Appendix C

Hydrogeological Investigation Report

The *Preliminary Hydrogeological Investigation Report* (Terrapex 2022) study area includes the entire Ontario Place Site except the pods and Marina areas. Data relevant to the public realm Project footprint and local study area was reviewed in the context of the Category C Public Work Class Environmental Assessment (EA) and summarized within the Environmental Study Report. Additional details outside of the local study area established for this EA are also included in the following technical report.

HYDROGEOLOGICAL INVESTIGATION REPORT

URBAN STRATEGIES INC.

PRELIMINARY HYDROGEOLOGICAL INVESTIGATION

955 LAKE SHORE BOULEVARD WEST
ONTARIO PLACE
TORONTO, ONTARIO

November 24, 2022

CT3643.00

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1. BACKGROUND

Terrapex Environmental Ltd. (“Terrapex”) has been retained by Urban Strategies Inc. (“USI”) to carry out a hydrogeological investigation for the for the purposes of re-zoning of Ontario Place – 955 Lake Shore Boulevard West, Toronto, Ontario, M6K 3B9 (hereafter, also referred to as the “Site”). Authorization to proceed with this study was given by Mr. Ben Hoff of USI (dated August 29, 2022).

The purpose of this investigation was to characterize the subsurface groundwater conditions, satisfy the hydrological requirements of the City of Toronto Terms of Reference (TOR) for Hydrological Review (August 2018), and based on this data to provide hydrogeological recommendations for the purposes of a rezoning application for Ontario Place to permit the initial elements of a comprehensive plan to come, namely the Therme facility, public parking garage, and public realm and parkland upgrades across the mainland and islands of Ontario Place. This hydrogeological investigation was prepared in accordance with the Ontario Water Resources Act, Ontario Regulation 387/04, and the Toronto Municipal Code – Sewers.

Terrapex used information included in logs of boreholes previously advanced at the Site by Jacobs and Conestoga-Rovers & Associates (CRA). A geotechnical review and discussion for Re-zoning was conducted in conjunction with the hydrogeological investigation and is reported under separate cover.

Previous in-ground investigation reports carried out at the study site were made available to Terrapex and have been reviewed in the course of preparing this report; these previous in-ground investigation reports are listed below:

- CRA, February 2013. Preliminary Geotechnical and Hydrogeological Investigation; Ontario Place; 955 Lakeshore Boulevard West, Toronto, Ontario
- CRA, February 2013. Phase Two Environmental Site Assessment; Ontario Place (entire park) 955 Lake Shore Boulevard West, Toronto, Ontario
- Jacobs, April 2022. Due Diligence Phase Two Environmental Site Assessment; Ontario Place East Island & Mainland, Toronto, Ontario
- Terrapex, 2022. Hydrogeological Investigation Report, Proposed Ontario Place Servicing Design; 955 Lake Shore Boulevard West, Toronto, Ontario
- Jacobs, 2022 (not available to be included in Appendix). Draft Borehole Log Reports from Due Diligence Phase Two Environmental Site Assessment; Ontario Place West Island, Toronto, Ontario

This report is intended for the guidance of the client to and the design architects or engineers only. It is assumed that the design will be in accordance with the applicable building codes and standards.

2. SUBJECT AREA AND PHYSICAL CONTEXT

The Site is located at Ontario Place; located southwest of downtown Toronto on the waterfront of Lake Ontario. As shown in **Figure 1**, the subject property is irregular in shape and includes the East Island, West Island, and mainland features. The east island is comprised of Eco Beach, Trillium Park, East Marina, Budweiser Stage, and a few other buildings (administration, washrooms, etc.), as well as vehicular and pedestrian/cycling lanes and pathways. At present the existing facilities within the west island are almost entirely abandoned. The public can access the shoreline areas of the west island Shoreline via the existing pedestrian bridge (Bridge #6) connecting the west island to the mainland or via the pods and West Marina (Bridge #10) or via Bridge #4 (connecting the east and west island). The west island is comprised of abandoned structures, as well as landscaped and paved areas for vehicular and pedestrian/cycling lanes and pathways. The mainland is mostly occupied by surface parking area and roads.

Based on a review of the concept drawings provided to us by the client, it is understood that the development will be phased, and are proposed to include the redevelopment of the existing Budweiser Stage, Therme facility and associated parking, loading and drop-off structure, as well as introducing a new entry pavilion space on the mainland. The existing heritage pods and Cinesphere structures are proposed for reuse and preservation.

The subject area is understood to be within the Toronto and Region Conservation Authority (TRCA) area, and within the Toronto Source Protection Authority (SPA). Available Ministry of the Environment, Conservation and Parks (MECP) mapping indicates that the Site is located over Highly Vulnerable Aquifers.

2.1 PHYSIOGRAPHY AND GEOLOGY

The subject property has a mostly flat topography, with an approximate elevation range of 76 metres above sea level (masl) to 79 masl throughout most of the site and local highs in the middle and southeast portions that reach 85 and 82 masl, respectively (VuMap, 2022). It is assumed that runoff is directed to sewer outlets.

Available mapping indicates that the subject property is located over coarse-textured littoral lacustrine deposits consisting of sand, gravel, minor silt, and clay (MRD128, 2010). The Islands of Ontario Place are surrounded by Lake Ontario (VuMap, 2022).

The bedrock beneath the reported overburden is reported to be composed of Georgian Bay formation of shale, limestone, dolostone and siltstone (MRD126, 2011). Bedrock was encountered at depths ranging from 5.4 mbg (metres below grade) to 10.8 mbg.

Review of the geotechnical borehole report information (**Appendix II**) indicates that the encountered subsurface package is generally comprised of fill materials consisting of sandy silt, clayey silt, sandy clayey silt, sand and gravel, sand, silty sand, and silty clay. Native soils consisted of dense clayey silt till. Bedrock consisted of shale stratum interbedded with limestone and dolostone. The encountered native subsurface package is consistent with the information reported in the available mapping.

2.2 AVAILABLE BACKGROUND GROUNDWATER INFORMATION

A review of the available well records shows that there are 11 reported wells within approximately 500 metres of the subject property. Of the known wells, none were reported to be purposed for water supply use. The subject area within 500 m is shown in **Figure 2**, and MECP Well Record reports are provided in **Appendix I**.

It is noted that older wells may no longer be operational, and that historically there was not a requirement to register dug wells with the MECP; as such, they can be under-represented in the water well record database.

3. METHODOLOGY

3.1 GROUNDWATER MONITORING WELL CONSTRUCTION

Provided reports from others indicate that thirty-seven (37) groundwater monitoring wells previously installed by others were still present on site and were also used in this study. The monitoring wells selected for hydrogeological study satisfy City of Toronto Terms of Reference for Hydrological Review (2018) and reported construction conditions of all wells are summarized in **Table 1**, below. The locations of the groundwater monitoring wells are provided in **Figure 3**.

Table 1: Summary of Groundwater Monitoring Well Conditions

Well ID	Reported Date of Construction	Approximate Location[1] (UTM Zone 17T) metres east	Approximate Location[1] (UTM Zone 17T) metres north	Approximate Ground Surface Elevation[1] masl	Reported Screened Interval mbg	Soils Reported at Screened Interval	Reported SPT N-Value at Screened Interval
Wells Constructed by Terrapex							
MW22-1	May 20, 2022	627628	4832042	76.9	1.5 to 4.6	Clayey Silt	1 to >50
MW22-6	May 25, 2022	627581	4831669	76.2	1.5 to 4.6	Clayey silt to silty clay	2 to 6
MW22-12	May 16, 2022	628074	4831926	76.7	1.5 to 4.6	Sand / clayey silt to silty clay	2 to 20
MW22-16	May 31, 2022	627994	4831736	78.6	1.5 to 4.6	Silty clay to clayey silt	4 to 20
MW22-19	May 20, 2022	628190	4832237	76.9	1.4 to 4.4	Silty clay / bedrock	4 to >50
Wells Constructed by Others							
MW1-12	*September 18, 2012*	*628196*	*4832184*	*76.7*	*6.0 to 9.0*	*Bedrock*	-
MW2-12	*September 19, 2012*	*627965*	*4832121*	*76.5*	*2.6 to 5.6*	*Sandy silt / bedrock*	*6 to >50*
MW3-12	*October 12, 2012*	*627798*	*4832061*	*76.5*	*1.6 to 4.6*	*Silty sand / clayey silt / bedrock*	*4 to >50*
MW4-12	*September 20, 2012*	*627659*	*4832029*	*76.3*	*3.9 to 6.9*	*Bedrock*	-
MW9-12	*September 24, 2012*	*628189*	*4831970*	*76.3*	*4.4 to 7.4*	*Sandy clayey silt / silty sand*	*8 to 26*
MW13-12	*September 28, 2012*	*628054*	*4831732*	*77.0*	*7.7 to 10.7*	*Sandy clayey silt and sandy silt*	*6 to 39*
MW16-12	*October 15, 2012*	*627946*	*4831993*	*77.6*	*5.5 to 8.5*	*Sandy silt*	*6 to >50*
MW18-12	*September 27, 2012*	*627937*	*4831769*	*77.2*	*2.4 to 5.5*	*Clayey silt*	-
MW19-12	*October 11, 2012*	*627867*	*4831728*	*76.2*	*7.2 to 10.2*	*Sandy clayey silt*	*7 to 19*
MW20-12	*September 28, 2012*	*627851*	*4831688*	*76.5*	*2.4 to 5.5*	*Clayey silt*	-
MW21-12	*September 28, 2012*	*627826*	*4831675*	*75.7*	*2.4 to 5.5*	*Clayey silt*	-
MW22-12	*October 9, 2012*	*627783*	*4831801*	*76.1*	*5.7 to 8.8*	*Sandy clayey silt fill*	*4 to 7*
MW23-12	*October 16, 2012*	*627590*	*4831698*	*79.4*	*6.1 to 9.1*	*Sandy silt / Sandy clayey silt*	*6 to 7*
MW24-12	*October 1, 2012*	*627576*	*4831667*	*76.4*	*2.4 to 5.5*	*Clayey Silt*	-
MW103	*August 6, 2013*	*628224*	*4832155*	*76.8*	*1.5 to 4.6*	*Silty clay*	*6 to 24*
BH1	*June 23, 2017*	*627902*	*4831700*	*76.4*	*1.5 to 4.6*	*Silty sand / silty clay*	*10 to 36*
BH7	*June 22, 2017*	*627947*	*4831992*	*77.6*	*3.1 to 6.1*	*Silty clay*	*3 to 11*
BH8	*June 21, 2017*	*627966*	*4831845*	*77.7*	*1.5 to 4.6*	*Clayey silt / silty clay*	*3 to 8*
MW6-18	*April 27, 2018*	*627878*	*4831701*	*77.4*	*1.5 to 4.6*	*Clayey silt*	-
MW7-18	*April 27, 2018*	*627971*	*4831706*	*77.2*	*1.5 to 4.6*	*Clayey silt*	-
MW14-18	*May 1, 2018*	*628178*	*4831905*	*77.9*	*1.5 to 4.6*	*Clayey silt*	-
MWD1-18	*May 3, 2018*	*627939*	*4831771*	*77.4*	*10.7 to 12.2*	*Bedrock*	-
MWD2-18	*May 7, 2018*	*628065*	*4831730*	*76.8*	*12.2 to 13.7*	*Bedrock*	-

