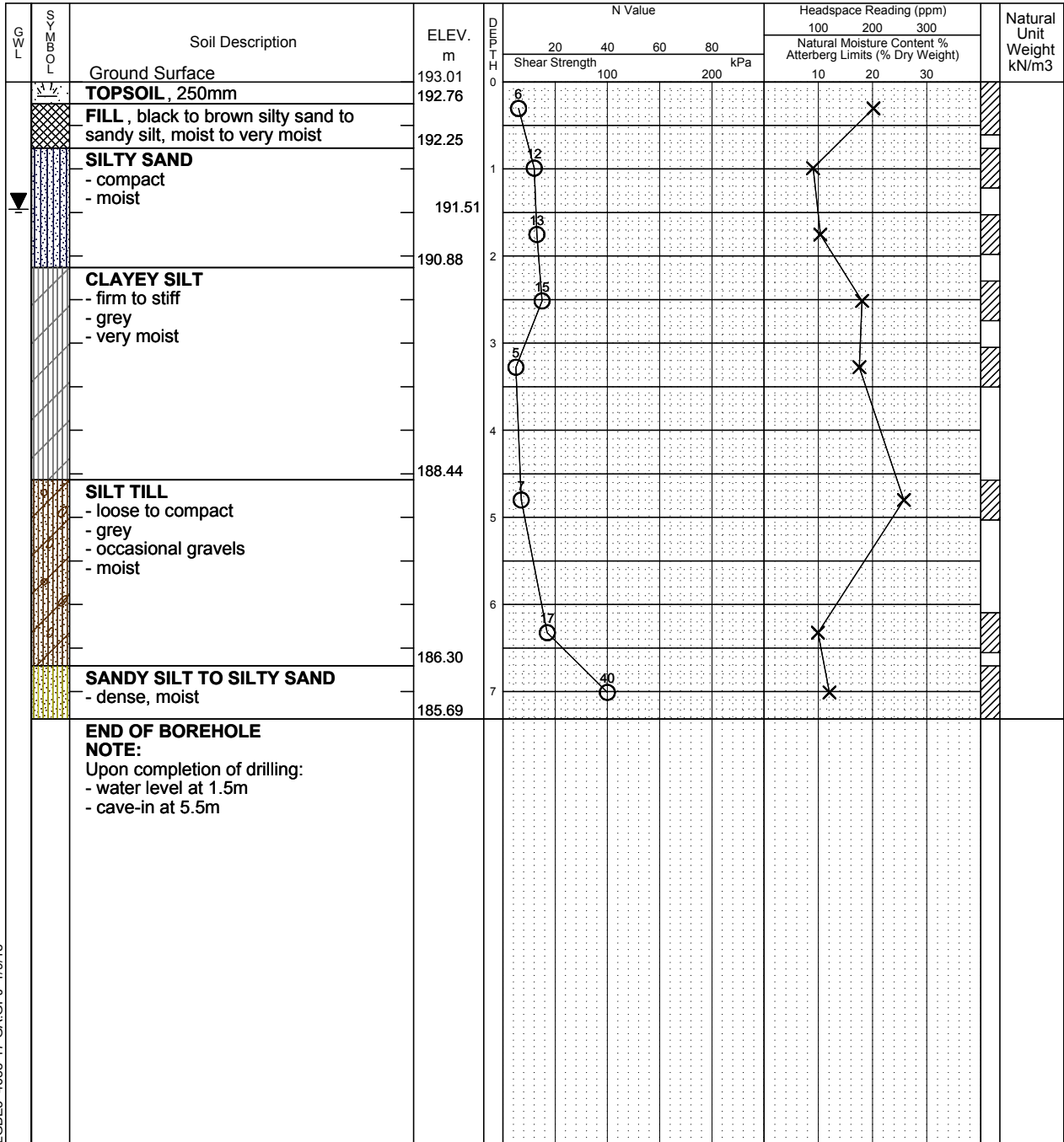
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/14/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



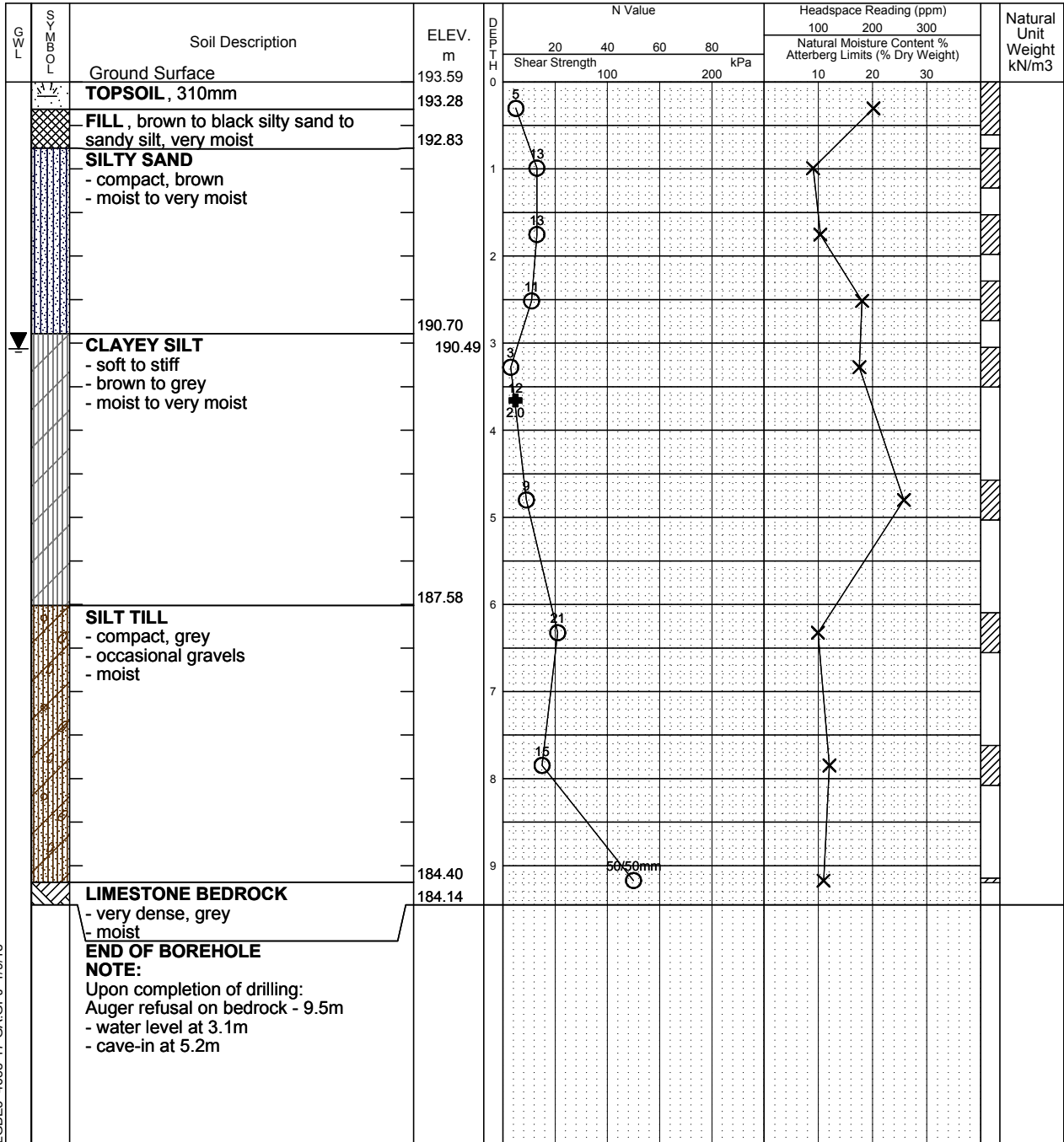
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Date Drilled: 11/24/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



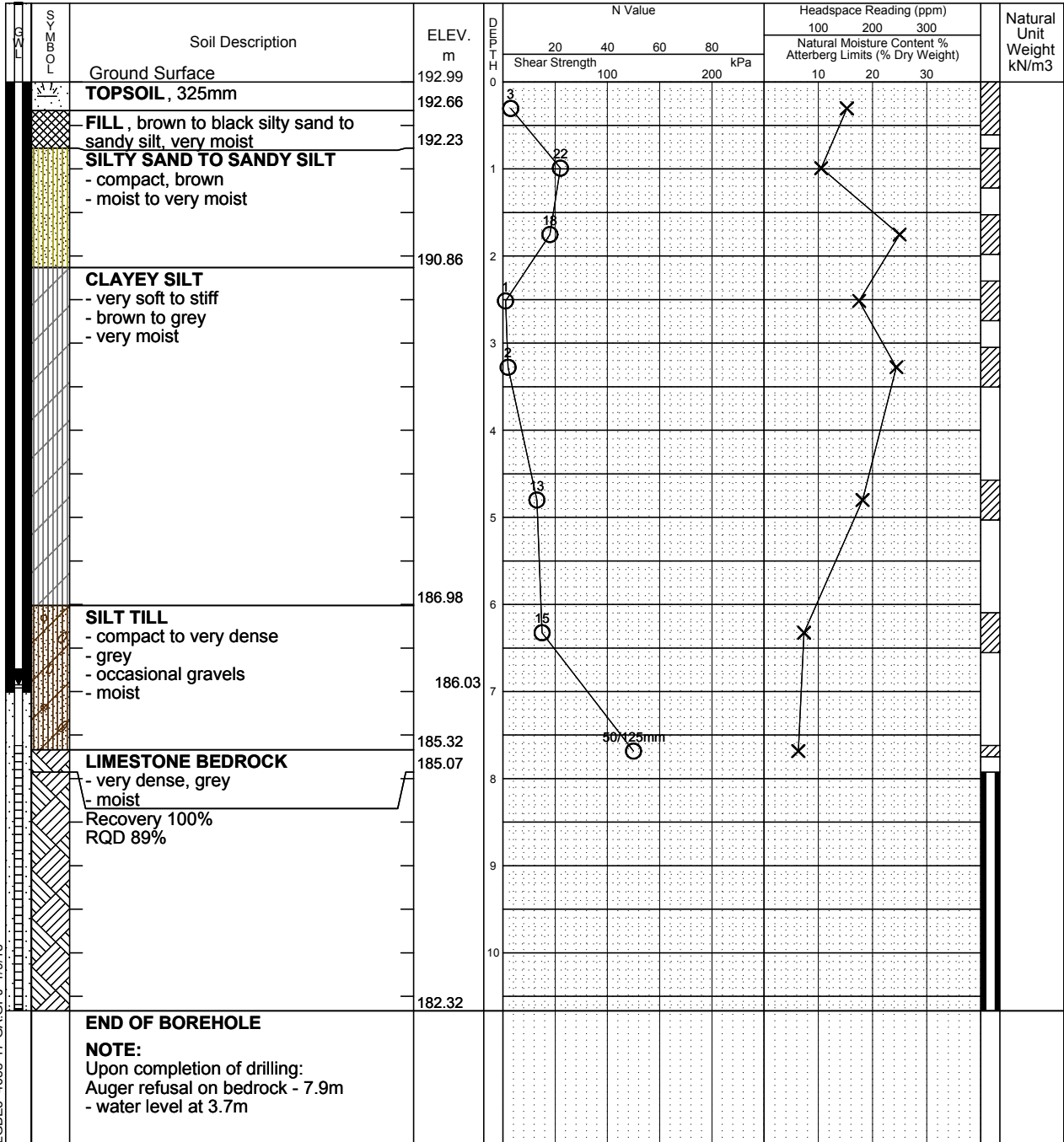
Field Vane Test



% Strain at Failure



Penetrometer



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	6.96m	

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/16/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



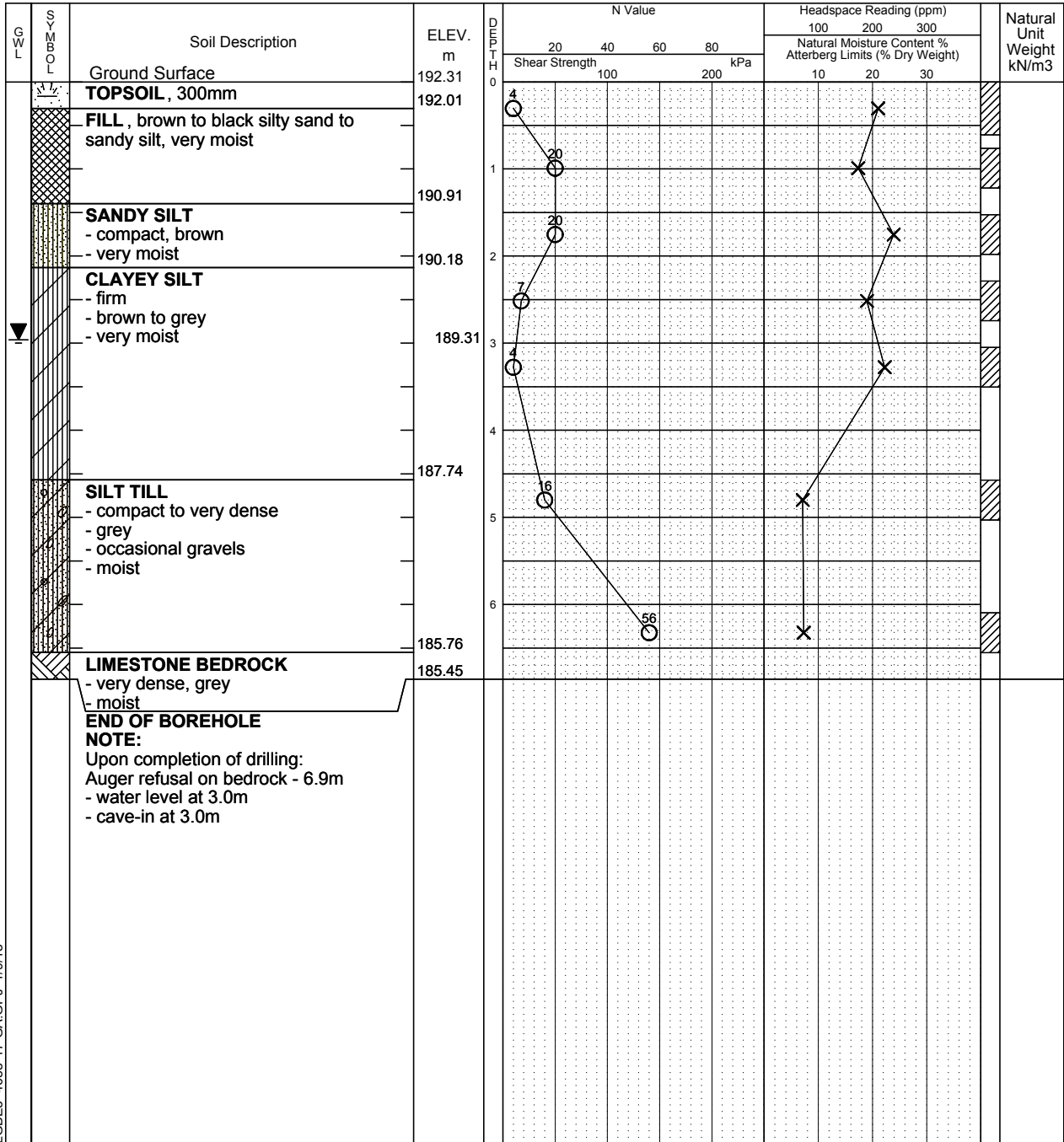
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/18/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