MWD3-18	*May 4, 2018*	*628105*	*4831925*	*76.4*	*9.1 to 10.7*	*Bedrock*	*-*
EI-MW07	*November 22, 2021*	*628202*	*4831904*	*77.6*	*2.4 to 5.5*	*Silty clay*	*-*
MW26-12	*October 1, 2012*	*627474*	*4831652*	*77.1*	*2.4 to 5.5*	*Clayey silt*	*-*
MW27-12	*October 24, 2012*	*627466*	*4831708*	*77.7*	*7.8 to 10.8*	*Sandy clayey silt*	*10 to 12*
MW28-12	*October 2, 2012*	*627455*	*4831803*	*76.7*	*2.4 to 5.5*	*Sandy clayey silt*	*-*
MW29-12	*October 2, 2012*	*627502*	*4831885*	*76.0*	*2.4 to 5.5*	*Sandy clayey silt*	*-*
MW30-12	*October 25, 2012*	*627399*	*4831838*	*78.7*	*5.5 to 8.5*	*Sandy clayey silt*	*4 to 13*
MW04-21	*August 9, 2021*	*627275*	*4831878*	*77.0*	*7.6 to 10.7*	*Bedrock*	*-*
MW07A-21	*August 5, 2021*	*627281*	*4831732*	*78.9*	*7.6 to 10.7*	*Sand and gravel / sandy silt / silty sand*	*5 to 37*
MW07B-21	*August 6, 2021*	*627280*	*4831731*	*78.8*	*12.2 to 13.7*	*Bedrock*	*-*
MW08-21	*August 12, 2021*	*627299*	*4831780*	*77.4*	*4.6 to 7.6*	*Silty sand / clayey silt*	*10 to 22*
MW10-21	*August 4, 2021*	*627518*	*4831753*	*76.2*	*2.4 to 5.5*	*Silty clay / clayey silt*	*1 to 18*
MW10B-21	*October 19, 2021*	*627518*	*4831752*	*76.2*	*9.5 to 11.0*	*Bedrock*	*-*
MW11-21	*August 11, 2021*	*627364*	*4831790*	*82.2*	*4.6 to 7.6*	*Clayey silt*	*1 to 36*
MW13-21	*August 11, 2021*	*627446*	*4831860*	*76.0*	*2.4 to 5.5*	*Clayey silt*	*3 to 35*
MW14-21	*August 4, 2021*	*627456*	*4831900*	*78.0*	*2.3 to 5.3*	*Clayey Silt / sand / silty clay*	*6 to >50*
MW15-21	*August 3, 2021*	*627495*	*4831801*	*77.0*	*2.4 to 5.5*	*Silty sand / sandy silt*	*0 to 5*
MW16-21	*August 9, 2021*	*627498*	*4831884*	*76.0*	*9.1 to 10.7*	*Bedrock*	*-*
MW17-21	*October 14, 2021*	*627570*	*4831755*	*76.4*	*3.1 to 6.1*	*Clayey silt / silty clay*	*-*
MW22-22	*June 8, 2022*	*627409*	*4831887*	*78.0*	*1.5 to 4.6*	*Sandy silt / silty clay / silty sand*	*2 to >50*
MW23-22	*June 10, 2022*	*627375*	*4831897*	*77.9*	*1.5 to 4.6*	*Sandy silt / sand*	*1 to 17*
MW26-22	*June 20, 2022*	*627370*	*4831852*	*83.1*	*6.1 to 9.1*	*Sandy silt / sand*	*1 to 16*

Information taken from Borehole logs released by CRA, 2013; Jacobs, 2022.

mbg = metres below ground

[1] UTM locations and elevations obtained from TopCon HiPer V GNSS Receiver

Italics - monitoring wells constructed by others (*Phase Two Environmental Site Assessment*; CRA, Feb2013, Draft Borehole Log Reports from *Due Diligence Phase Two Environmental Site Assessment; Ontario Place West Island*; Jacobs, 2022)

As indicated in **Table 1**, the shallow groundwater monitoring wells are reported to have been screened from depths of 1.5 mbg to 9.1 mbg, generally adjacent to clayey silt, sand, silty sand, silty clay, and sandy silt. The deeper groundwater monitoring wells are reported to have been screened from depths of 7.6 mbg to 13.7 mbg, generally adjacent to sandy clayey silt, sandy silt, silty sand, and bedrock.

It is noted that the boundaries between the strata have been inferred from drilling observations carried out by others and non-continuous samples. They generally represent a transition from one soil type to another and should not be inferred to represent an exact plane of geological change. Further, conditions will vary between and beyond the boreholes.

Terrapex cannot guarantee the accuracy of work carried out by others. Any comment based on work carried out by others is subject to the accuracy of the information supplied to Terrapex.

3.2 ENCOUNTERED SUBSURFACE CONDITIONS

Review of the geotechnical borehole report information indicates that the encountered subsurface package is generally comprised of very loose to very dense fill materials consisting of sandy silt, clayey silt, sandy clayey silt, sand and gravel, sand, silty sand, and silty clay. Native soils consisted of clayey silt till. Bedrock consisted of shale stratum interbedded with limestone and dolostone. The borehole logs of all wells monitored in this study are provided in **Appendix II**.

Four cross-sections are provided in **Figure 5**, **Figure 6**, **Figure 7**, and **Figure 8**, delineated A-A', B-B', C-C', D-D', respectively. The general plan of Sections A-A' through D-D' are indicated in **Figure 3**. These findings corroborate the available mapping information summarized above.

4. CHARACTERIZATION OF SUBJECT AREA

4.1 WATER LEVEL MONITORING

Groundwater depths have been measured manually at the selected hydrogeological monitoring well locations over the course of six biweekly monitoring events from June to September 2022, in accordance with the City of Toronto Terms of Reference for Hydrological Review. The recorded water levels for the biweekly monitoring events are provided in **Table 2**, below**.** These water levels reflect the groundwater conditions on the dates they were measured.

As summarized in **Table 2**, *in-situ* measurements of the static groundwater level are reported to range from 0.56 mbg through 7.48 mbg, equivalent to 74.11 masl through 75.61 masl. As shown on the appended cross-sections (**Figure 5** through **Figure 8**), surface water levels for Lake Ontario reported for the date of July 20, 2022, appear similar to the groundwater levels measured for July 20, 2022. Groundwater for the site is interpreted to be connected to the lake, and hydroperiods may be delayed due to the consideration of local hydraulic conductivities.

It should be noted that groundwater levels are subject to seasonal fluctuations. A higher groundwater level condition will likely develop later in the spring freshet period or following significant rainfall events.

Table 2: Measured Groundwater Levels

Location Identification	Top of Pipe	Ground Surface Elevation	Groundwater Measurements (2022)					
			Jun. 22	Jul. 6	Jul. 20	Aug. 4	Aug. 18	Sept. 1
	mbg	masl	mbg (masl)	mbg (masl)	mbg (masl)	mbg (masl)	mbg (masl)	mbg (masl)
MW22-1	-0.088	76.714	1.67 (75.04)	1.72 (74.99)	1.78 (74.93)	1.86 (74.86)	1.93 (74.79)	1.95 (74.77)
MW22-6	-0.089	76.226	1.08 (75.14)	1.21 (75.02)	1.16 (75.06)	1.32 (74.91)	1.41 (74.81)	1.44 (74.79)
MW22-12	-0.076	76.659	1.16 (75.50)	1.26 (75.40)	1.27 (75.39)	1.34 (75.32)	1.42 (75.24)	1.42 (75.24)
MW22-16	-0.176	78.61	1.87 (76.74)	1.91 (76.70)	1.81 (76.80)	1.89 (76.72)	1.85 (76.76)	1.87 (76.74)
MW22-19	-0.096	76.902	2.05 (74.85)	2.09 (74.81)	2.12 (74.78)	2.18 (74.72)	2.30 (74.61)	2.36 (74.54)
MW1-12	-0.075	76.692	1.77 (74.93)	1.86 (74.83)	1.92 (74.77)	2.02 (74.67)	2.14 (74.55)	2.25 (74.44)
MW2-12	-0.085	76.476	2.07 (74.41)	2.15 (74.33)	2.18 (74.29)	2.28 (74.19)	2.43 (74.05)	2.50 (73.97)
MW3-12	-0.083	76.512	1.58 (74.93)	1.64 (74.88)	1.65 (74.86)	1.76 (74.75)	1.88 (74.63)	1.99 (74.52)
MW4-12	-0.046	76.288	1.31 (74.98)	1.36 (74.93)	1.39 (74.90)	1.69 (74.60)	1.65 (74.64)	1.70 (74.59)
MW9-12	-0.039	76.253	1.36 (74.90)	1.43 (74.82)	1.48 (74.77)	1.60 (74.65)	1.71 (74.54)	1.81 (74.44)
MW13-12	-0.136	76.987	- (-)	1.78 (75.21)	1.82 (75.17)	1.87 (75.12)	1.98 (75.01)	2.06 (74.93)
MW16-12	-0.109	77.627	3.15 (74.47)	3.18 (74.44)	3.27 (74.36)	3.28 (74.34)	3.44 (74.19)	3.51 (74.11)

MW18-12	-0.178	77.168	- (-)	1.86 (75.31)	1.83 (75.34)	1.90 (75.27)	2.02 (75.15)	2.14 (75.03)
MW19-12	-0.110	76.182	1.20 (74.98)	1.39 (74.79)	1.43 (74.75)	1.55 (74.64)	1.66 (74.52)	1.77 (74.42)
MW20-12	-0.183	76.515	- (-)	1.61 (74.91)	1.63 (74.89)	1.81 (74.71)	2.23 (74.29)	1.95 (74.57)
MW21-12	-0.098	75.705	- (-)	0.58 (75.13)	0.56 (75.14)	0.60 (75.10)	0.70 (75.00)	0.71 (74.99)
MW22-12	-0.148	76.113	1.18 (74.94)	1.21 (74.91)	1.22 (74.89)	1.32 (74.79)	1.36 (74.75)	1.51 (74.61)
MW23-12	-0.237	79.36	0.61 (78.75)	0.74 (78.62)	0.79 (78.57)	0.89 (78.47)	0.99 (78.37)	1.11 (78.25)
MW24-12	-0.234	76.365	- (-)	1.49 (74.87)	1.44 (74.92)	1.63 (74.73)	1.69 (74.67)	1.72 (74.64)
MW103	-0.082	76.76	1.77 (74.99)	1.87 (74.89)	1.89 (74.87)	2.02 (74.74)	2.12 (74.64)	2.27 (74.49)
BH1	-0.123	76.415	- (-)	- (-)	1.04 (75.37)	1.11 (75.31)	1.25 (75.16)	1.25 (75.17)
BH7	-0.117	77.586	2.66 (74.93)	2.78 (74.81)	2.73 (74.86)	2.86 (74.72)	2.91 (74.67)	2.96 (74.63)
BH8	-0.103	77.657	1.22 (76.43)	1.33 (76.32)	1.33 (76.33)	1.31 (76.34)	1.35 (76.30)	1.36 (76.30)
MW6-18	-0.134	77.362	- (-)	2.29 (75.07)	2.26 (75.10)	2.43 (74.93)	2.49 (74.87)	2.49 (74.87)
MW7-18	-0.059	77.181	- (-)	1.69 (75.49)	1.56 (75.62)	1.72 (75.46)	1.79 (75.39)	1.74 (75.44)
MW14-18	-0.116	77.921	- (-)	2.17 (75.75)	2.16 (75.76)	2.26 (75.66)	2.32 (75.60)	2.38 (75.54)
MWD1-18	0.057	77.409	- (-)	2.50 (74.91)	2.55 (74.86)	2.64 (74.77)	2.75 (74.66)	2.88 (74.53)
MWD2-18	-0.037	76.814	1.83 (74.98)	1.95 (74.87)	2.00 (74.82)	2.12 (74.70)	2.22 (74.59)	2.33 (74.48)
MWD3-18	-0.069	76.384	- (-)	1.61 (74.77)	1.68 (74.71)	1.76 (74.63)	1.88 (74.50)	2.01 (74.38)
EI-MW07	-0.147	77.55	1.59 (75.96)	1.67 (75.88)	1.59 (75.96)	1.69 (75.86)	1.68 (75.87)	1.69 (75.86)
MW26-12	-0.193	77.133	2.03 (75.11)	2.17 (74.96)	2.19 (74.94)	2.31 (74.82)	2.41 (74.72)	2.55 (74.58)
MW27-12	-0.047	77.701	2.53 (75.17)	2.64 (75.06)	2.68 (75.02)	2.85 (74.85)	2.99 (74.71)	3.12 (74.58)
MW28-12	-0.070	76.648	1.39 (75.25)	1.51 (75.13)	1.47 (75.18)	1.67 (74.97)	1.78 (74.86)	1.79 (74.85)
MW29-12	-0.187	76.013	0.94 (75.08)	1.03 (74.99)	1.05 (74.97)	1.20 (74.82)	1.30 (74.72)	1.35 (74.66)
MW30-12	-0.163	78.664	- (-)	3.53 (75.14)	3.52 (75.15)	3.54 (75.13)	3.55 (75.12)	3.62 (75.05)
MW04-21	-0.113	76.983	- (-)	2.07 (74.92)	2.11 (74.88)	2.22 (74.76)	2.35 (74.64)	2.47 (74.51)
MW07A-21	-0.090	78.906	3.74 (75.17)	3.85 (75.06)	3.89 (75.02)	4.02 (74.89)	4.13 (74.78)	4.24 (74.66)
MW07B-21	-0.208	78.776	3.93 (74.85)	4.00 (74.78)	4.07 (74.71)	4.19 (74.59)	4.29 (74.49)	4.39 (74.39)
MW08-21	-0.150	77.362	2.24 (75.12)	2.35 (75.01)	2.40 (74.96)	2.53 (74.83)	2.64 (74.73)	2.75 (74.61)
MW10-21	-0.117	76.168	- (-)	1.16 (75.01)	1.13 (75.04)	1.34 (74.83)	1.36 (74.81)	1.50 (74.67)
MW10B-21	-0.092	76.158	- (-)	1.28 (74.88)	1.41 (74.75)	1.41 (74.75)	1.57 (74.59)	1.67 (74.49)

MW11-21	-0.191	82.208	- (-)	6.38 (75.83)	6.42 (75.79)	6.50 (75.71)	6.57 (75.64)	6.60 (75.61)
MW13-21	-0.113	76.036	0.83 (75.21)	0.97 (75.07)	1.08 (74.96)	1.14 (74.89)	1.23 (74.80)	1.33 (74.70)
MW14-21	-0.002	78.007	2.96 (75.05)	3.07 (74.94)	3.13 (74.88)	3.33 (74.68)	3.35 (74.66)	3.46 (74.55)
MW15-21	-0.123	76.985	- (-)	1.72 (75.26)	1.67 (75.31)	- (-)	1.91 (75.08)	1.97 (75.02)
MW16-21	-0.145	76.037	1.00 (75.04)	1.09 (74.95)	1.13 (74.91)	1.27 (74.77)	1.37 (74.67)	1.48 (74.56)
MW17-21	-0.104	76.430	1.18 (75.25)	1.32 (75.11)	1.33 (75.10)	1.49 (74.94)	1.56 (74.87)	1.70 (74.73)
MW22-22	-0.151	77.990	- (-)	2.86 (75.13)	2.93 (75.06)	3.03 (74.97)	3.13 (74.86)	3.19 (74.80)
MW23-22	-0.283	77.928	0.85 (77.08)	0.93 (77.00)	1.00 (76.93)	1.09 (76.84)	1.21 (76.72)	1.33 (76.60)
MW26-22	-0.170	83.080	- (-)	7.29 (75.79)	7.21 (75.88)	7.38 (75.70)	7.38 (75.71)	7.48 (75.61)

Elevations measured by Topcon GNSS device
masl = metres above sea level
mbg = metres below ground

4.2 HYDRAULIC TESTING

To estimate the hydraulic conductivity (K) of the soil materials adjacent to the screened intervals of the tested monitoring wells, single well response tests were carried out at locations MW26-12, MW04-21, MW07B-21, MW16-21, and MW26-22 on November 2 and 4, 2022. The tests were carried out by rapidly introducing a volume of water from the well and monitoring the subsequent water level recovery to previous conditions.

The Bouwer and Rice (1976) method was applied to the rising head test data, using the unconfined solution. The data was analysed using the AQTESOLV™ (v. 4.50). A summary of the single well response tests carried out is presented below in **Table 3**. The field values and analytical hydraulic reports are provided in (**Appendix III**).

Table 3: Hydraulic Conductivity Estimates

Location Identification	Description of Soil Moisture Conditions	Soils Reported at Screened Interval	Reported Screened Interval	Reported SPT N-Value at Screened Interval	Estimated Hydraulic Conductivity
			mbgl (masl)		K (m/s)
MW26-12	saturated	Clayey silt	2.4 to 5.5 (74.7 to 71.6)	-	2.49×10^{-6}
MW04-21	saturated	Bedrock	7.6 to 10.7 (69.4 to 66.3)	-	1.24×10^{-5}
MW07B-21	saturated	Bedrock	12.2 to 13.7 (66.6 to 65.1)	-	1.61×10^{-5}
MW16-21	saturated	Bedrock	9.1 to 10.7 (66.9 to 65.3)	-	4.60×10^{-5}
MW26-22	saturated	Sandy silt / Sand	6.1 to 9.1 (77.0 to 74.0)	1 to 16	1.01×10^{-7}

mbgl – indicates 'metres below ground surface'

The estimates provided in **Table 3** are based on *in situ* testing. In addition to considering diameter of grains in the soil (e.g., Hazen Testing), *in situ* testing also considers compaction, effective porosity (as opposed to simple porosity), and existing sedimentary feature factors. As summarized in **Table 3**, hydraulic conductivities ranged from approximately 4.60×10^{-5} m/s to 1.01×10^{-7} m/s in the locations tested. These results indicate semi-pervious to impervious material and are consistent with values expected for glacial till, silt and loess, silty sand, and clean sand (Bear, 1972; Freeze and Cherry, 1979).

Based on the information compiled from the borehole reports, groundwater appears to reside within an unconfined aquifer of fill material consisting of sandy silt, clayey silt, sandy clayey silt, sand and gravel, sand, silty sand, silty clay, and bedrock.

4.3 INTERPRETED GROUNDWATER FLOW DIRECTION

Groundwater flow directions were estimated using manual piezometric head measurements recorded on July 20, 2022. As shown in **Figure 4A**, groundwater was interpreted to be flowing in a generally northward direction (coming inward from the lake). The groundwater piezometric head contours in **Figure 4B** exclude MW23-12 due to its abnormally high groundwater values, though its exclusion does not change the overall flow direction consistent with all well locations, which remains from the lake toward the mainland.

4.4 HYDROCHEMICAL ANALYSES

Due to hydrochemical samples expiring within nine (9) months of sampling, hydrochemistry of the west island will be collected closer to permitting submissions. However, review of the hydrochemical analyses within the hydrogeological investigation report on the 'east island' and 'mainland' (Proposed Ontario Place Servicing Design, 955 Lake Shore Boulevard West, Toronto,

Ontario**;** Terrapex, 2022) indicates that it is likely that water quality treatment at the Site would need to be carried out for the purposes of discharge to surface.

Hydrochemical analyses on the ‘east island’ and ‘mainland’ were compared to the Provincial Water Quality Objectives (PWQO) standards for the purposes of discharging to the lake. The groundwater quality parameters tested include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), petroleum hydrocarbons (PHCs), metals, cyanide, mercury, sulphide, organochlorine pesticide (OCP), and polychlorinated biphenyls (PCBs). Parameters not meeting PWQO criteria included pH, total phosphorous, and dissolved aluminium, as well as several semi-volatile organic (SVOC) species and polycyclic aromatic hydrocarbon (PAH) species.

5. DEWATERING ASSESSMENT

5.1 ESTIMATED DEWATERING VOLUMES

Based on currently available information, dewatering operations may be required at proposed excavations for building structures, utility trenching excavations, and pedestrian tunnels. Further design information will be required before temporary dewatering estimates can be completed.