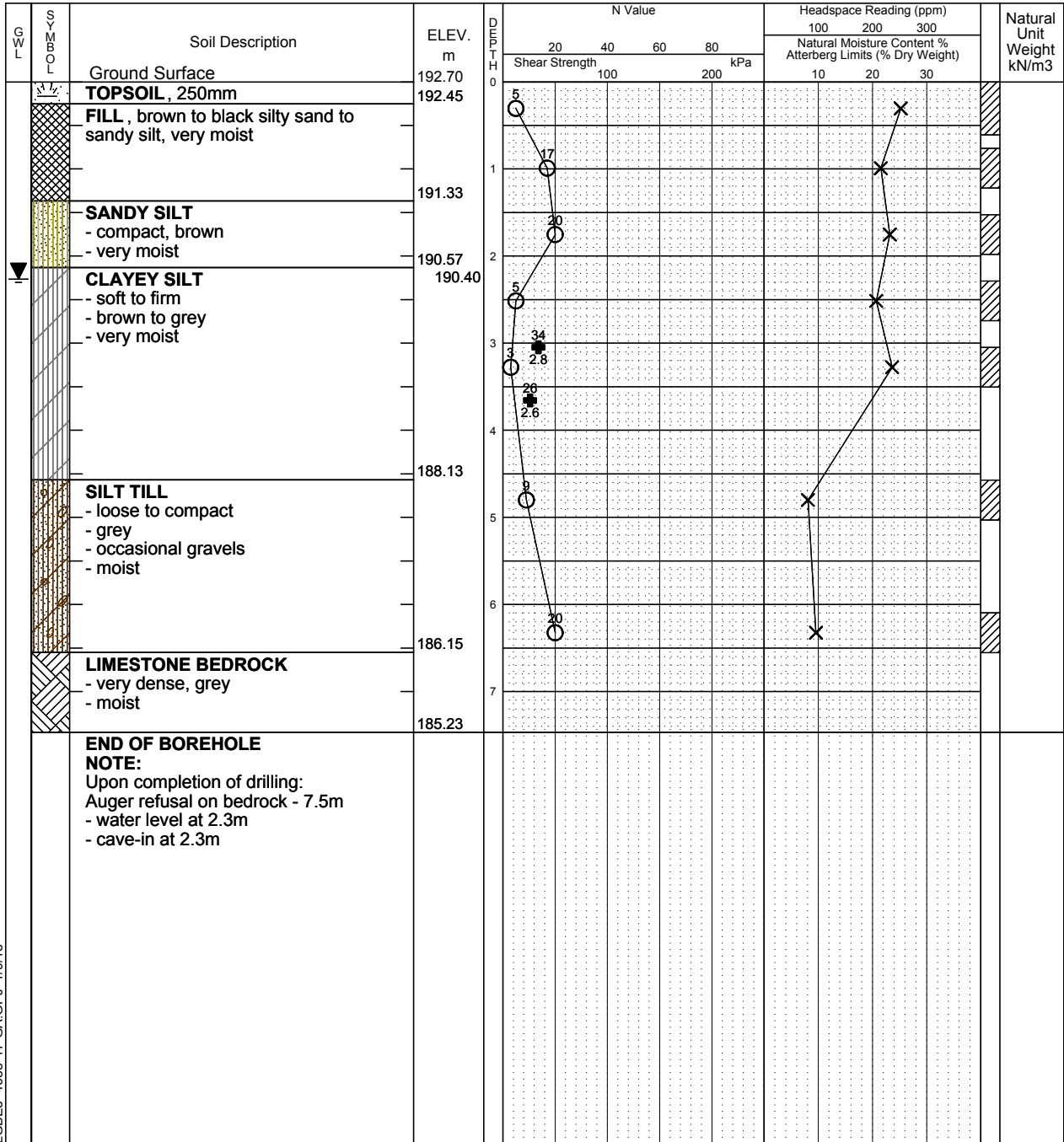
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

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Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/17/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



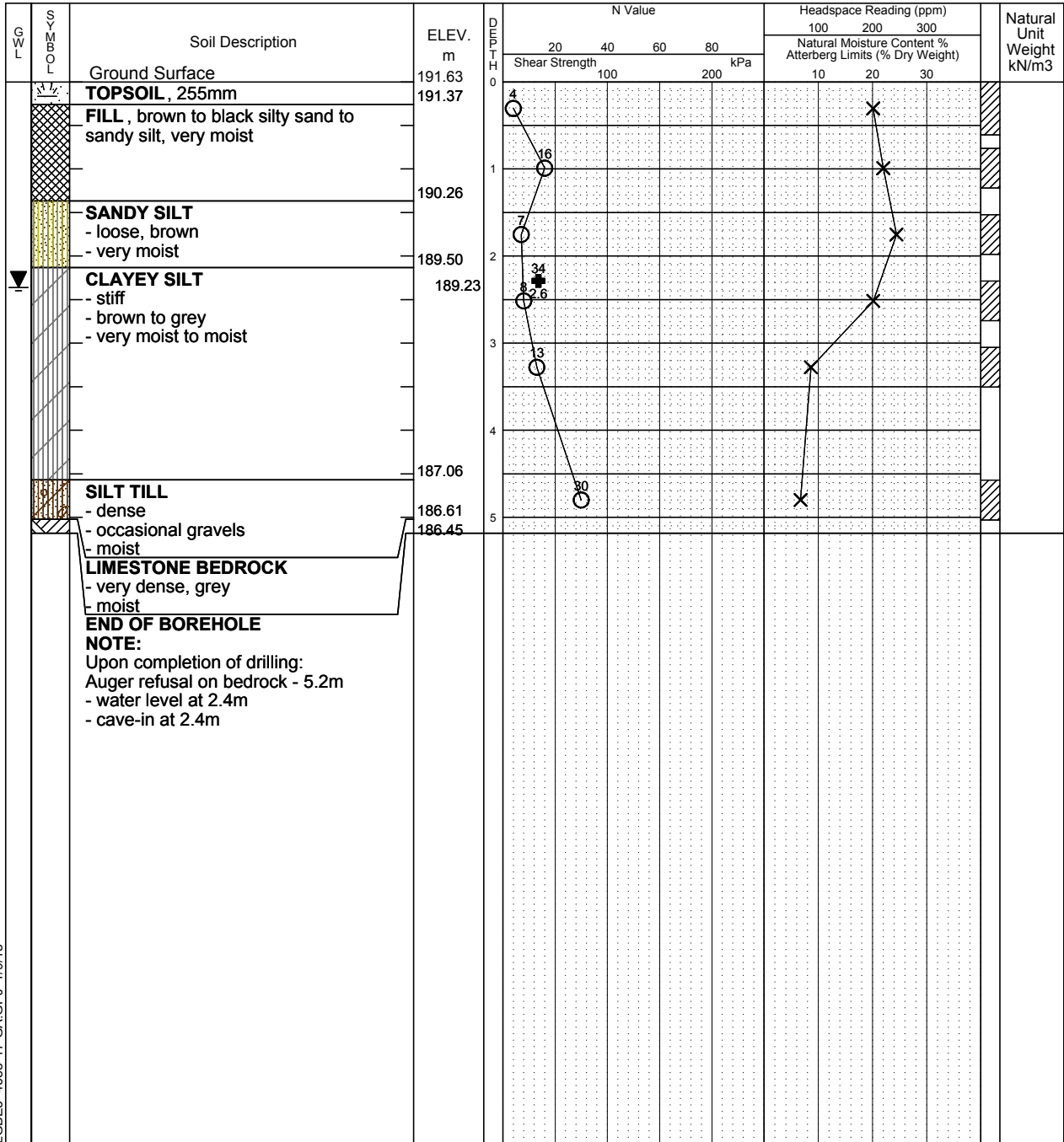
Unconfined Compression



Field Vane Test



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

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Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/17/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression

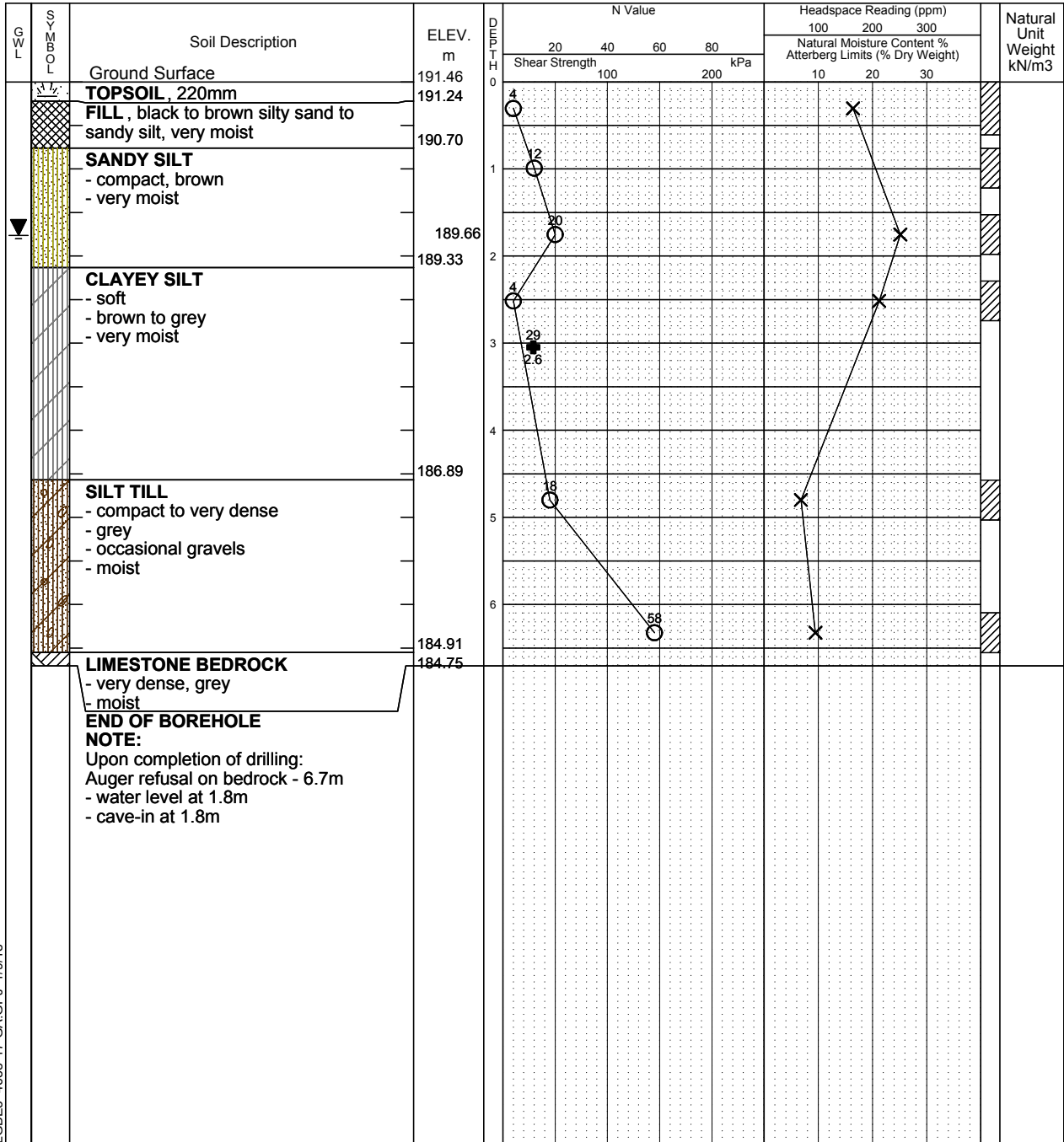


Datum: Geodetic

Field Vane Test



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/19/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