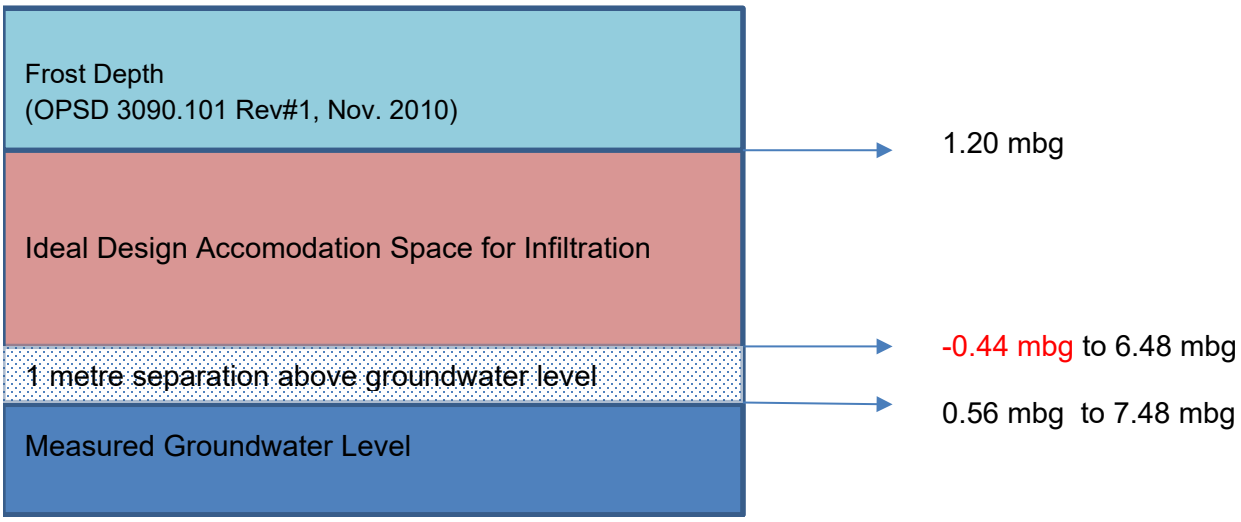
6. LOW IMPACT DEVELOPMENT (LID) MEASURES

In general principles, precipitation incident to a pervious soil surface may infiltrate downward to move through the unsaturated zone, to then recharge the shallow groundwater aquifer. From there, shallow groundwater moves toward a watercourse to contribute to baseflow or percolates downward to replenish deeper aquifers. Impervious surfaces, such as buildings or paving, prevent infiltration and so precipitation instead becomes runoff directed to storm water sewers.

Low impact development (LID) measures promote infiltration, and generally requires there to be at least one metre of soil above the seasonal high groundwater level and should generally reside lower than the understood frost depth (OPSD3090.101 Rev#1 Nov2010).

As outlined above, groundwater at the Site is likely located at depths measured to range from 0.83 mbg through 7.48 mbg. Based on these measurements, this leaves no space to accommodate any infiltration gallery measures between maximum frost depth and maximum infiltration depth in some areas, whereas there may be as much as 6.48 metres of space available to accommodate any infiltration gallery measures between maximum frost depth and maximum infiltration depth in others.

Based on these estimates, conditions are considered challenging for the design of LID measures in some areas, while being favourable for the design of LID measures in others. These conditions are summarized visually in the drawing, below.



7. SUMMARY AND DISCUSSION

The following summarizes the information above, obtained during the review of the Site and nearby investigations carried out by others:

- The subsurface stratigraphy is generally comprised of fill materials consisting of sandy silt, clayey silt, sandy clayey silt, sand and gravel, sand, silty sand, and silty clay. Native soils consisted of dense clayey silt till. Bedrock consisted of shale stratum interbedded with limestone and dolostone.
- *In-situ* measurements of the static groundwater were reported to range from 0.56 mbg through 7.48 mbg, equivalent to 74.11 masl through 75.61 masl.
- Hydraulic conductivity (K) values in the adjacent islands vary between 1.01×10^{-7} and 4.60×10^{-5}.
- Groundwater flow directions were estimated using manual piezometric head measurements; groundwater was interpreted to be flowing in a generally northward direction (toward the mainland from the lake). This is presumed to vary seasonally.
- Review of the hydrochemical analyses on adjacent islands showed exceedances when results were compared to PWQO standards for the purposes of discharging to the lake. It is likely that groundwater effluent quality treatment at the Site will need to be employed before discharge. Hydrochemistry of the West Island will be collected closer to permitting submissions due to hydrochemical samples expiring within nine (9) months of sampling.
- Based on hydraulic conductivity values in the adjacent islands and concept excavation dimensions, a Permit to Take Water (PTTW) will likely be required for temporary dewatering needs.
- Conditions are considered variable for the design of LID measures.

8. CLOSURE

This report has been completed in accordance with the terms of reference for this project as agreed upon by Urban Strategies Inc. (the Client) and Terrapex Environmental Ltd. (Terrapex) and generally accepted hydrogeological consulting practices in this area.

The reported information is believed to provide a reasonable representation of the general hydrogeological conditions at the site; however, studies of this nature have inherent limitations. The data were collected at specific locations and conditions may vary at other locations, or with the passage of time. Where applicable, the assessment of the environmental quality of groundwater was limited to a study of those chemical parameters specifically addressed in this report.

Terrapex has relied in good faith on information and representations obtained from the Client and third parties and, except where specifically identified, has made no attempt to verify such information. Terrapex accepts no responsibility for any deficiency or inaccuracy in this report as a result of any misstatement, omission, misrepresentation, or fraudulent act of those providing information. Terrapex shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time of the study.

This report has been prepared for the sole use of Urban Strategies Inc. Terrapex accepts no liability for claims arising from the use of this report, or from actions taken or decisions made as a result of this report, by parties other than Urban Strategies Inc.

Respectfully submitted,

TERRAPEX ENVIRONMENTAL LTD.

Andrew Durbano, M.Sc., P.Geo.
Hydrogeologist

Zen Keizars, P.Geo., FGC.
Senior Hydrogeologist

FIGURES

LEGEND

SITE BOUNDARY

DATA SOURCE: ESRI
MAP PROJECTION: NAD 1983 UTM Zone 17N

CLIENT: URBAN STRATEGIES INC.

SITE LOCATION: ONTARIO PLACE
TORONTO, ONTARIO

TERRAPEX

TITLE: **SITE LOCATION**

DRAWN BY: SW	PROJECT NO.: CT3643.00	CHECKED BY: XX
REVISION: 00	DATE: NOVEMBER 2022	**FIGURE: 1**

swilliams C:\Users\swilliams\OneDrive - Terrapex Environmental Ltd\PROJECTS\Toronto\CT3600\CT3643.00 Ontario Place, Toronto\MXD\Hydrog\Full Site\CT3643.00 FIG1 SITE LOCATION.mxd

LEGEND

- SITE BOUNDARY
- 500m RADIUS FROM SITE BOUNDARY
- WATER WELL

0 50 100 150 200
Metres

DATA SOURCE: ESRI, CITY OF TORONTO
MAP PROJECTION: NAD 1983 UTM ZONE 17N

CLIENT:
URBAN STRATEGIES INC.

SITE LOCATION:
ONTARIO PLACE
TORONTO, ONTARIO

TERRAPEX

TITLE:
WATER WELL RECORDS - 500 m

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION: 00	DATE: NOVEMBER 2022	FIGURE: **2**

C:\Users\swilliams\OneDrive - Terrapex Environmental Ltd\PROJECTS\Toronto\CT3600\CT3643.00 Ontario Place, Toronto\MXD\Hydrog\Full Site\CT3643.00 FIG2 WATER WELL RECORDS.mxd

LEGEND

- SITE BOUNDARY
- CROSS SECTIONS
- MONITORING WELL (TERRAPEX, 2022)
- MONITORING WELL (DRILLED BY OTHERS)

0 50 100 150 200
Metres

DATA SOURCE: ESRI, CITY OF TORONTO
MAP PROJECTION: NAD 1983 UTM ZONE 17N

CLIENT:
URBAN STRATEGIES INC.

SITE LOCATION:
ONTARIO PLACE
TORONTO, ONTARIO

TERRAPEX

TITLE:
GENERAL SITE LAYOUT

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION:	DATE:	FIGURE:
00	NOVEMBER 2022	**3**

C:\Users\swilliams\OneDrive - Terrapex Environmental Ltd\PROJECTS\Toronto\CT3600\CT3643.00 Ontario Place, Toronto\MXD\Hydrog\Full Site\CT3643.00 FIG3 GENERAL SITE LAYOUT.mxd

LEGEND

- SITE BOUNDARY
- MONITORING WELL (TERRAPEX, 2022)
- MONITORING WELL (DRILLED BY OTHERS)
- EQUIPOTENTIAL CONTOUR
- INTERPRETED DIRECTION OF GROUNDWATER MOVEMENT
- 75.75 STATIC WATER LEVEL (20 July 2022) (m ASL)

0 50 100 150 200
Metres

DATA SOURCE: ESRI, CITY OF TORONTO
MAP PROJECTION: NAD 1983 UTM ZONE 17N

CLIENT:
URBAN STRATEGIES INC.

SITE LOCATION:
ONTARIO PLACE
TORONTO, ONTARIO

TERRAPEX

TITLE:
GROUNDWATER PIEZOMETRIC HEAD CONTOURS

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION:	DATE:	FIGURE:
00	NOVEMBER 2022	**4A**

C:\Users\swilliams\OneDrive - Terrapex Environmental Ltd\PROJECTS\Toronto\CT3600\CT3643.00 Ontario Place, Toronto\MXD\Hydrog\Full Site\CT3643.00 FIG4A GROUNDWATER PIEZOMETRIC HEAD CONTOURS.mxd

LEGEND

- SITE BOUNDARY
- MONITORING WELL (TERRAPEX, 2022)
- MONITORING WELL (DRILLED BY OTHERS)
- EQUIPOTENTIAL CONTOUR
- INTERPRETED DIRECTION OF GROUNDWATER MOVEMENT
- 75.75 STATIC WATER LEVEL (20 July 2022) (m ASL)

0 50 100 150 200
Metres

DATA SOURCE: ESRI, CITY OF TORONTO
MAP PROJECTION: NAD 1983 UTM ZONE 17N

CLIENT:
URBAN STRATEGIES INC.