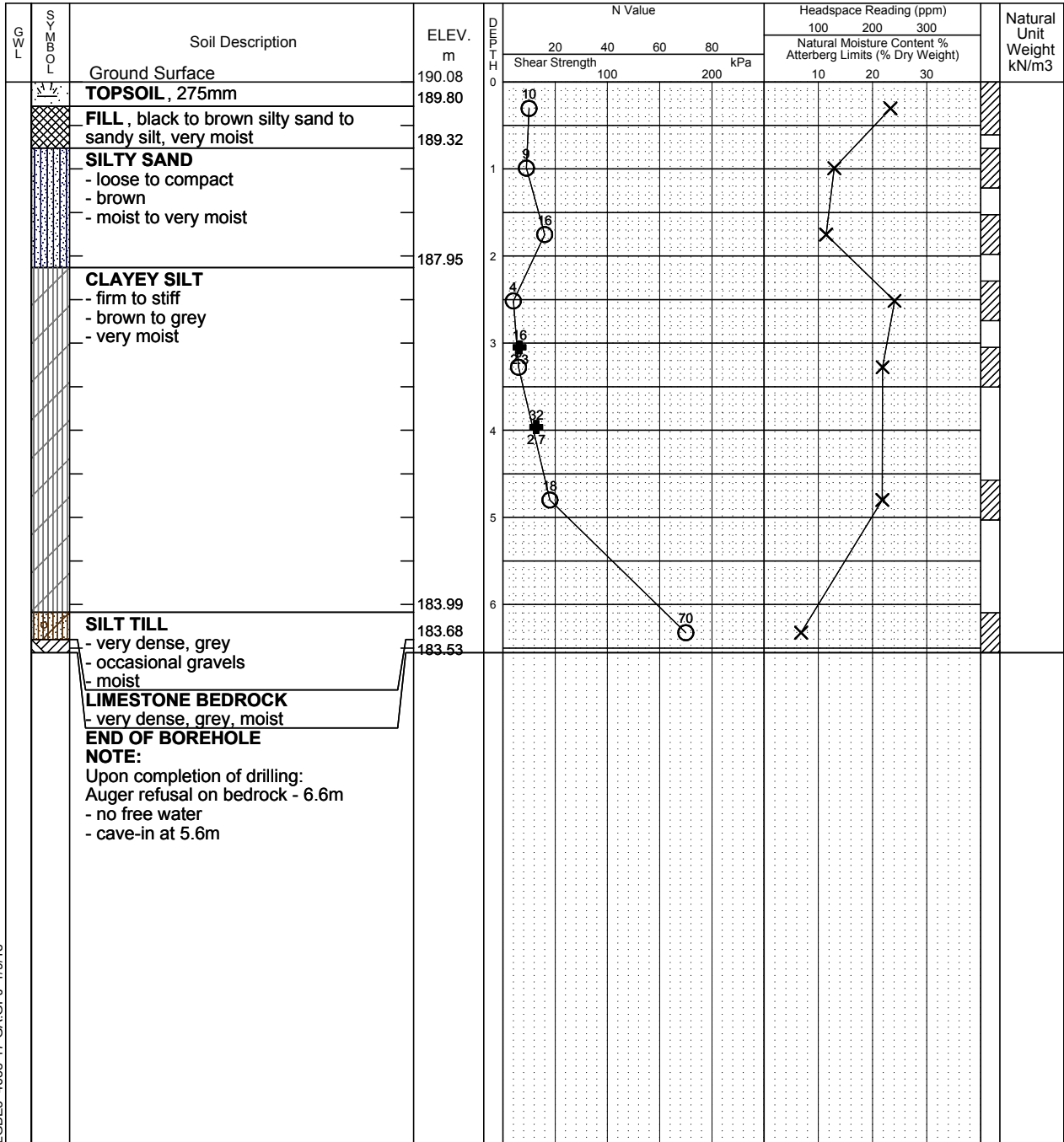
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/17/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



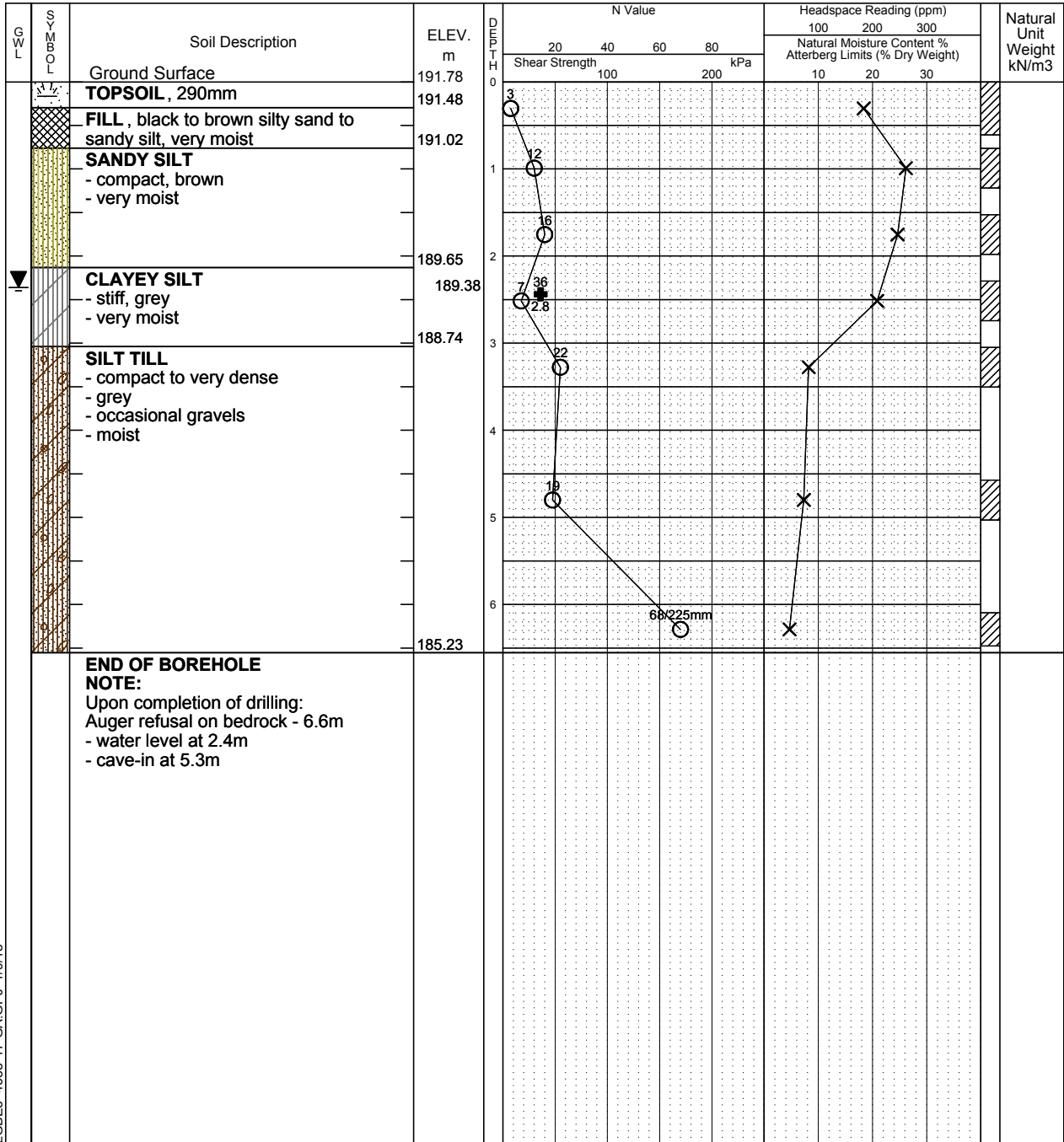
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/18/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



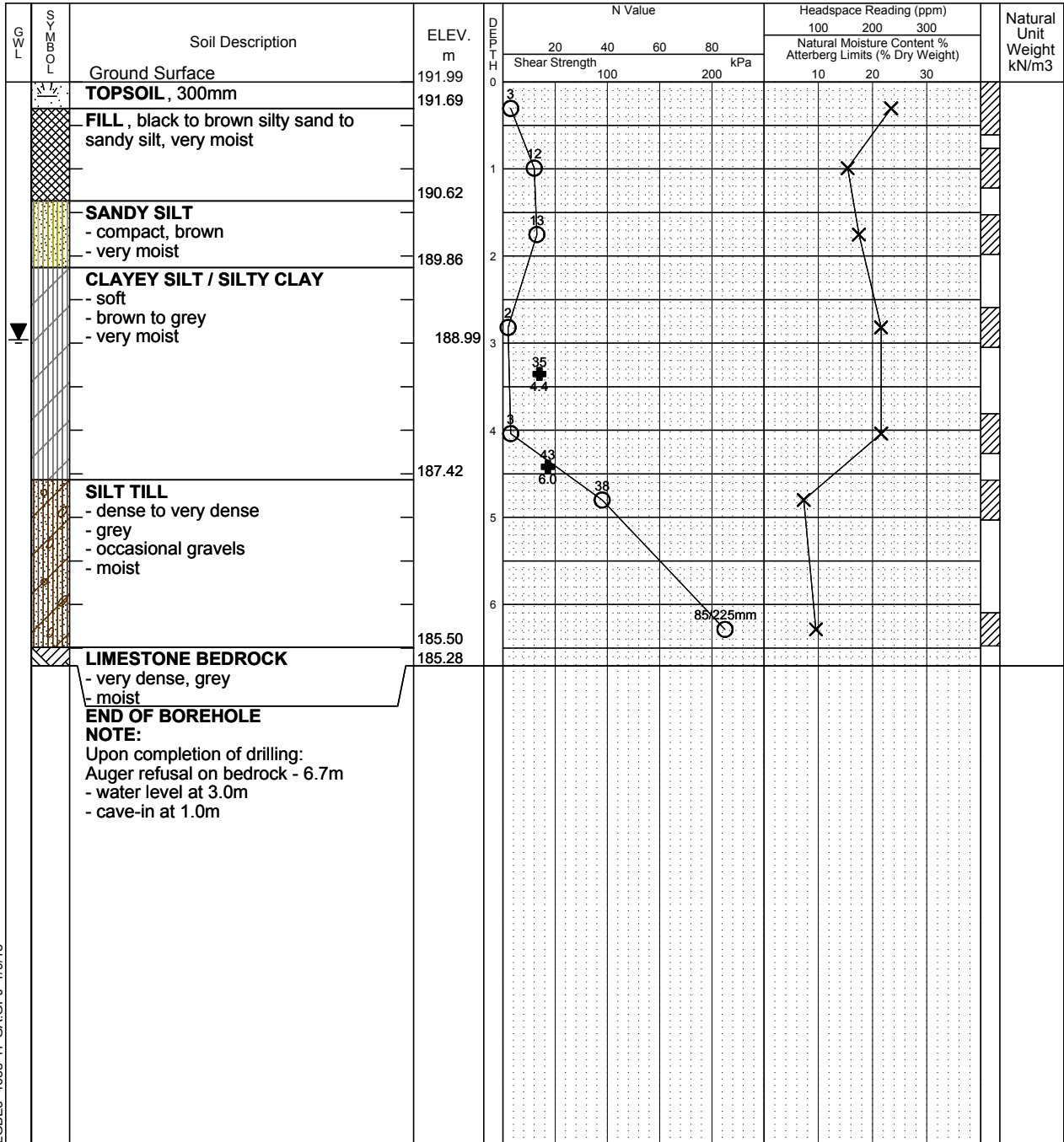
Field Vane Test



% Strain at Failure



Penetrometer



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Toronto Inspection Ltd.

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

LGBE3 4688-17-GA.GPJ 1/9/18

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/18/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



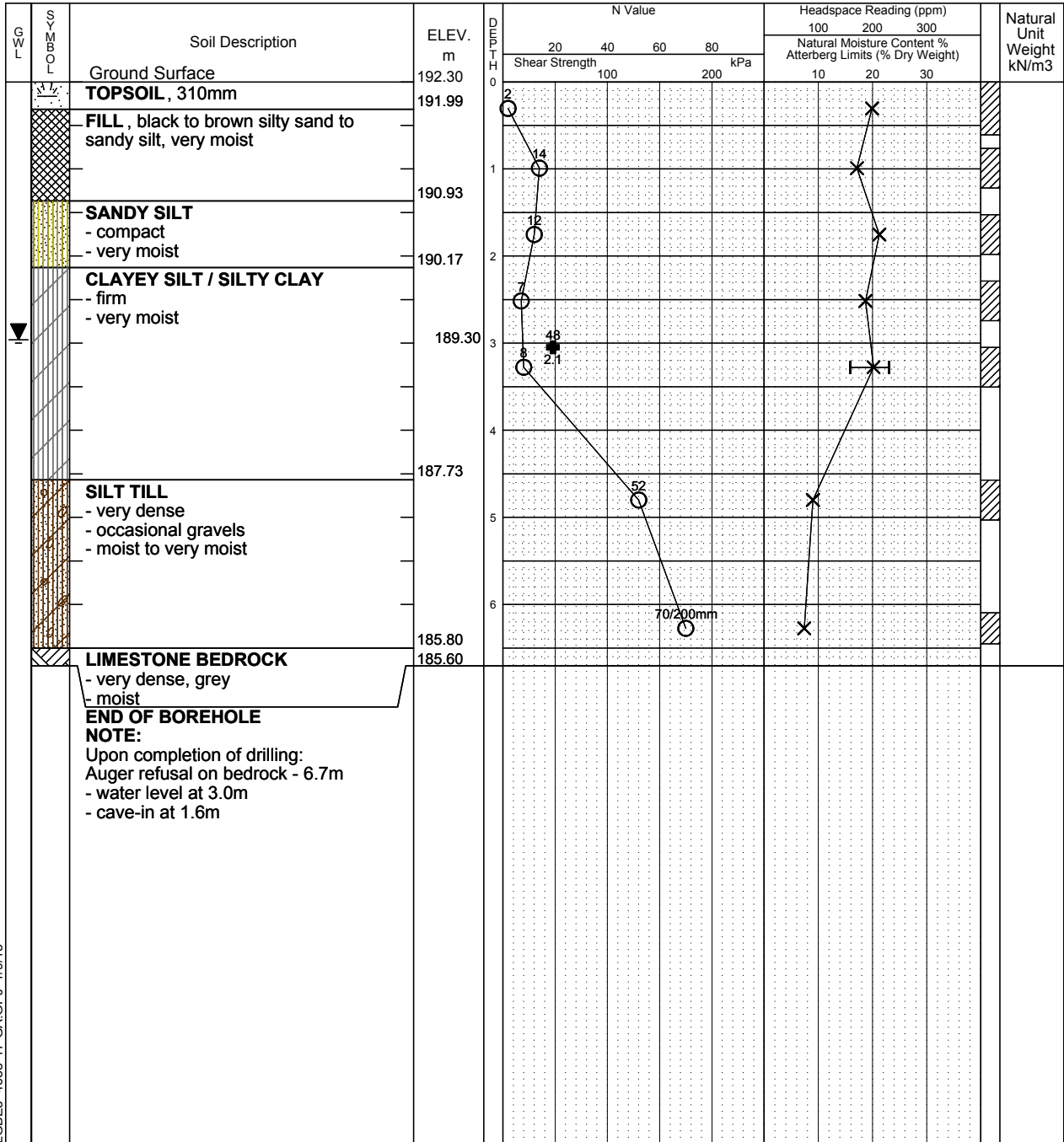
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/19/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