SITE LOCATION:
ONTARIO PLACE
TORONTO, ONTARIO

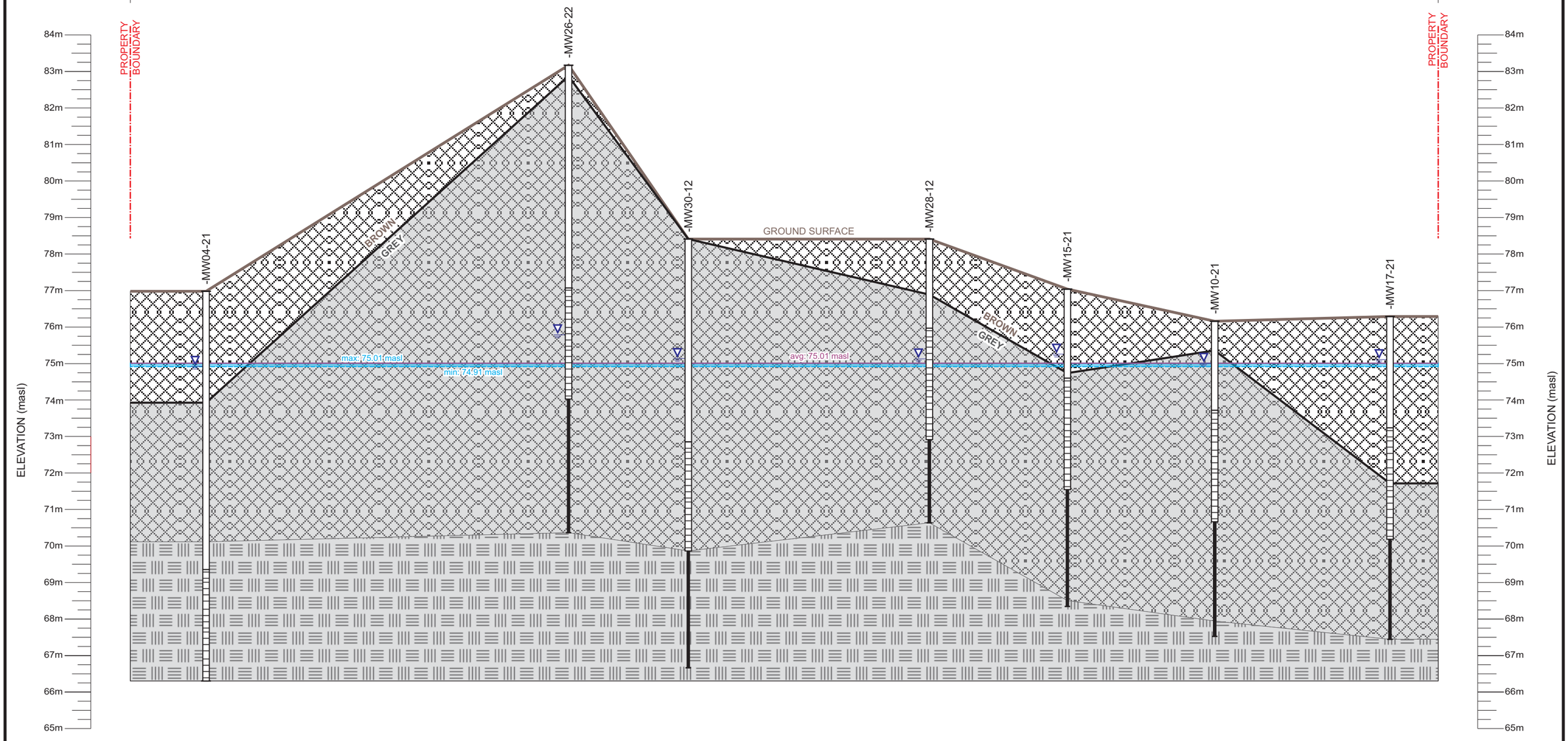
TERRAPEX

TITLE:
GROUNDWATER PIEZOMETRIC HEAD CONTOURS (MW23-12 REMOVED FROM INTERPRETATION)

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION: 00	DATE: NOVEMBER 2022	FIGURE: **4B**

C:\Users\swilliams\OneDrive - Terrapex Environmental Ltd\PROJECTS\Toronto\CT3600\CT3643.00 Ontario Place, Toronto\MXD\Hydrog\Full Site\CT3643.00 FIG4B GROUNDWATER PIEZOMETRIC HEAD CONTOURS.mxd

LOOKING NORTHEAST



LEGEND

- FILL
- SHALE BEDROCK
- LAKE LEVEL FOR JULY 20, 2022
  (Canadian Hydrographic Service, Gov'n of Canada Monitoring Station: Toronto (13320) 43.639771, -79.380286)
- LAKE LEVEL FOR JULY 20, AVERAGE JULY LEVEL SINCE 1918
  (US Army Corps of Engineers Feb 23, 2022)

STATIC WATER LEVEL- (July 20, 2022)

DEPTH OF SOIL INTERFACE(m bg)- 3.7-

MW104 - MONITORING WELL DESIGNATION

- SCREENED ZONE

- BOREHOLE

HORIZONTAL SCALE:

0 25m 50m

(APPROXIMATE)

NOTES:
1. SOIL AND GROUNDWATER KNOWN ONLY AT BOREHOLE LOCATIONS.
2. BOREHOLES ARE PROJECTED ONTO PROFILE.

CLIENT: URBAN STRATEGIES INC.

SITE LOCATION: ONTARIO PLACE TORONTO, ONTARIO

TERRAPEX

TITLE: **CROSS SECTION A-A' (NORTHWEST TO SOUTHEAST)**

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION:	DATE:	FIGURE:
00	OCTOBER 2022	**5**

LOOKING NORTWEST

B

B'

PROPERTY BOUNDARY

PROPERTY BOUNDARY

-MW07A-21

-MW08-21

-MW11-21

-MW30-12

-MW13-21

-MW16-21

-MW29-12

GROUND SURFACE

max: 75.01 masl

min: 74.91 masl

avg: 75.01 masl

ELEVATION (masl)

84m
83m
82m
81m
80m
79m
78m
77m
76m
75m
74m
73m
72m
71m
70m
69m
68m
67m
66m
65m

ELEVATION (masl)

84m
83m
82m
81m
80m
79m
78m
77m
76m
75m
74m
73m
72m
71m
70m
69m
68m
67m
66m
65m

LEGEND

- FILL
- CLAYEY SILT TILL
- SHALE BEDROCK
- LAKE LEVEL FOR JULY 20, 2022
  (Canadian Hydrographic Service, Gov'n of Canada Monitoring Station: Toronto (13320) 43.639771, -79.380286)
- LAKE LEVEL FOR JULY 20, AVERAGE JULY LEVEL SINCE 1918
  (US Army Corps of Engineers Feb 23, 2022)

-MW104 - MONITORING WELL DESIGNATION

STATIC WATER LEVEL- (July 20, 2022)

DEPTH OF SOIL INTERFACE(m bg)- 3.7-

- SCREENED ZONE

- BOREHOLE

HORIZONTAL SCALE:

0 25m 50m

(APPROXIMATE)

NOTES:
1. SOIL AND GROUNDWATER KNOWN ONLY AT BOREHOLE LOCATIONS.
2. BOREHOLES ARE PROJECTED ONTO PROFILE.

CLIENT: URBAN STRATEGIES INC.

SITE LOCATION: ONTARIO PLACE TORONTO, ONTARIO

TERRAPEX

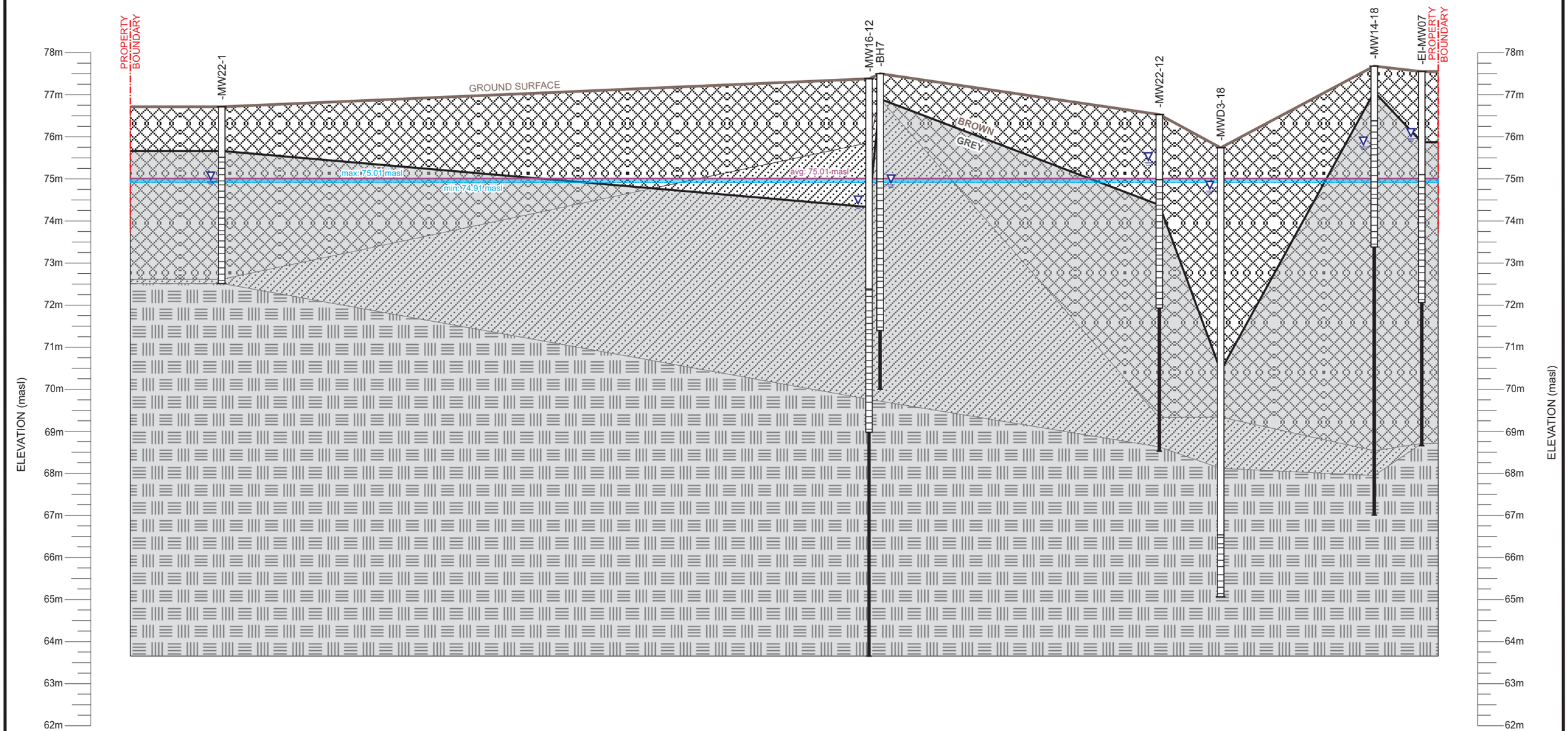
TITLE: **CROSS SECTION A-A' (SOUTHWEST TO NORTHEAST)**

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION: 00	DATE: OCTOBER 2022	FIGURE: 6

C

LOOKING NORTHEAST

C'



LEGEND

- SAND AND GRAVEL FILL
- SILT CLAY SAND
- SHALE BEDROCK
- LAKE LEVEL FOR JULY 20, 2022
  (Canadian Hydrographic Service, Gov'n of Canada Monitoring Station: Toronto (13320) 43.639771, -79.380286)
- LAKE LEVEL FOR JULY 20, AVERAGE JULY LEVEL SINCE 1918
  (US Army Corps of Engineers Feb 23, 2022)

-MW104 - MONITORING WELL DESIGNATION

STATIC WATER LEVEL- (July 20, 2022)

DEPTH OF SOIL INTERFACE(m bg)- 3.7-

- SCREENED ZONE

- BOREHOLE

HORIZONTAL SCALE:

0 50m 100m

(APPROXIMATE)

NOTES:
1. SOIL AND GROUNDWATER KNOWN ONLY AT BOREHOLE LOCATIONS.
2. BOREHOLES ARE PROJECTED ONTO PROFILE.

CLIENT:	URBAN STRATEGIES INC.
SITE LOCATION:	ONTARIO PLACE TORONTO, ONTARIO
	TERRAPEX
TITLE:	**CROSS SECTION C-C' (NORTHWEST TO SOUTHEAST)**

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION:	DATE:	FIGURE:
00	SEPTEMBER 2022	**7**

LOOKING NORTHEAST

D

D'

PROPERTY BOUNDARY

PROPERTY BOUNDARY

-MW21-12

-MW20-12

-MW19-12

-MW18-12

-MW01-18

-BH8

-MW22-12

-MW1-12

-MW22-19

GROUND SURFACE

BROWN

GREY

max: 75.01 masl

min: 74.91 masl

avg: 75.01 masl

ELEVATION (masl)

78m
77m
76m
75m
74m
73m
72m
71m
70m
69m
68m
67m
66m
65m
64m
63m
62m

LEGEND

- SAND AND GRAVEL FILL
- SILT CLAY SAND
- SHALE BEDROCK
- LAKE LEVEL FOR JULY 20, 2022
  (Canadian Hydrographic Service, Gov'n of Canada Monitoring Station: Toronto (13320) 43.639771, -79.380286)
- LAKE LEVEL FOR JULY 20, AVERAGE JULY LEVEL SINCE 1918
  (US Army Corps of Engineers Feb 23, 2022)

-MW104 - MONITORING WELL DESIGNATION

STATIC WATER LEVEL- (July 20, 2022)

DEPTH OF SOIL INTERFACE(m bg)- 3.7-

- SCREENED ZONE

- BOREHOLE

HORIZONTAL SCALE:

0 50m 100m

(APPROXIMATE)

NOTES:
1. SOIL AND GROUNDWATER KNOWN ONLY AT BOREHOLE LOCATIONS.
2. BOREHOLES ARE PROJECTED ONTO PROFILE.

CLIENT: URBAN STRATEGIES INC.

SITE LOCATION: ONTARIO PLACE TORONTO, ONTARIO

TERRAPEX

TITLE: **CROSS SECTION D-D' (SOUTHWEST TO NORTHEAST)**

DRAWN BY:	PROJECT NO.:	CHECKED BY:
SW	CT3643.00	XX
REVISION: 00	DATE: SEPTEMBER 2022	FIGURE: 8

APPENDIX I
MECP WELL RECORD REPORT

MECP Water Well Records

Well Record #

7132181 **Lot** **Conc** **TORONTO CITY / YORK**

Date 2009-10-13 DD/MM/YYYY

Elev (masl) **Easting** 627151 **Northing** 4832334

/ Monitoring **Test Hole** **UTM RC** 3 **margin of error :** 10 - 30 m

Water Found 3.6 (mbgs) (masl) FRESH

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen 2.4 (mbgs) **Bottom of Screen** 5.5 (mbgs)

Screen Interval 3.1 (m) **Contractor**

Flowing?

SWL	(mbgs)	(masl)
Pumping WL	(mbgs)	(masl)
Pump Rate	(LPM)	/
Spec. Cap.	(LPM/m)	Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/	/
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7244177 **Lot** **Conc** **TORONTO CITY / YORK**

Date 2015-05-22 DD/MM/YYYY

Elev (masl) **Easting** 627064 **Northing** 4832348

/ Test Hole **Abandoned-Other** **UTM RC** 4 **margin of error :** 30 m - 100 m

Water Found 3.0 (mbgs) (masl) FRESH

Casing Diameter 1 inch **Casing Material:** PLASTIC

Top of Screen (mbgs) **Bottom of Screen** (mbgs)

Screen Interval (m) **Contractor** Terra Firma Environmental Services

Flowing?

SWL	(mbgs)	(masl)
Pumping WL	(mbgs)	(masl)
Pump Rate	(LPM)	/
Spec. Cap.	(LPM/m)	Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/	/

Record Count 2

Well Record #

7255181 Lot Conc TORONTO CITY / YORK

Date 2015-11-22 DD/MM/YYYY

Elev (masl) Easting 627043 Northing 4832319

/ Monitoring Observation Wells UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 4.6 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 1.5 (m) Contractor Davis Drilling ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
2.7		BLACK	FILL / CLAY / PACKED
6.1		GREY	SILT / CLAY / PACKED

7288785 Lot Conc TORONTO CITY / YORK

Date 2017-02-22 DD/MM/YYYY

Elev (masl) Easting 627171 Northing 4831985

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 1.8 (mbgs) (masl) Untested

Casing Diameter 5.1 cm Casing Material: PLASTIC

Top of Screen 0.9 (mbgs) Bottom of Screen 3.0 (mbgs)

Screen Interval 2.1 (m) Contractor Dbw Drilling Limited

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.2		BLACK	TOPSOIL / / LOOSE
3.0		BROWN	SILT / SAND / LOOSE

7291659 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627624 Northing 4832231

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
6.1		GREY	SILT / CLAY / TILL

7291660 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627555 Northing 4832098

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 5.3 (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
6.1		GREY	SHALE / /
		GREY	SILT / CLAY / TILL

Record Count 6

Well Record #

7291661 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627729 Northing 4832137

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 5.3 (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
6.1		GREY	SILT / CLAY / TILL
		GREY	SHALE / /

7291662 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627830 Northing 4832163

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 3.0 (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 2.7 (mbgs) Bottom of Screen 5.8 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
5.8		GREY	SILT / CLAY / TILL
		GREY	SHALE / /

7332119 Lot Conc TORONTO CITY / YORK

Date 2019-04-22 DD/MM/YYYY

Elev (masl) Easting 628025 Northing 4831943

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Golder Associates ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
			/ /

7332120 Lot Conc TORONTO CITY / YORK

Date 2019-04-22 DD/MM/YYYY

Elev (masl) Easting 627999 Northing 4831866

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Golder Associates ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
			/ /

Well Record #

7337091	**Lot**	**Conc**	**TORONTO CITY / YORK**						**Flowing?**		
Date	**2017-06-20**	**Elev**	**(masl)**	**Easting**	**627967**	**Northing**	**4831805**		**SWL**	**(mbgs)**	**(masl)**
	DD/MM/YYYY	**/**				**UTM RC**	**4**	**margin of error : 30 m - 100 m**	**Pumping WL**	**(mbgs)**	**(masl)**
		Water Found	**(mbgs)**		**(masl)**				**Pump Rate**	**(LPM)**	**/**
		Casing Diameter		**Casing Material:**					**Spec. Cap.**	**(LPM/m)**	**Hour / Minute**
		Top of Screen	**(mbgs)**	**Bottom of Screen**	**(mbgs)**				**Depth (m)**	**Elev (masl)**	
		Screen Interval	**(m)**	**Contractor**	**Profile Drilling inc.**				**0.0**	**Color**	**Soil Descriptions**

/ **/**

MECP Water Well Records

Well Record #

7041524 | Lot | Conc | TORONTO CITY / YORK

Date 2006-11-16 (DD/MM/YYYY)

Elev (masl) | Easting 628159 | Northing 4831998 | / | Abandoned-Other | UTM RC 3 | margin of error : 10 - 30 m

Water Found (mbgs) (masl)

Casing Diameter | Casing Material:

Top of Screen (mbgs) | Bottom of Screen (mbgs)

Screen Interval (m) | Contractor Altech Drilling & Investigative Servi

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
2.4		BLACK	FILL / SOFT /
6.0		BROWN	SAND / SILT / DENSE
7.2		GREY	CLAY / SILT /

7041525 | Lot | Conc | TORONTO CITY / YORK

Date 2006-12-04 (DD/MM/YYYY)

Elev (masl) | Easting 628159 | Northing 4831998 | / | Observation Wells | UTM RC 3 | margin of error : 10 - 30 m

Water Found (mbgs) (masl)

Casing Diameter 5.3 cm | Casing Material: PLASTIC

Top of Screen 4.2 (mbgs) | Bottom of Screen 7.2 (mbgs)

Screen Interval 3.0 (m) | Contractor Altech Drilling & Investigative Servi

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
2.4		BLACK	FILL / SOFT /
6.0		BROWN	SAND / SILT / DENSE
7.2		GREY	CLAY / SILT /

7046383 | Lot | Conc | TORONTO CITY / YORK

Date 2007-06-21 (DD/MM/YYYY)

Elev (masl) | Easting 628085 | Northing 4832323 | / Not Used | Observation Wells | UTM RC 3 | margin of error : 10 - 30 m

Water Found (mbgs) (masl)

Casing Diameter 5 cm | Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) | Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) | Contractor Atcost Soil Drilling inc.

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
3.8		BROWN	SAND / FILL / DRY
6.1		GREY	CLAY / SAND / SOFT

7125446 | Lot | Conc | TORONTO CITY / YORK

Date 2009-02-20 (DD/MM/YYYY)

Elev (masl) | Easting 627820 | Northing 4832611 | / Monitoring | Test Hole | UTM RC 3 | margin of error : 10 - 30 m

Water Found 5.4 (mbgs) (masl) Not stated

Casing Diameter 5.1 cm | Casing Material: PLASTIC

Top of Screen (mbgs) | Bottom of Screen (mbgs)

Screen Interval (m) | Contractor Geo-Environmental Drilling inc.

Flowing?
SWL 5.0 (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
			/ /
			/ /
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Record Count 4

Well Record #

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7132181 **Lot** **Conc** **TORONTO CITY / YORK**

Date 2009-10-13 DD/MM/YYYY

Elev (masl) **Easting** 627151 **Northing** 4832334

/ **Monitoring** **Test Hole** **UTM RC** 3 **margin of error : 10 - 30 m**

Water Found 3.6 (mbgs) (masl) **FRESH**

Casing Diameter 5 cm **Casing Material:** PLASTIC

Top of Screen 1.5 (mbgs) **Bottom of Screen** 3.1 (mbgs)

Screen Interval 1.6 (m) **Contractor**

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

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Well Record #

7149154 Lot Conc TORONTO CITY / YORK

Date 2009-11-18 DD/MM/YYYY | Elev (masl) | Easting 628107 | Northing 4831896 | / Monitoring | Observation Wells | UTM RC 4 | margin of error : 30 m - 100 m

Water Found 2.4 (mbgs) (masl) FRESH

Casing Diameter 5.2 cm | Casing Material: PLASTIC

Top of Screen 5.2 (mbgs) | Bottom of Screen 8.2 (mbgs)

Screen Interval 3.0 (m) | Contractor Direct Environmental Drilling inc.