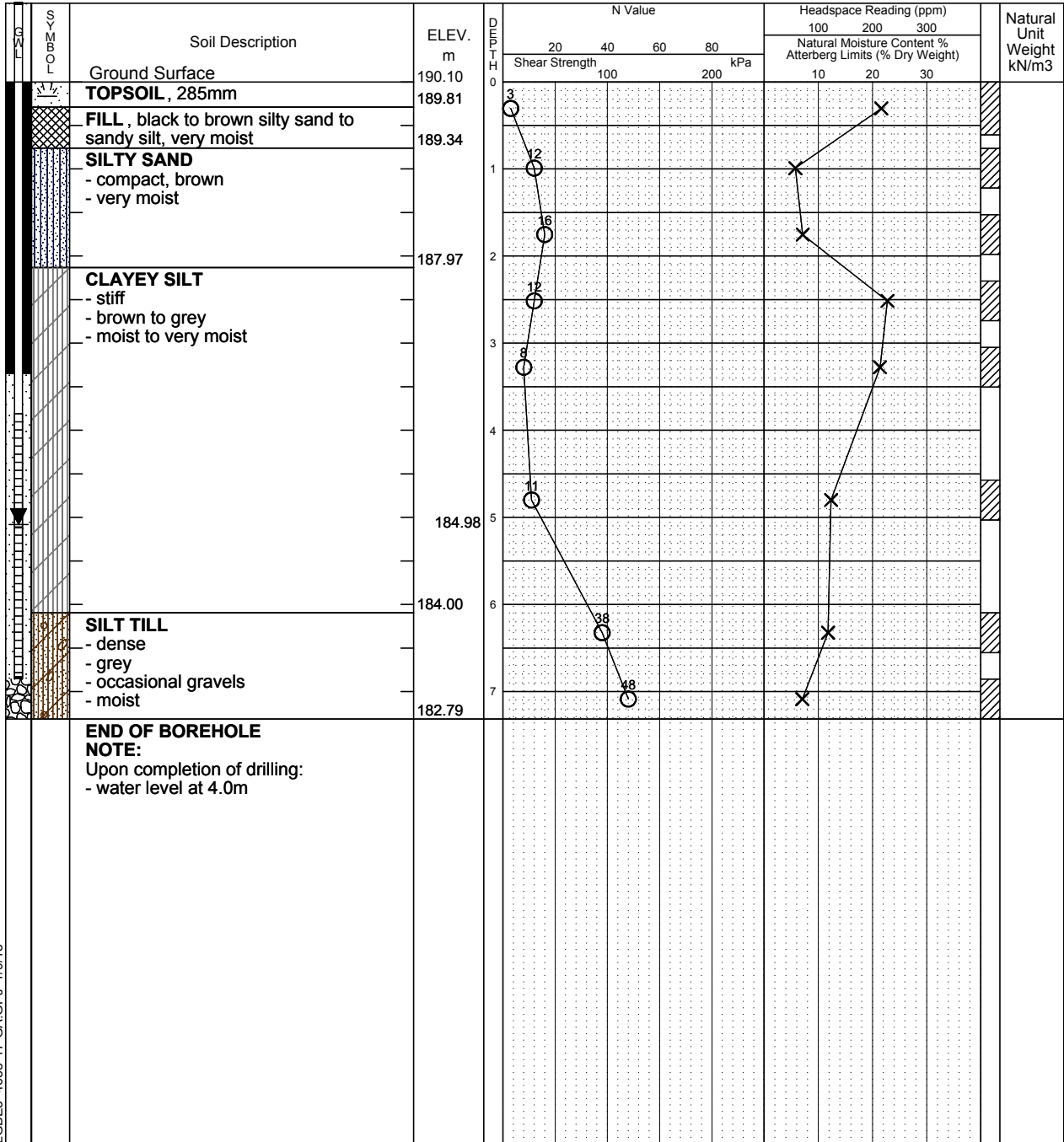
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	5.12m	

Date Drilled: 11/17/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



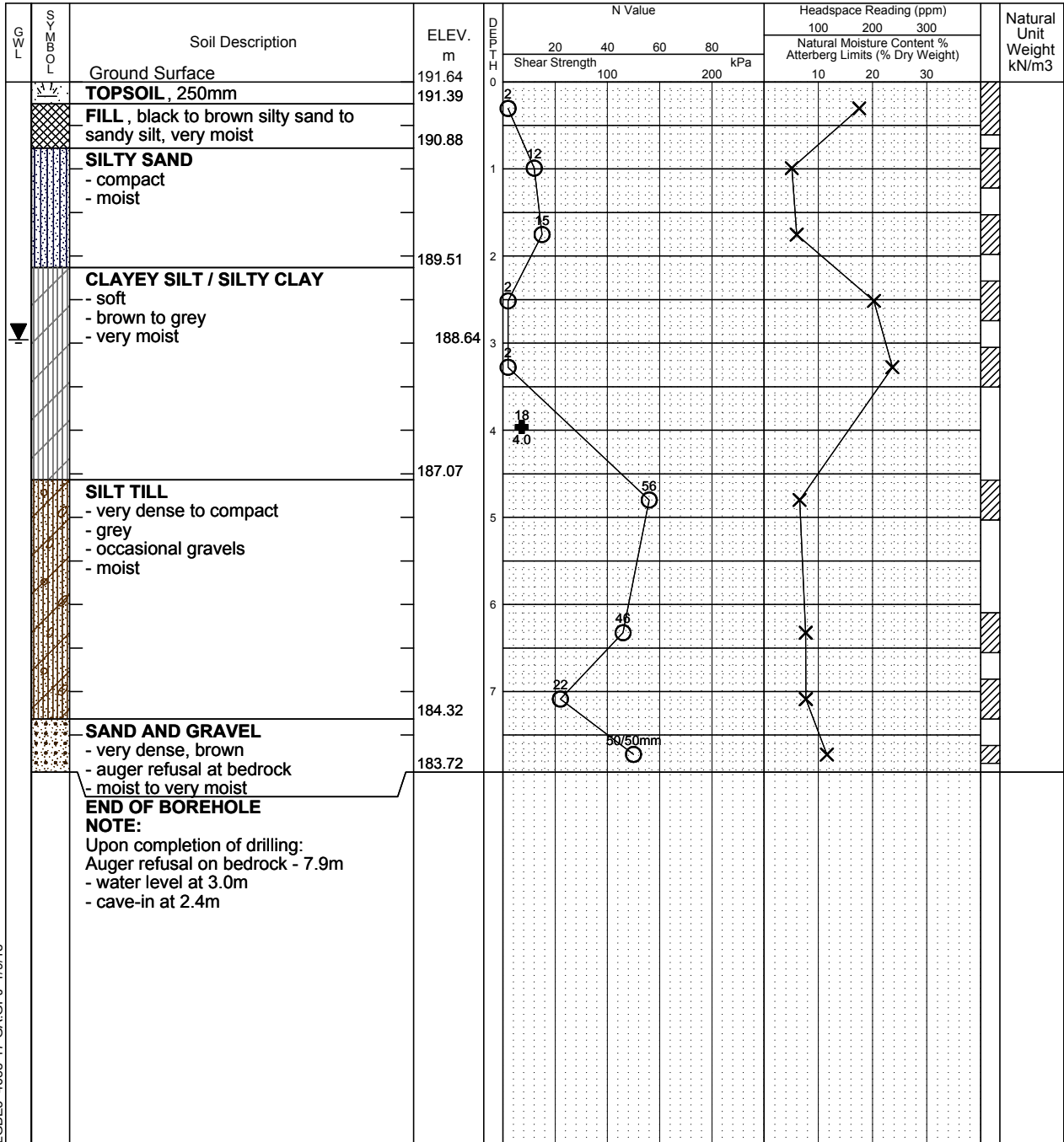
Field Vane Test



% Strain at Failure



Penetrometer



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/24/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



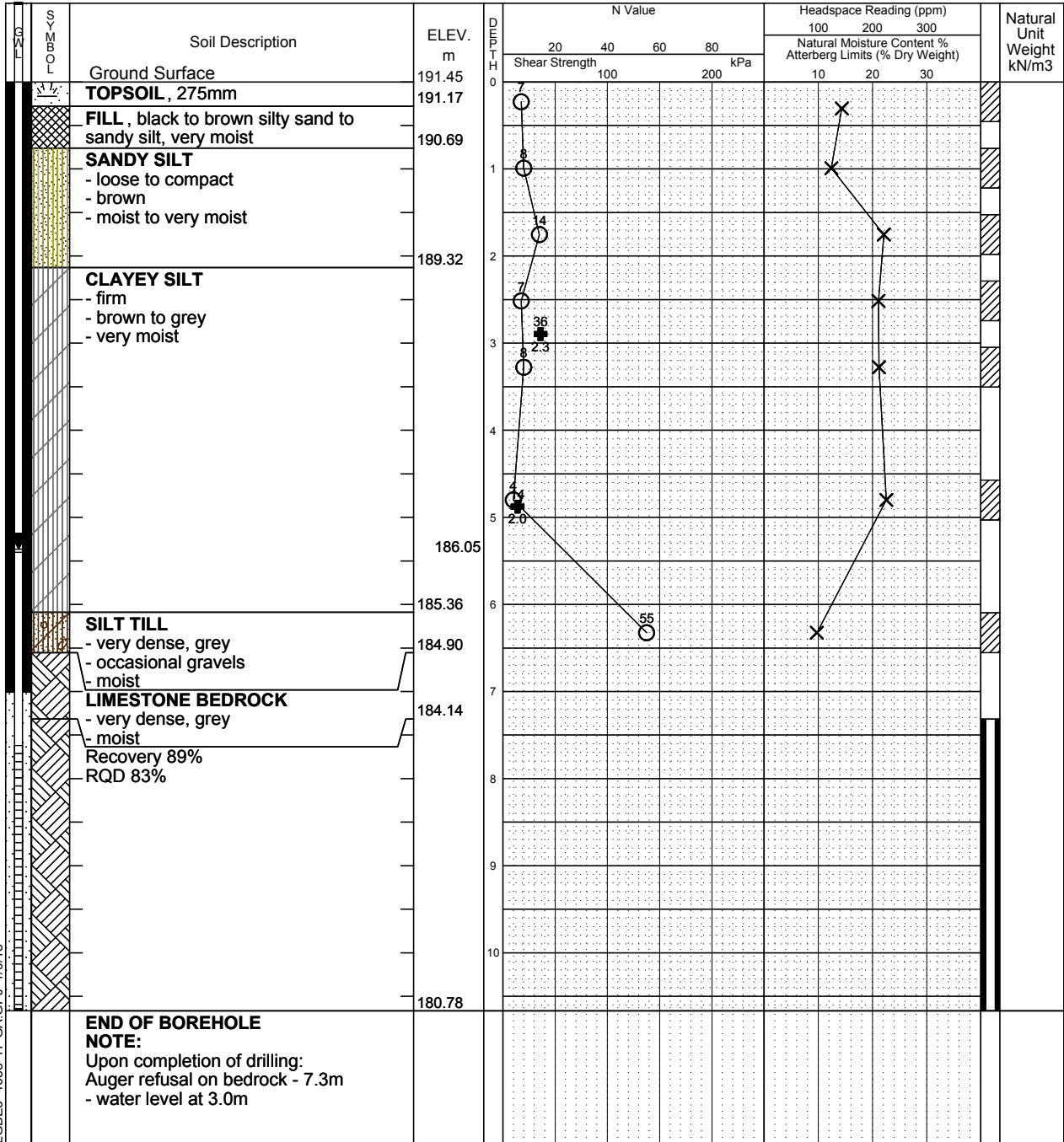
Field Vane Test



% Strain at Failure



Penetrometer



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	5.40m	

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/23/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



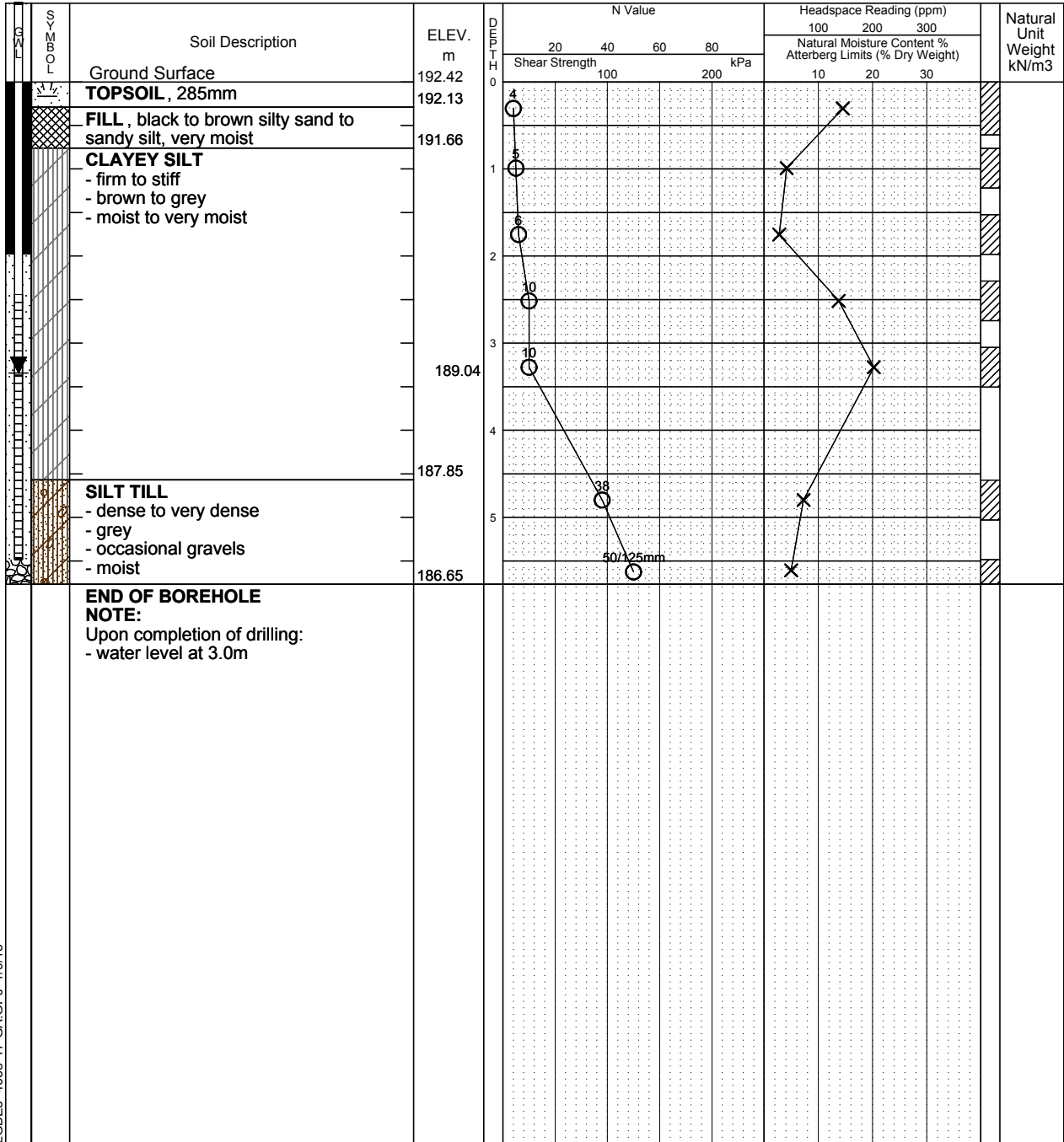
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	3.38m	

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/19/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



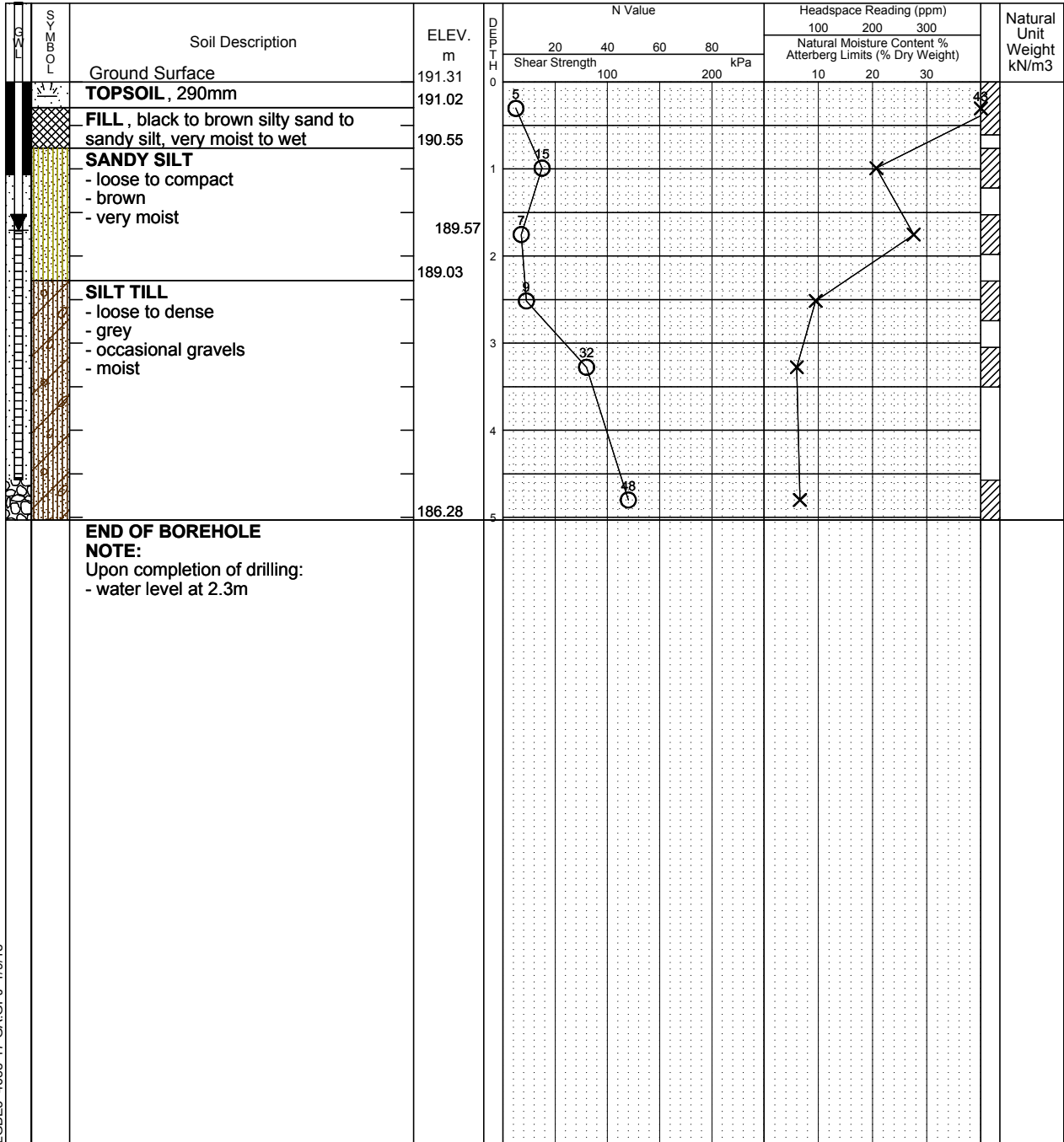
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
Nov. 29, 2017	1.74m	

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/24/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



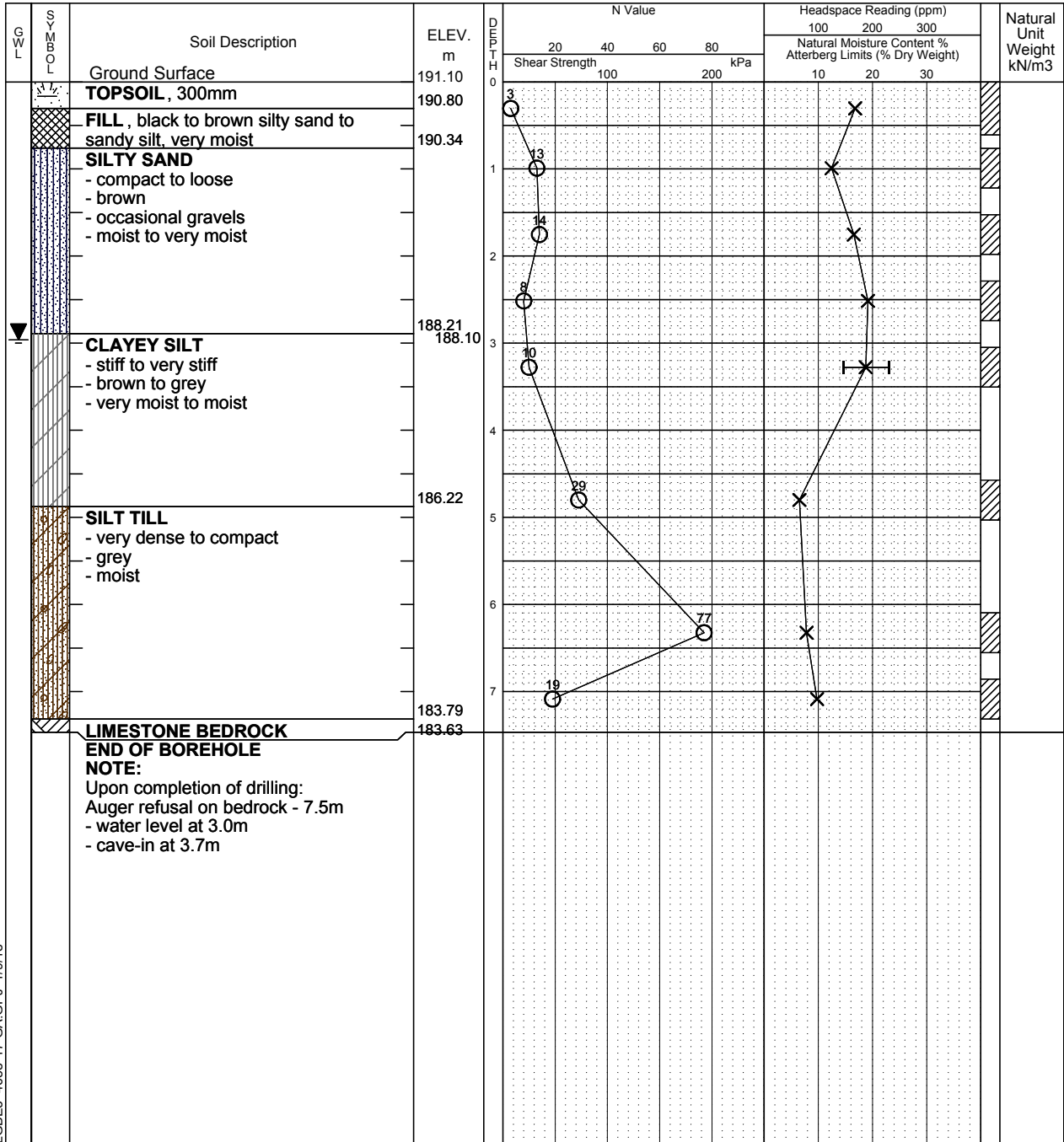
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

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Toronto Inspection Ltd.