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.3		BLACK	TOPSOIL / / LOOSE
1.3		BROWN	FILL / SAND / GRAVEL
8.2		BROWN	FILL / CLAY / SILT

7171723 Lot Conc TORONTO CITY / YORK

Date 2011-08-04 DD/MM/YYYY | Elev (masl) | Easting 628098 | Northing 4832482 | / | UTM RC 3 | margin of error : 10 - 30 m

Water Found (mbgs) (masl)

Casing Diameter | Casing Material:

Top of Screen (mbgs) | Bottom of Screen (mbgs)

Screen Interval (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7177806 Lot Conc TORONTO CITY / YORK

Date 2012-02-07 DD/MM/YYYY | Elev (masl) | Easting 628228 | Northing 4832750 | / | UTM RC 4 | margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter | Casing Material:

Top of Screen (mbgs) | Bottom of Screen (mbgs)

Screen Interval (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7195322 Lot Conc TORONTO CITY / YORK

Date 2012-11-29 DD/MM/YYYY | Elev (masl) | Easting 627462 | Northing 4832517 | / Test Hole | Test Hole | UTM RC 4 | margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 1.5 inch | Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) | Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
4.0		BROWN	SAND / SILT / DENSE
7.6		GREY	SAND / SILT / WATER-BEARING

7195324 Lot Conc TORONTO CITY / YORK

Date 2012-11-29 DD/MM/YYYY | Elev (masl) | Easting 627473 | Northing 4832521 | / Monitoring and Te | Test Hole | UTM RC 4 | margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 1.5 inch | Casing Material: PLASTIC

Top of Screen 5.8 (mbgs) | Bottom of Screen 7.6 (mbgs)

Screen Interval 1.8 (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

Record Count 10

Well Record #

				4.6	BROWN	SAND /		/ DENSE
				7.6	GREY	SAND /	SILT	/ WATER-BEARING

7195326 Lot Conc TORONTO CITY / YORK

Date 2012-11-29 DD/MM/YYYY

Elev (masl) / Test Hole Easting 627480 Northing 4832497 UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl) Test Hole

Casing Diameter 1.5 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) Contractor 1793746 Ontario inc. O/A Strata S

Flowing? SWL (mbgs) (masl) Pumping WL (mbgs) (masl) Pump Rate (LPM) / Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color	Soil Descriptions		
0.0				
4.3	BROWN	SAND /		/ DENSE
7.6	GREY	SAND /	SILT	/ WATER-BEARING

7195327 Lot Conc TORONTO CITY / YORK

Date 2012-11-30 DD/MM/YYYY

Elev (masl) / Dewatering Easting 627501 Northing 4832460 UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 1.5 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) Contractor 1793746 Ontario inc. O/A Strata S

Flowing? SWL (mbgs) (masl) Pumping WL (mbgs) (masl) Pump Rate (LPM) / Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color	Soil Descriptions		
0.0				
3.7	BROWN	SAND /		/ DENSE
7.6	GREY	SAND /	SILT	/ WATER-BEARING

7195328 Lot Conc TORONTO CITY / YORK

Date 2012-11-30 DD/MM/YYYY

Elev (masl) / Dewatering Easting 627488 Northing 4832531 UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 1.5 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) Contractor 1793746 Ontario inc. O/A Strata S

Flowing? SWL (mbgs) (masl) Pumping WL (mbgs) (masl) Pump Rate (LPM) / Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color	Soil Descriptions		
0.0				
4.0	BLACK	SAND /		/ DENSE
7.6	GREY	SAND /	SILT	/ WATER-BEARING

7195341 Lot Conc TORONTO CITY / YORK

Date 2012-11-30 DD/MM/YYYY

Elev (masl) / Domestic Easting 627494 Northing 4832528 UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 1.5 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) Contractor 1793746 Ontario inc. O/A Strata S

Flowing? SWL (mbgs) (masl) Pumping WL (mbgs) (masl) Pump Rate (LPM) / Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color	Soil Descriptions		
0.0				
3.7	BROWN	SAND /		/ DENSE
7.6	GREY	SAND /	SILT	/ WATER-BEARING

Well Record #

7195342 Lot Conc TORONTO CITY / YORK

Date 2012-11-30 DD/MM/YYYY | Elev (masl) | Easting 627487 | Northing 4832528 | UTM RC 4 | margin of error : 30 m - 100 m

/ Dewatering | Water Found (mbgs) (masl)

Casing Diameter 1.5 inch | Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) | Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
4.0		BROWN	SAND / / DENSE
7.6		GREY	SAND / SILT / WATER-BEARING

7195343 Lot Conc TORONTO CITY / YORK

Date 2012-11-30 DD/MM/YYYY | Elev (masl) | Easting 627487 | Northing 4832525 | UTM RC 4 | margin of error : 30 m - 100 m

/ Dewatering | Water Found (mbgs) (masl)

Casing Diameter 1.5 inch | Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) | Bottom of Screen 7.6 (mbgs)

Screen Interval 4.6 (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
3.7		BROWN	SAND / / DENSE
7.6		GREY	SAND / SILT / WATER-BEARING

7195344 Lot Conc TORONTO CITY / YORK

Date 2012-11-30 DD/MM/YYYY | Elev (masl) | Easting 627480 | Northing 4832526 | UTM RC 4 | margin of error : 30 m - 100 m

/ Dewatering | Water Found (mbgs) (masl)

Casing Diameter 1.5 inch | Casing Material: PLASTIC

Top of Screen 6.1 (mbgs) | Bottom of Screen 7.6 (mbgs)

Screen Interval 1.5 (m) | Contractor 1793746 Ontario inc. O/A Strata S

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
4.0		BROWN	SAND / / DENSE
7.6		GREY	SAND / SILT / WATER-BEARING

7202172 Lot Conc TORONTO CITY / YORK

Date 2013-05-15 DD/MM/YYYY | Elev (masl) | Easting 627934 | Northing 4832636 | UTM RC 4 | margin of error : 30 m - 100 m

/ | Water Found (mbgs) (masl)

Casing Diameter | Casing Material:

Top of Screen (mbgs) | Bottom of Screen (mbgs)

Screen Interval (m) | Contractor Drilltech Drilling ltd.

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7217002 Lot Conc TORONTO CITY / YORK

Date 2013-08-07 DD/MM/YYYY | Elev (masl) | Easting 628147 | Northing 4831729 | UTM RC 4 | margin of error : 30 m - 100 m

/ | Water Found (mbgs) (masl)

Casing Diameter | Casing Material:

Top of Screen (mbgs) | Bottom of Screen (mbgs)

Screen Interval (m) | Contractor Profile Drilling inc.

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

Record Count 19

Well Record #

7229252 Lot Conc TORONTO CITY / YORK

Date 2014-05-09 DD/MM/YYYY

Elev (masl) Easting 628235 Northing 4831911

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Depth (m) Elev (masl)

0.0

Color Soil Descriptions

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

/ /

7244177 Lot Conc TORONTO CITY / YORK

Date 2015-05-22 DD/MM/YYYY

Elev (masl) Easting 627064 Northing 4832348

/ Test Hole Abandoned-Other UTM RC 4 margin of error : 30 m - 100 m

Water Found 3.0 (mbgs) (masl) FRESH

Casing Diameter 1 inch Casing Material: PLASTIC

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Terra Firma Environmental Services

Depth (m) Elev (masl)

0.0

Color Soil Descriptions

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

/ /

7247418 Lot Conc TORONTO CITY / YORK

Date 2015-08-04 DD/MM/YYYY

Elev (masl) Easting 628292 Northing 4832062

/ Abandoned-Other UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Davis Drilling ltd.

Depth (m) Elev (masl)

0.0

Color Soil Descriptions

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

/ /

7247419 Lot Conc TORONTO CITY / YORK

Date 2015-08-04 DD/MM/YYYY

Elev (masl) Easting 628290 Northing 4832074

/ Abandoned-Other UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Davis Drilling ltd.

Depth (m) Elev (masl)

0.0

Color Soil Descriptions

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

/ /

7247420 Lot Conc TORONTO CITY / YORK

Date 2015-08-04 DD/MM/YYYY

Elev (masl) Easting 628275 Northing 4832017

/ Abandoned-Quality UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Davis Drilling ltd.

Depth (m) Elev (masl)

0.0

Color Soil Descriptions

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

/ /

Record Count 24

Well Record #

7247421 Lot Conc TORONTO CITY / YORK

Date 2015-08-04 DD/MM/YYYY

Elev (masl) Easting 628258 Northing 4831969

/ Abandoned-Other UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Davis Drilling ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7247422 Lot Conc TORONTO CITY / YORK

Date 2015-08-04 DD/MM/YYYY

Elev (masl) Easting 628245 Northing 4831851

/ Abandoned-Other UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Davis Drilling ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7255181 Lot Conc TORONTO CITY / YORK

Date 2015-11-22 DD/MM/YYYY

Elev (masl) Easting 627043 Northing 4832319

/ Monitoring Observation Wells UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 4.6 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 1.5 (m) Contractor Davis Drilling ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
2.7		BLACK	FILL / CLAY / PACKED
6.1		GREY	SILT / CLAY / PACKED

7261895 Lot Conc TORONTO CITY / YORK

Date 2016-03-10 DD/MM/YYYY

Elev (masl) Easting 628207 Northing 4832788

/ Monitoring and Te UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 6.1 (mbgs) Bottom of Screen 9.1 (mbgs)

Screen Interval 3.0 (m) Contractor 1793746 Ontario inc. O/A Strata S

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
3.4		BROWN	CLAY / FILL / WOOD FRAGMENTS
8.5		GREY	CLAY / / DENSE
9.1		GREY	SHALE / /

7265473 Lot Conc TORONTO CITY / YORK

Date 2016-05-10 DD/MM/YYYY

Elev (masl) Easting 628352 Northing 4832280

/ Monitoring and Te Observation Wells UTM RC 5 margin of error : 100 m - 300 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 35.1 (mbgs) Bottom of Screen 38.1 (mbgs)

Screen Interval 3.0 (m) Contractor Walker Drilling ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

Well Record #

Depth (m)	Color			
0.6	BROWN	TOPSOIL /		/
3.0	BROWN	SAND /	SILT	/
6.4	GREY	SAND /	SILT	/
38.1	BLUE	SHALE /		/

7265474 Lot Conc TORONTO CITY / YORK

Date 2016-04-29 DD/MM/YYYY

Elev (masl) Easting 628597 Northing 4832375

/ Monitoring and Te Observation Wells UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 36.0 (mbgs) Bottom of Screen 39.0 (mbgs)

Screen Interval 3.0 (m) Contractor Walker Drilling ltd.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color			
0.0		Soil Descriptions		
0.6	BROWN	TOPSOIL /		/
3.0	BROWN	SILT /	SANDY	/
7.0	GREY	SILT /	SANDY	/
39.0	GREY	SHALE /		/