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

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 452 Raglan Street, Collingwood, Ontario

Date Drilled: 11/24/17

Auger Sample



Headspace Reading (ppm)



Drill Type: Track Mounted Drill Rig

SPT (N) Value



Natural Moisture



Datum: Geodetic

Dynamic Cone Test



Plastic and Liquid Limit



Shelby Tube



Unconfined Compression



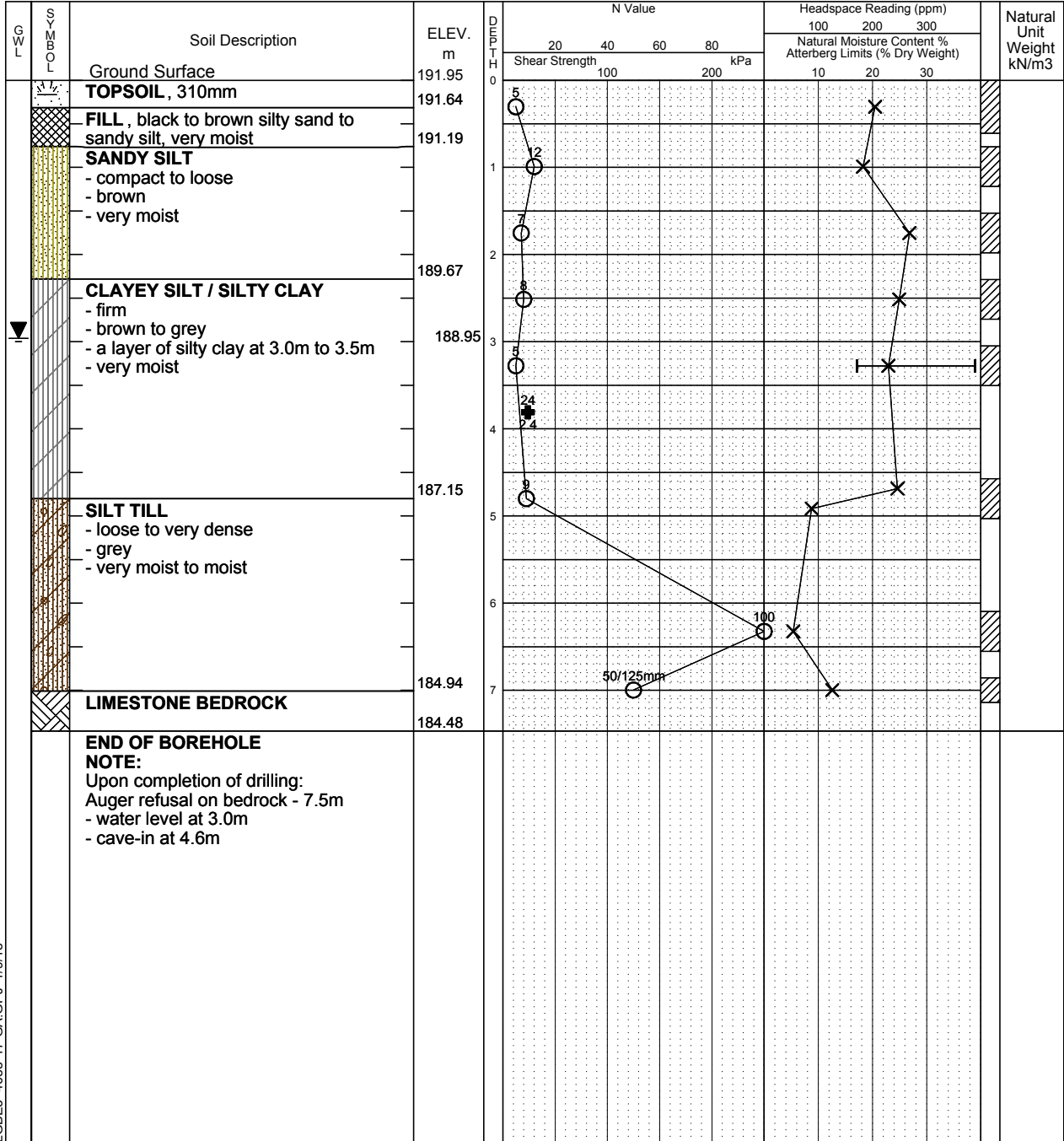
Field Vane Test



% Strain at Failure



Penetrometer



LGBE3 4688-17-GA.GPJ 1/9/18

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

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

Appendix B
Laboratory Analytical Test Results
Soil Analytical Results
Groundwater Analytical Results

TABLE 1		CLIENT: Toronto Inspections									
PARACEL LABORATORIES LTD.		ATTENTION: Janet Geng									
WORKORDER: 1747450		PROJECT: 4688									
REPORT DATE: 12/01/2017		REFERENCE: #17-156 TIL - 2017 Standing Offer - Environmental									
Parameter	Units	MDL	Regulation	Sample							
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 2 Residential, fine	17 MW22 S51 1747450-01	17 MW22 S5x 1747450-02	17 MW18 S51 1747450-03	17 MW18 S54 1747450-04	17 MW22 S51 1747450-05	17 MW22 S55 1747450-06	17 Dup AA 1747450-07	17 Dup BB 1747450-08
Sample Date (m/d/y)			Reg 153/04 (2011)-Table 2 Residential, fine	11/19/2017 08:45 AM	11/19/2017 08:45 AM	11/19/2017 11:00 AM	11/19/2017 12:00 PM	11/19/2017 12:00 PM	11/19/2017 12:00 PM	11/19/2017 12:00 PM	11/19/2017 12:00 PM
Physical Characteristics											
% Solids	% by Wt.	0.1		85.5	80.7	89.5	83.4	83.4	84.6	84.3	88.3
General Inorganics											
SAR	N/A	0.01	5 N/A	0.04	N/A	0.04	N/A	0.04	N/A	N/A	0.04
Conductivity	uS/cm	5	0.7 ms/cm (700 uS/cm)	232	N/A	160	N/A	159	N/A	N/A	168
Cyanide, free	ug/g dry	0.03	0.051 ug/g dry	ND (0.03)	N/A	ND (0.03)	N/A	ND (0.03)	N/A	N/A	ND (0.03)
pH	pH Units	0.05		7.87	N/A	7.78	N/A	7.95	N/A	N/A	7.79
Metals											
Boron, available	ug/g dry	0.5	1.5 ug/g dry	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)	N/A	N/A	ND (0.5)
Chromium (VI)	ug/g dry	0.2	10 ug/g dry	ND (0.2)	N/A	ND (0.2)	N/A	0.3	N/A	N/A	ND (0.2)
Mercury	ug/g dry	0.1	1.8 ug/g dry	ND (0.1)	N/A	ND (0.1)	N/A	ND (0.1)	N/A	N/A	ND (0.1)
Antimony	ug/g dry	1.0	7.5 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Arsenic	ug/g dry	1.0	18 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Barium	ug/g dry	1.0	390 ug/g dry	14.5	N/A	13.0	N/A	11.7	N/A	N/A	11.4
Beryllium	ug/g dry	1.0	5 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Boron	ug/g dry	1.0	120 ug/g dry	3.5	N/A	4.8	N/A	3.6	N/A	N/A	4.2
Cadmium	ug/g dry	0.5	1.2 ug/g dry	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)	N/A	N/A	ND (0.5)
Chromium	ug/g dry	1.0	160 ug/g dry	6.3	N/A	7.1	N/A	7.6	N/A	N/A	6.2
Cobalt	ug/g dry	1.0	22 ug/g dry	1.9	N/A	2.4	N/A	1.8	N/A	N/A	2.5
Copper	ug/g dry	1.0	180 ug/g dry	4.3	N/A	6.2	N/A	4.2	N/A	N/A	5.5
Lead	ug/g dry	1.0	120 ug/g dry	8.4	N/A	9.5	N/A	5.0	N/A	N/A	7.6
Molybdenum	ug/g dry	1.0	6.9 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Nickel	ug/g dry	1.0	130 ug/g dry	4.7	N/A	5.4	N/A	5.0	N/A	N/A	4.9
Selenium	ug/g dry	1.0	2.4 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Silver	ug/g dry	0.5	25 ug/g dry	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)	N/A	N/A	ND (0.5)
Thallium	ug/g dry	1.0	1 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Uranium	ug/g dry	1.0	23 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Vanadium	ug/g dry	1.0	86 ug/g dry	10.8	N/A	14.5	N/A	11.5	N/A	N/A	11.9
Zinc	ug/g dry	1.0	340 ug/g dry	12.1	N/A	23.7	N/A	15.4	N/A	N/A	20.9
Volatiles											
Acetone	ug/g dry	0.50	28 ug/g dry	N/A	ND (0.50)	N/A	ND (0.50)	N/A	ND (0.50)	ND (0.50)	N/A
Benzene	ug/g dry	0.02	0.17 ug/g dry	N/A	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Bromodichloromethane	ug/g dry	0.05	1.9 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Bromoform	ug/g dry	0.05	0.26 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Bromomethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Carbon Tetrachloride	ug/g dry	0.05	0.12 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Chlorobenzene	ug/g dry	0.05	2.7 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Chloroform	ug/g dry	0.05	0.18 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Dibromochloromethane	ug/g dry	0.05	2.9 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Dichlorodifluoromethane	ug/g dry	0.05	25 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,2-Dichlorobenzene	ug/g dry	0.05	1.7 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,3-Dichlorobenzene	ug/g dry	0.05	6 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,4-Dichlorobenzene	ug/g dry	0.05	0.097 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1-Dichloroethane	ug/g dry	0.05	0.6 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,2-Dichloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1-Dichloroethylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
cis-1,2-Dichloroethylene	ug/g dry	0.05	2.5 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
trans-1,2-Dichloroethylene	ug/g dry	0.05	0.75 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,2-Dichloropropane	ug/g dry	0.05	0.085 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
cis-1,3-Dichloropropylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
trans-1,3-Dichloropropylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,3-Dichloropropane, total	ug/g dry	0.05	0.081 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Ethylbenzene	ug/g dry	0.05	1.6 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Ethylene dibromide (dibromoethane)	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Hexane	ug/g dry	0.05	34 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	0.50	44 ug/g dry	N/A	ND (0.50)	N/A	ND (0.50)	N/A	ND (0.50)	ND (0.50)	N/A
Methyl Isobutyl Ketone	ug/g dry	0.50	4.3 ug/g dry	N/A	ND (0.50)	N/A	ND (0.50)	N/A	ND (0.50)	ND (0.50)	N/A
Methyl tert-butyl ether	ug/g dry	0.05	1.4 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Methylene Chloride	ug/g dry	0.05	0.96 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Styrene	ug/g dry	0.05	2.2 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Tetrachloroethylene	ug/g dry	0.05	2.3 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Toluene	ug/g dry	0.05	6 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,1-Trichloroethane	ug/g dry	0.05	3.4 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,2-Trichloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Trichloroethylene	ug/g dry	0.05	0.52 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Trichlorofluoromethane	ug/g dry	0.05	5.8 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Vinyl Chloride	ug/g dry	0.02	0.022 ug/g dry	N/A	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
m/p-Xylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
o-Xylene	ug/g dry	0.05	N/A	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Xylenes, total	ug/g dry	0.05	25 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Hydrocarbons											
F1 PHCs (C6-C10)	ug/g dry	7	65 ug/g dry	N/A	ND (7)	N/A	ND (7)	N/A	ND (7)	ND (7)	N/A
F2 PHCs (C10-C16)	ug/g dry	4	150 ug/g dry	N/A	ND (4)	N/A	ND (4)	N/A	ND (4)	ND (4)	N/A
F3 PHCs (C16-C34)	ug/g dry	8	1300 ug/g dry	N/A	ND (8)	N/A	ND (8)	N/A	ND (8)	ND (8)	N/A
F4 PHCs (C34-C50)	ug/g dry	6	5600 ug/g dry	N/A	ND (6)	N/A	ND (6)	N/A	ND (6)	ND (6)	N/A
Semi-Volatiles											
Acenaphthene	ug/g dry	0.02	29 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Acenaphthylene	ug/g dry	0.02	0.17 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Anthracene	ug/g dry	0.02	0.74 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[a]anthracene	ug/g dry	0.02	0.63 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[a]pyrene	ug/g dry	0.02	0.3 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[b]fluoranthene	ug/g dry	0.02	0.78 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[e]fluoranthene	ug/g dry	0.02	7.8 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[k]fluoranthene	ug/g dry	0.02	0.78 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Chrysene	ug/g dry	0.02	7.3 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Dibenzo[a,h]anthracene	ug/g dry	0.02	0.1 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Fluoranthene	ug/g dry	0.02	0.69 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Fluorene	ug/g dry	0.02	69 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Indeno[1,2,3-cd]pyrene	ug/g dry	0.02	0.48 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
1-Methylnaphthalene	ug/g dry	0.02	3.4 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
2-Methylnaphthalene	ug/g dry	0.02	3.4 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Methylnaphthalene (1&2)	ug/g dry	0.04	3.4 ug/g dry	ND (0.04)	N/A	ND (0.04)	N/A	ND (0.04)	N/A	N/A	ND (0.04)
Naphthalene	ug/g dry	0.01	0.75 ug/g dry	ND (0.01)	N/A	ND (0.01)	N/A	ND (0.01)	N/A	N/A	ND (0.01)
Phenanthrene	ug/g dry	0.02	7.8 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Pyrene	ug/g dry	0.02	7.8 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)



Regulation/Guideline Selection Criteria Menu:

O.Reg 153 Table 2 Soil Residential/Parkland/Inst. (Fine/Mec) ▼

Method	Parameter	Unit	Reg Value	Sample # Description Sampling Date Reg Unit	1029796	1029797	1029798
					17MW22 SS1 2017-11-19 Soil	17MW18 SS1 2017-11-19 Soil	17MW2 SS1 2017-11-19 Soil
Moisture	% Moisture	%			15.5	21.5	22.4
OCPs Soil	2,4'-DDD	µg/g			<0.01	<0.01	<0.01
OCPs Soil	2,4'-DDE	µg/g			<0.01	<0.01	<0.01
OCPs Soil	2,4'-DDT	µg/g			<0.01	<0.01	<0.01
OCPs Soil	4,4'-DDD	µg/g			<0.01	<0.01	<0.01
OCPs Soil	4,4'-DDE	µg/g			<0.01	<0.01	<0.01
OCPs Soil	4,4'-DDT	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Aldrin	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	DDD (Total)	µg/g	3.3	µg/g	<0.01	<0.01	<0.01
OCPs Soil	DDE (Total)	µg/g	0.33	µg/g	<0.01	<0.01	<0.01
OCPs Soil	DDT (Total)	µg/g	1.4	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Decachlorobiphenyl (Surr.)	% Rec			139	121	136
OCPs Soil	Dieldrin	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Endosulfan I	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Endosulfan I + II	µg/g	0.04	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Endosulfan II	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Endosulfan sulfate	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Endrin	µg/g	0.04	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Endrin aldehyde	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Heptachlor	µg/g	0.15	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Heptachlor epoxide	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Hexachlorobenzene	µg/g	0.52	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Hexachlorobutadiene	µg/g	0.014	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Hexachloroethane	µg/g	0.071	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Methoxychlor	µg/g	0.13	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Mirex	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Oxychlorane	µg/g			<0.01	<0.01	<0.01
OCPs Soil	β-BHC	µg/g			<0.01	<0.01	<0.01
OCPs Soil	α - Chlordane	µg/g			<0.01	<0.01	<0.01
OCPs Soil	α + γ -Chlordane	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	α-BHC	µg/g			<0.01	<0.01	<0.01
OCPs Soil	γ - Chlordane	µg/g			<0.01	<0.01	<0.01
OCPs Soil	γ-BHC (Lindane)	µg/g	0.063	µg/g	<0.01	<0.01	<0.01
OCPs Soil	δ-BHC	µg/g			<0.01	<0.01	<0.01

Please note that the term Reg. Value in the context of this spreadsheet may refer to regulatory limits, regulatory guidelines, standards or objectives set out by government regulation, or site-specific requirements.

Highlighted results indicate a measured value that exceeds the reported Reg. Value.

Highlighted units indicate a discrepancy with the Reg. Unit. This may affect the functionality of the report to properly indicate an exceeded value. Measured values and units should be converted in order to compare criteria.

TESTMARK Laboratories Ltd. has included the criteria values set by the appropriate government agency as part of this spreadsheet for purposes of reference only.

These values may or may not accurately reflect the current values prescribed by government regulation and it is the Client's responsibility to compare the results reported herein with official government sources to ensure it meets the prescribed criteria.

Should any discrepancies be discovered or should you have any questions or comments regarding the information in this spreadsheet, please contact TESTMARK Laboratories Ltd. by phone or by e-mail at reports@testmark.ca.

This spreadsheet contains condensed and summarized material and is not intended to replace the Analytical Report, but to be used as a convenience and comparison tool only. For full analytical details including QA/QC data, please refer back to the Analytical Report in its entirety.

TABLE 1		CLIENT: Toronto Inspections									
PARACEL LABORATORIES LTD.		ATTENTION: Janet Geng									
WORKORDER: 1747450		PROJECT: 4688									
REPORT DATE: 12/01/2017		REFERENCE: #17-156 TIL - 2017 Standing Offer - Environmental									
Parameter	Units	MDL	Regulation	Sample							
				17 MW22 S51 1747450-01	17 MW22 S5x 1747450-02	17 MW18 S51 1747450-03	17 MW18 S54 1747450-04	17 MW22 S51 1747450-05	17 MW22 S55 1747450-06	17 Dup AA 1747450-07	17 Dup BB 1747450-08
Sample Date (m/d/y)		Reg 153/04 (2011)-Table 8 Residential/Industrial, Potable									
		11/19/2017 08:45 AM 11/19/2017 08:45 AM 11/19/2017 11:00 AM 11/19/2017 12:00 PM 11/19/2017 12:00 PM 11/19/2017 12:00 PM 11/19/2017 12:00 PM 11/19/2017 12:00 PM									
Physical Characteristics											
% Solids	% by Wt.	0.1		85.5	80.7	89.5	83.4	83.4	84.6	84.3	88.3
General Inorganics											
SAR	N/A	0.01	5 N/A	0.04	N/A	0.04	N/A	0.04	N/A	N/A	0.04
Conductivity	uS/cm	5	0.7 mS/cm (700 uS/cm)	232	N/A	160	N/A	159	N/A	N/A	168
Cyanide, free	ug/g dry	0.03	0.051 ug/g dry	ND (0.03)	N/A	ND (0.03)	N/A	ND (0.03)	N/A	N/A	ND (0.03)
pH	pH Units	0.05		7.87	N/A	7.78	N/A	7.95	N/A	N/A	7.79
Metals											
Boron, available	ug/g dry	0.5	1.5 ug/g dry	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)	N/A	N/A	ND (0.5)
Chromium (VI)	ug/g dry	0.2	0.66 ug/g dry	ND (0.2)	N/A	ND (0.2)	N/A	ND (0.2)	N/A	N/A	ND (0.2)
Mercury	ug/g dry	0.1	0.27 ug/g dry	ND (0.1)	N/A	ND (0.1)	N/A	ND (0.1)	N/A	N/A	ND (0.1)
Antimony	ug/g dry	1.0	1.3 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Arsenic	ug/g dry	1.0	18 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Barium	ug/g dry	1.0	220 ug/g dry	14.5	N/A	13.0	N/A	11.7	N/A	N/A	11.4
Beryllium	ug/g dry	1.0	2.5 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Boron	ug/g dry	1.0	36 ug/g dry	3.5	N/A	4.8	N/A	3.6	N/A	N/A	4.2
Cadmium	ug/g dry	0.5	1.2 ug/g dry	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)	N/A	N/A	ND (0.5)
Chromium	ug/g dry	1.0	70 ug/g dry	6.3	N/A	7.1	N/A	7.6	N/A	N/A	6.2
Cobalt	ug/g dry	1.0	22 ug/g dry	1.9	N/A	2.4	N/A	1.8	N/A	N/A	2.5
Copper	ug/g dry	1.0	92 ug/g dry	4.3	N/A	6.2	N/A	4.2	N/A	N/A	5.5
Lead	ug/g dry	1.0	120 ug/g dry	8.4	N/A	9.5	N/A	5.0	N/A	N/A	7.6
Molybdenum	ug/g dry	1.0	2 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Nickel	ug/g dry	1.0	82 ug/g dry	4.7	N/A	5.4	N/A	5.0	N/A	N/A	4.9
Selenium	ug/g dry	1.0	1.5 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Silver	ug/g dry	0.5	0.5 ug/g dry	ND (0.5)	N/A	ND (0.5)	N/A	ND (0.5)	N/A	N/A	ND (0.5)
Thallium	ug/g dry	1.0	1 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Uranium	ug/g dry	1.0	2.5 ug/g dry	ND (1.0)	N/A	ND (1.0)	N/A	ND (1.0)	N/A	N/A	ND (1.0)
Vanadium	ug/g dry	1.0	86 ug/g dry	10.8	N/A	14.5	N/A	11.5	N/A	N/A	11.9
Zinc	ug/g dry	1.0	290 ug/g dry	12.1	N/A	23.7	N/A	15.4	N/A	N/A	20.9
Volatiles											
Acetone	ug/g dry	0.50	0.5 ug/g dry	N/A	ND (0.50)	N/A	ND (0.50)	N/A	ND (0.50)	ND (0.50)	N/A
Benzene	ug/g dry	0.02	0.02 ug/g dry	N/A	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
Bromodichloromethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Bromoform	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Bromomethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Carbon Tetrachloride	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Chlorobenzene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Chloroform	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Dibromochloromethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Dichlorodifluoromethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,2-Dichlorobenzene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,3-Dichlorobenzene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,4-Dichlorobenzene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1-Dichloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,2-Dichloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1-Dichloroethylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
cis-1,2-Dichloroethylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
trans-1,2-Dichloroethylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,2-Dichloropropane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
cis-1,3-Dichloropropylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
trans-1,3-Dichloropropylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,3-Dichloropropane, total	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Ethylbenzene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Ethylene dibromide (dibromoethane)	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Hexane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Methyl Ethyl Ketone (2-Butanone)	ug/g dry	0.50	0.5 ug/g dry	N/A	ND (0.50)	N/A	ND (0.50)	N/A	ND (0.50)	ND (0.50)	N/A
Methyl Isobutyl Ketone	ug/g dry	0.50	0.5 ug/g dry	N/A	ND (0.50)	N/A	ND (0.50)	N/A	ND (0.50)	ND (0.50)	N/A
Methyl tert-butyl ether	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Methylene Chloride	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Styrene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,1,2-Tetrachloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,1,2,2-Tetrachloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Tetrachloroethylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Toluene	ug/g dry	0.05	0.2 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,1-Trichloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
1,1,2-Trichloroethane	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Trichloroethylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Trichlorofluoromethane	ug/g dry	0.05	0.25 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Vinyl Chloride	ug/g dry	0.02	0.02 ug/g dry	N/A	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	ND (0.02)	N/A
m/p-Xylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
o-Xylene	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Xylenes, total	ug/g dry	0.05	0.05 ug/g dry	N/A	ND (0.05)	N/A	ND (0.05)	N/A	ND (0.05)	ND (0.05)	N/A
Hydrocarbons											
F1 PHCs (C6-C10)	ug/g dry	7	25 ug/g dry	N/A	ND (7)	N/A	ND (7)	N/A	ND (7)	ND (7)	N/A
F2 PHCs (C10-C16)	ug/g dry	4	10 ug/g dry	N/A	ND (4)	N/A	ND (4)	N/A	ND (4)	ND (4)	N/A
F3 PHCs (C16-C34)	ug/g dry	8	240 ug/g dry	N/A	ND (8)	N/A	ND (8)	N/A	ND (8)	ND (8)	N/A
F4 PHCs (C34-C50)	ug/g dry	6	120 ug/g dry	N/A	ND (6)	N/A	ND (6)	N/A	ND (6)	ND (6)	N/A
Semi-Volatiles											
Acenaphthene	ug/g dry	0.02	0.072 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Acenaphthylene	ug/g dry	0.02	0.093 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Anthracene	ug/g dry	0.02	0.22 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[a]anthracene	ug/g dry	0.02	0.36 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[a]pyrene	ug/g dry	0.02	0.3 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[b]fluoranthene	ug/g dry	0.02	0.47 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[e]h]perylene	ug/g dry	0.02	0.68 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Benzo[k]fluoranthene	ug/g dry	0.02	0.48 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Chrysene	ug/g dry	0.02	2.8 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Dibenz[a,h]anthracene	ug/g dry	0.02	0.1 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Fluoranthene	ug/g dry	0.02	0.69 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Fluorene	ug/g dry	0.02	0.19 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Indeno[1,2,3-cd]pyrene	ug/g dry	0.02	0.23 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
1-Methylnaphthalene	ug/g dry	0.02	0.59 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
2-Methylnaphthalene	ug/g dry	0.02	0.59 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Methylnaphthalene (1&2)	ug/g dry	0.04	0.59 ug/g dry	ND (0.04)	N/A	ND (0.04)	N/A	ND (0.04)	N/A	N/A	ND (0.04)
Naphthalene	ug/g dry	0.01	0.09 ug/g dry	ND (0.01)	N/A	ND (0.01)	N/A	ND (0.01)	N/A	N/A	ND (0.01)
Phenanthrene	ug/g dry	0.02	0.69 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)
Pyrene	ug/g dry	0.02	1 ug/g dry	ND (0.02)	N/A	ND (0.02)	N/A	ND (0.02)	N/A	N/A	ND (0.02)

Method	Parameter	Unit	Reg Value	Sample #	1029796	1029797	1029798
				Description	17MW22 SS1	17MW18 SS1	17MW2 SS1
				Sampling Date	2017-11-19	2017-11-19	2017-11-19
				Reg Unit	Soil	Soil	Soil
Moisture	% Moisture	%			15.5	21.5	22.4
OCPs Soil	2,4'-DDD	µg/g			<0.01	<0.01	<0.01
OCPs Soil	2,4'-DDE	µg/g			<0.01	<0.01	<0.01
OCPs Soil	2,4'-DDT	µg/g			<0.01	<0.01	<0.01
OCPs Soil	4,4'-DDD	µg/g			<0.01	<0.01	<0.01
OCPs Soil	4,4'-DDE	µg/g			<0.01	<0.01	<0.01
OCPs Soil	4,4'-DDT	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Aldrin	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	DDD (Total)	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	DDE (Total)	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	DDT (Total)	µg/g	1.4	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Decachlorobiphenyl (Surr.)	% Rec			139	121	136
OCPs Soil	Dieldrin	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Endosulfan I	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Endosulfan I + II	µg/g	0.04	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Endosulfan II	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Endosulfan sulfate	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Endrin	µg/g	0.04	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Endrin aldehyde	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Heptachlor	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Heptachlor epoxide	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Hexachlorobenzene	µg/g	0.02	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Hexachlorobutadiene	µg/g	0.01	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Hexachloroethane	µg/g	0.01	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Methoxychlor	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	Mirex	µg/g			<0.01	<0.01	<0.01
OCPs Soil	Oxychlorane	µg/g			<0.01	<0.01	<0.01
OCPs Soil	β-BHC	µg/g			<0.01	<0.01	<0.01
OCPs Soil	α - Chlordane	µg/g			<0.01	<0.01	<0.01
OCPs Soil	α + γ -Chlordane	µg/g	0.05	µg/g	<0.01	<0.01	<0.01
OCPs Soil	α-BHC	µg/g			<0.01	<0.01	<0.01
OCPs Soil	γ - Chlordane	µg/g			<0.01	<0.01	<0.01
OCPs Soil	γ-BHC (Lindane)	µg/g	0.01	µg/g	<0.01	<0.01	<0.01
OCPs Soil	δ-BHC	µg/g			<0.01	<0.01	<0.01

Please note that the term Reg. Value in the context of this spreadsheet may refer to regulatory limits, regulatory guidelines, standards or objectives set out by government regulation, or site-specific requirements.

Highlighted results indicate a measured value that exceeds the reported Reg. Value.

Highlighted units indicate a discrepancy with the Reg. Unit. This may affect the functionality of the report to properly indicate an exceeded value. Measured values and units should be converted in order to compare criteria.

TESTMARK Laboratories Ltd. has included the criteria values set by the appropriate government agency as part of this spreadsheet for purposes of reference only.

These values may or may not accurately reflect the current values prescribed by government regulation and it is the Client's responsibility to compare the results reported herein with official government sources to ensure it meets the prescribed criteria.

Should any discrepancies be discovered or should you have any questions or comments regarding the information in this spreadsheet, please contact TESTMARK Laboratories Ltd. by phone or by e-mail at reports@testmark.ca.

This spreadsheet contains condensed and summarized material and is not intended to replace the Analytical Report, but to be used as a convenience and comparison tool only. For full analytical details including QA/QC data, please refer back to the Analytical Report in its entirety.

TABLE 1		CLIENT: Toronto Inspections									
PARACEL LABORATORIES LTD.		ATTENTION: Janet Geng									
WORKORDER: 1748379		PROJECT: 4688									
REPORT DATE: 12/06/2017		REFERENCE: #17-156 TIL - 2017 Standing Offer - Environmental									
Parameter	Units	MDL	Regulation	Sample							
				17 MW2 1748379-01	17 MW18 1748379-02	17 MW21 1748379-03	17 MW22 1748379-04	Dup A 1748379-05	Trip Blank 1748379-06		
Sample Date (m/d/y)	Reg 153/04 (2011)-Table 2 Potable Groundwater, fine			11/29/2017 12:30 PM	11/29/2017 01:00 PM	11/29/2017 12:00 PM	11/29/2017 01:00 PM	11/29/2017	11/29/2017	11/22/2017	
General Inorganics											
Cyanide, free	ug/L	2	66 ug/L	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	N/A	
pH	pH Units	0.1		7.7	7.9	7.6	7.7	7.7	7.7	N/A	
Anions											
Chloride	mg/L	1	790000 ug/L (790 mg/L)	15	11	28	11	9		N/A	
Metals											
Mercury	ug/L	0.1	1 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	
Antimony	ug/L	1	6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Arsenic	ug/L	1	25 ug/L	ND (1)	ND (1)	2	2	64	ND (1)	N/A	
Barium	ug/L	1	1000 ug/L	20	63	54	68			N/A	
Beryllium	ug/L	0.5	4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Boron	ug/L	10	5000 ug/L	47	201	48	38	35		N/A	
Cadmium	ug/L	0.1	2.7 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	
Chromium	ug/L	1	50 ug/L	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	N/A	
Chromium (VI)	ug/L	10	25 ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	N/A	
Cobalt	ug/L	0.5	3.8 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Copper	ug/L	0.5	87 ug/L	0.9	ND (0.5)	0.9	0.7			N/A	
Lead	ug/L	0.1	10 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	
Molybdenum	ug/L	0.5	70 ug/L	1.5	4.0	6.0	9.0	9.3		N/A	
Nickel	ug/L	1	100 ug/L	ND (1)	ND (1)	1	ND (1)	ND (1)	ND (1)	N/A	
Selenium	ug/L	1	10 ug/L	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	N/A	
Silver	ug/L	0.1	1.5 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	
Sodium	ug/L	200	490000 ug/L	14100	15200	23100	23100	22600		N/A	
Thallium	ug/L	0.1	2 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	
Uranium	ug/L	0.1	20 ug/L	1.2	0.7	2.0	2.9	3.4		N/A	
Vanadium	ug/L	5	6.2 ug/L	0.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Zinc	ug/L	5	1100 ug/L	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	N/A	
Volatiles											
Acetone	ug/L	5.0	2700 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	
Benzene	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Bromodichloromethane	ug/L	0.5	16 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Bromoform	ug/L	0.5	25 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Bromomethane	ug/L	0.5	0.89 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Carbon Tetrachloride	ug/L	0.2	5 ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	N/A	
Chlorobenzene	ug/L	0.5	30 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Chloroform	ug/L	0.5	22 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Dibromochloromethane	ug/L	0.5	25 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Dichlorodifluoromethane	ug/L	1.0	590 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	N/A	
1,2-Dichlorobenzene	ug/L	0.5	3 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,3-Dichlorobenzene	ug/L	0.5	59 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,4-Dichlorobenzene	ug/L	0.5	1 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,1-Dichloroethane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,2-Dichloroethane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,1-Dichloroethylene	ug/L	0.5	14 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
cis-1,2-Dichloroethylene	ug/L	0.5	17 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
trans-1,2-Dichloroethylene	ug/L	0.5	17 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,2-Dichloropropane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
cis-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
trans-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,3-Dichloropropene, total	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Ethylbenzene	ug/L	0.5	2.4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Ethylene dibromide (dibromoethane)	ug/L	0.2	0.2 ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	N/A	
Hexane	ug/L	1.0	520 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	N/A	
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	1800 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	
Methyl Isobutyl Ketone	ug/L	5.0	640 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	
Methyl tert-butyl ether	ug/L	2.0	15 ug/L	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	N/A	
Methylene Chloride	ug/L	5.0	50 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	
Styrene	ug/L	0.5	5.4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,1,1,2-Tetrachloroethane	ug/L	0.5	1.1 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,1,2,2-Tetrachloroethane	ug/L	0.5	1 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Tetrachloroethylene	ug/L	0.5	17 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Toluene	ug/L	0.5	24 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,1,1-Trichloroethane	ug/L	0.5	200 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
1,1,2-Trichloroethane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Trichloroethylene	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Trichlorofluoromethane	ug/L	1.0	150 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	N/A	
Vinyl Chloride	ug/L	0.5	1.7 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
m,p-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
o-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Xylenes, total	ug/L	0.5	300 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	
Hydrocarbons											
F1 PHCs (C6-C10)	ug/L	25	750 ug/L	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	N/A	
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	N/A	
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	N/A	
F4 PHCs (C34-C50)	ug/L	100	500 ug/L	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	N/A	
Semi-Volatiles											
Acenaphthene	ug/L	0.05	4.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Acenaphthylene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Anthracene	ug/L	0.01	2.4 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
Benzo[a]anthracene	ug/L	0.01	1 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
Benzo[a]pyrene	ug/L	0.01	0.01 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
Benzo[b]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Benzo[g,h,i]perylene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Benzo[k]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Chrysene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Dibenzofluoranthene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Fluoranthene	ug/L	0.01	0.41 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
Fluorene	ug/L	0.05	120 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Indeno[1,2,3-cd]pyrene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
1-Methylnaphthalene	ug/L	0.05	3.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
2-Methylnaphthalene	ug/L	0.05	3.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Methylnaphthalene (1&2)	ug/L	0.10	3.2 ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	N/A	
Naphthalene	ug/L	0.05	11 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Phenanthrene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	
Pyrene	ug/L	0.01	4.1 ug/L	ND (0.01)	0.01	ND (0.01)	0.02	ND (0.01)	ND (0.01)	N/A	
Pesticides, OC											
Aldrin	ug/L	0.01	0.35 ug/L	N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
alpha-Chlordane	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
gamma-Chlordane	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
Chlordane	ug/L	0.01	7 ug/L	N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
o,p-DDD	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
p,p-DDD	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
DDD	ug/L	0.01	10 ug/L	N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
o,p-DDE	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	
p,p-DDE	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	

TABLE 1		CLIENT: Toronto Inspections										
PARACEL LABORATORIES LTD.		ATTENTION: Janet Geng										
WORKORDER: 1748379		PROJECT: 4688										
REPORT DATE: 12/06/2017		REFERENCE: #17-156 TIL - 2017 Standing Offer - Environmental										
Parameter	Units	MDL	Regulation	Sample								
				17 MW2 1748379-01	17 MW18 1748379-02	17 MW21 1748379-03	17 MW22 1748379-04	Dup A 1748379-05	Trip Blank 1748379-06			
Sample Date (m/d/y)	Reg 153/04 (2011)-Table 8 Groundwater			11/29/2017 12:30 PM	11/29/2017 01:00 PM	11/29/2017 12:00 PM	11/29/2017 01:00 PM	11/29/2017	11/22/2017			
General Inorganics												
Cyanide, free	ug/L	2		ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	N/A	N/A	
pH	pH Units	0.1	52 ug/L	7.7	7.9	7.6	7.7	7.7	7.7	N/A	N/A	
Anions												
Chloride	mg/L	1	790000 ug/L (790 mg/L)	15	11	28	11	9		N/A	N/A	
Metals												
Mercury	ug/L	0.1	0.29 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	N/A	
Antimony	ug/L	1	6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Arsenic	ug/L	1	25 ug/L	ND (1)	ND (1)	2	2	64	ND (1)	N/A	N/A	
Barium	ug/L	1	1000 ug/L	20	63	54	68			N/A	N/A	
Beryllium	ug/L	0.5	4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Boron	ug/L	10	5000 ug/L	47	201	48	38	35		N/A	N/A	
Cadmium	ug/L	0.1	2.1 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	N/A	
Chromium	ug/L	1	50 ug/L	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	N/A	N/A	
Chromium (VI)	ug/L	10	25 ug/L	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	N/A	N/A	
Cobalt	ug/L	0.5	3.8 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Copper	ug/L	0.5	69 ug/L	0.9	0.9	0.9	0.7			N/A	N/A	
Lead	ug/L	0.1	10 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	N/A	
Molybdenum	ug/L	0.5	70 ug/L	1.5	4.0	6.0	9.0	9.3		N/A	N/A	
Nickel	ug/L	1	100 ug/L	ND (1)	ND (1)	1	ND (1)	ND (1)	ND (1)	N/A	N/A	
Selenium	ug/L	1	10 ug/L	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	N/A	N/A	
Silver	ug/L	0.1	1.2 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	N/A	
Sodium	ug/L	200	490000 ug/L	14100	15200	23100	23100	22600		N/A	N/A	
Thallium	ug/L	0.1	2 ug/L	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	N/A	N/A	
Uranium	ug/L	0.1	20 ug/L	1.2	0.7	2.0	2.9	3.4		N/A	N/A	
Vanadium	ug/L	0.5	6.2 ug/L	0.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Zinc	ug/L	5	890 ug/L	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	N/A	N/A	
Volatiles												
Acetone	ug/L	5.0	2700 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	N/A	
Benzene	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Bromodichloromethane	ug/L	0.5	16 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Bromoform	ug/L	0.5	25 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Bromomethane	ug/L	0.5	0.89 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Carbon Tetrachloride	ug/L	0.2	0.79 ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	N/A	N/A	
Chlorobenzene	ug/L	0.5	30 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Chloroform	ug/L	0.5	2.4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Dibromochloromethane	ug/L	0.5	25 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Dichlorodifluoromethane	ug/L	1.0	590 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	N/A	N/A	
1,2-Dichlorobenzene	ug/L	0.5	3 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,3-Dichlorobenzene	ug/L	0.5	59 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,4-Dichlorobenzene	ug/L	0.5	1 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,1-Dichloroethane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,2-Dichloroethane	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,1-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
cis-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
trans-1,2-Dichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,2-Dichloropropane	ug/L	0.5	5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
cis-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
trans-1,3-Dichloropropylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,3-Dichloropropene, total	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Ethylbenzene	ug/L	0.5	2.4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Ethylene dibromide (dibromoethane)	ug/L	0.2	0.2 ug/L	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	N/A	N/A	
Hexane	ug/L	1.0	51 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	N/A	N/A	
Methyl Ethyl Ketone (2-Butanone)	ug/L	5.0	1800 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	N/A	
Methyl Isobutyl Ketone	ug/L	5.0	640 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	N/A	
Methyl tert-butyl ether	ug/L	2.0	15 ug/L	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	N/A	N/A	
Methylene Chloride	ug/L	5.0	50 ug/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	N/A	N/A	
Styrene	ug/L	0.5	5.4 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,1,1,2-Tetrachloroethane	ug/L	0.5	1.1 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,1,2,2-Tetrachloroethane	ug/L	0.5	1 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Tetrachloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Toluene	ug/L	0.5	22 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,1,1-Trichloroethane	ug/L	0.5	200 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
1,1,2-Trichloroethane	ug/L	0.5	4.7 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Trichloroethylene	ug/L	0.5	1.6 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Trichlorofluoromethane	ug/L	1.0	150 ug/L	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	N/A	N/A	
Vinyl Chloride	ug/L	0.5	0.5 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
m,p-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
o-Xylene	ug/L	0.5		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Xylenes, total	ug/L	0.5	300 ug/L	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	N/A	N/A	
Hydrocarbons												
F1 PHCs (C6-C10)	ug/L	25	420 ug/L	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	N/A	N/A	
F2 PHCs (C10-C16)	ug/L	100	150 ug/L	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	N/A	N/A	
F3 PHCs (C16-C34)	ug/L	100	500 ug/L	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	N/A	N/A	
F4 PHCs (C34-C50)	ug/L	100	500 ug/L	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	N/A	N/A	
Semi-Volatiles												
Acenaphthene	ug/L	0.05	4.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Acenaphthylene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Anthracene	ug/L	0.01	1 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	
Benzo[a]anthracene	ug/L	0.01	1 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	
Benzo[a]pyrene	ug/L	0.01	0.01 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	
Benzo[b]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Benzo[ghi]perylene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Benzo[k]fluoranthene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Chrysene	ug/L	0.05	0.1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Dibenzofluoranthene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Fluoranthene	ug/L	0.01	0.41 ug/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	
Fluorene	ug/L	0.05	120 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Indeno[1,2,3-cd]pyrene	ug/L	0.05	0.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
1-Methylnaphthalene	ug/L	0.05	3.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
2-Methylnaphthalene	ug/L	0.05	3.2 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Methylnaphthalene (1&2)	ug/L	0.10	3.2 ug/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	N/A	N/A	
Naphthalene	ug/L	0.05	11 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Phenanthrene	ug/L	0.05	1 ug/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	N/A	N/A	
Pyrene	ug/L	0.01	4.1 ug/L	ND (0.01)	0.01	ND (0.01)	0.02	ND (0.01)	ND (0.01)	N/A	N/A	
Pesticides, OC												
Aldrin	ug/L	0.01	0.35 ug/L	N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	
alpha-Chlordane	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	
gamma-Chlordane	ug/L	0.01		N/A	ND (0.01)	N/A	ND (0.01)	ND (0.01)	ND (0.01)	N/A	N/A	