7270777 Lot Conc TORONTO CITY / YORK

Date 2015-06-04 DD/MM/YYYY

Elev (masl) Easting 628240 Northing 4831902

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color			
0.0		Soil Descriptions		
		/		/

7271413 Lot Conc TORONTO CITY / YORK

Date 2015-06-30 DD/MM/YYYY

Elev (masl) Easting 628270 Northing 4832099

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color			
0.0		Soil Descriptions		
		/		/

7276365 Lot Conc TORONTO CITY / YORK

Date 2016-03-30 DD/MM/YYYY

Elev (masl) Easting 627950 Northing 4832224

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Color			
0.0		Soil Descriptions		
		/		/

Well Record #

7283935 Lot Conc TORONTO CITY / YORK

Date 2016-12-16 DD/MM/YYYY

Elev (masl) Easting 628218 Northing 4831927 / UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

/ /

7288780 Lot Conc TORONTO CITY / YORK

Date 2017-02-23 DD/MM/YYYY

Elev (masl) Easting 628360 Northing 4832302 / Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 1.7 (mbgs) (masl) Untested

Casing Diameter 5.1 cm Casing Material: PLASTIC

Top of Screen 2.4 (mbgs) Bottom of Screen 4.5 (mbgs)

Screen Interval 2.1 (m) Contractor Dbw Drilling Limited

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.1		BLACK	/ / HARD
4.5		BROWN	SAND / GRAVEL / LOOSE

7288781 Lot Conc TORONTO CITY / YORK

Date DD/MM/YYYY

Elev (masl) Easting 628338 Northing 4832284 / Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 3.4 (mbgs) (masl) Untested

Casing Diameter 5.1 cm Casing Material: PLASTIC

Top of Screen 3.9 (mbgs) Bottom of Screen 6.0 (mbgs)

Screen Interval 2.1 (m) Contractor Dbw Drilling Limited

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.2		BLACK	TOPSOIL / / LOOSE
6.0		BROWN	SILT / CLAY / SAND

7288785 Lot Conc TORONTO CITY / YORK

Date 2017-02-22 DD/MM/YYYY

Elev (masl) Easting 627171 Northing 4831985 / Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 1.8 (mbgs) (masl) Untested

Casing Diameter 5.1 cm Casing Material: PLASTIC

Top of Screen 0.9 (mbgs) Bottom of Screen 3.0 (mbgs)

Screen Interval 2.1 (m) Contractor Dbw Drilling Limited

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.2		BLACK	TOPSOIL / / LOOSE
3.0		BROWN	SILT / SAND / LOOSE

7291659 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627624 Northing 4832231 / Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			

Well Record #

0.9	BLACK	/	/
1.5	BROWN	GRAVEL / SILT	/ CLAY
6.1	GREY	SILT / CLAY	/ TILL

7291660 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627555 Northing 4832098

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 5.3 (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
6.1		GREY	SHALE / /
		GREY	SILT / CLAY / TILL

7291661 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627729 Northing 4832137

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 5.3 (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 3.0 (mbgs) Bottom of Screen 6.1 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
6.1		GREY	SILT / CLAY / TILL
		GREY	SHALE / /

7291662 Lot Conc TORONTO CITY / YORK

Date 2017-05-12 DD/MM/YYYY

Elev (masl) Easting 627830 Northing 4832163

/ Test Hole Test Hole UTM RC 4 margin of error : 30 m - 100 m

Water Found 3.0 (mbgs) (masl)

Casing Diameter 2 inch Casing Material: PLASTIC

Top of Screen 2.7 (mbgs) Bottom of Screen 5.8 (mbgs)

Screen Interval 3.0 (m) Contractor

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
0.9		BLACK	/ /
1.5		BROWN	GRAVEL / SILT / CLAY
5.8		GREY	SILT / CLAY / TILL
		GREY	SHALE / /

7315019 Lot Conc TORONTO CITY / YORK

Date 2018-05-07 DD/MM/YYYY

Elev (masl) Easting 628231 Northing 4832031

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Flowing?

SWL (mbgs) (masl)

Pumping WL (mbgs) (masl)

Pump Rate (LPM) /

Spec. Cap. (LPM/m) Hour / Minute

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
		/	/

Well Record #

7332119 Lot Conc TORONTO CITY / YORK

Date 2019-04-22 DD/MM/YYYY

Elev (masl) Easting 628025 Northing 4831943

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Golder Associates ltd.

Depth (m) Elev (masl)
0.0

Color Soil Descriptions

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

/ /

7332120 Lot Conc TORONTO CITY / YORK

Date 2019-04-22 DD/MM/YYYY

Elev (masl) Easting 627999 Northing 4831866

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Golder Associates ltd.

Depth (m) Elev (masl)
0.0

Color Soil Descriptions

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

/ /

7332121 Lot Conc TORONTO CITY / YORK

Date 2019-04-22 DD/MM/YYYY

Elev (masl) Easting 628134 Northing 4831823

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Golder Associates ltd.

Depth (m) Elev (masl)
0.0

Color Soil Descriptions

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

/ /

7337090 Lot Conc TORONTO CITY / YORK

Date 2017-07-14 DD/MM/YYYY

Elev (masl) Easting 628126 Northing 4831825

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Depth (m) Elev (masl)
0.0

Color Soil Descriptions

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

/ /

7337091 Lot Conc TORONTO CITY / YORK

Date 2017-06-20 DD/MM/YYYY

Elev (masl) Easting 627967 Northing 4831805

/ UTM RC 4 margin of error : 30 m - 100 m

Water Found (mbgs) (masl)

Casing Diameter Casing Material:

Top of Screen (mbgs) Bottom of Screen (mbgs)

Screen Interval (m) Contractor Profile Drilling inc.

Depth (m) Elev (masl)
0.0

Color Soil Descriptions

Flowing?
SWL (mbgs) (masl)
Pumping WL (mbgs) (masl)
Pump Rate (LPM) /
Spec. Cap. (LPM/m) Hour / Minute

/ /

Record Count 47

APPENDIX II
BOREHOLE REPORT RECORDS

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: MW22-01**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4832042.217	EASTING (m): 627628.142 ELEV. (m) 76.714
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm): 5	WELL DIAMETER (cm): 15	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: BE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		600 mm SANDY TOPSOIL	0	76.5	5	14	1		25				Borehole open upon completion.
		black cinders FILL	0.5	76		3	2A						
		grey trace black clayey silt to silty clay trace sand trace gravel FILL	1	75.5	11	15	2B		46				
▽		firm	1.5	75	4	14	3		17				Water strike.
		----	2	74.5									
			2.5	74	1	19	4		21				
		soft	3	73.5	82	24	5		100				Remould 12 kPa
▽			3.5	73	1								
			4		82/250	8	6		29				
		hard grey SHALY CLAY (residual soil)											
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: EM	DRILLING DATE: 20-May-22
INPUT BY: RM	MONITORING DATE: 22 JUN 22
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-05**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831694.901	EASTING (m): 627589.585 ELEV. (m) 75.75
CONTRACTOR: Profile Drilling	METHOD: Continuous Augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		60 mm Patio Stones loose damp brown sand & angular gravel trace clay FILL	0	75.5	6	4	1		38	<5			Borehole remained open upon completion.
			0.5	75		14							
			1	74.5	3		2		63	<5			
			1.5	74	3	102	3		63	15			Water strike.
▽		grey trace black silty clay to clayey silt some sand to sandy some angular gravel occasional topsoil pocket sandy layers trace concrete & brick pieces FILL	2	73.5									
▽		soft	2.5	73	0	21	4		67	5			Shelby sample obtained at depths between 2.28 and 2.89 mbgs in adjacent borehole.
		---	3	72.5	2		5		4	<5			
			3.5	72									
		stiff	4	71.5	6		6		67	<5			
		---	4.5	71	2		7		75	<5			
		soft	5	70.5									
		---	5.5	70	5		8		25	<5			
			6	69.5	9		9		5	<5			
		firm to stiff	6.5	69									
			7	68.5	9		10		25	<5			
		--- (possible fill)	7.5	68									
			8	67.5	6		11		58				
		grey SHALE	8.5		50/125		12		0				Practical auger refusal inferred rockhead.
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 25-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: MW22-06**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 48331668.869	EASTING (m): 627580.927 ELEV. (m) 76.21
CONTRACTOR: Profile	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm): 5	WELL DIAMETER (cm): 15	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: BE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		60 mm Patio Stones compact damp brown sand & angular gravel FILL	0	76	10	4	1A			<5			
			0.5	75.5			1B		54	<5			
		very stiff ---	1	75	21	8	2		71	<5			
▽			1.5	74.5	5	8	3		33	15			Water strike
		grey trace black clayey silt to silty clay some sand to sandy some angular gravel trace brick, cinders, organics and debris FILL firm to soft	2	74	2	22	4		54	20			
			2.5	73.5									
			3	73	176 3		5		0	150			
			3.5	72.5									
			4	72	5	21	6		63	15			
			4.5	71.5	6	20	7		58	10			
		--- stiff	5	71		9	8		25				contact buried obstruction.
			5.5		59/263								
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: RR	DRILLING DATE: 25-May-22
INPUT BY: RM	MONITORING DATE: 22 JUN 22
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-07**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831709.188	EASTING (m): 627629.410 ELEV. (m) 76.07
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		60 mm Patio Stone compact damp brown sand & angular gravel some fines FILL	0	76	16	5	1		54	<5			Upon completion borehole caved- in at a depth of 5.2 mbgs and groundwater was at a depth of 1.8 mbgs.
		firm	0.5	75.5									
		---- grey trace black clayey silt some sand to sandy soft some gravel to gravelly trace brick & asphalt pieces FILL	1	75	4	12	2		17	<5			
▽			1.5	74.5		16	3		29	<5			Water strike. GRAVEL 21%, SAND 24%, SILT 37%, CLAY 18%
▽			2	74	2								
		very loose wet brown sand some gravel trace silt FILL	2.5	73.5	1	15	4		100	<5			GRAVEL 13%, SAND 82%, FINES 5%
		firm	3	73		11							
		--- grey trace black clayey silt to silty clay some sand to sandy sand pockets some shale fragments trace brick stiff some cinders FILL	3.5	72.5	4		5		42	<5			
			4	72	15	18	6		29	<5			
			4.5	71.5									
C		---	5	71	7	8	7		38	<5			
		soft to firm	5.5	70.5	3	14	8		58	<5			GRAVEL 13%, SAND 19%, SILT 45%, CLAY 23%
			6	70									
			6.5	69.5	3	15	9		33				
			7	69	5	18	10		33				
			7.5	68.5									
			8	68	42	15	11		33				Higer N-value possilby inflated due to contact with rock, cobble or buried obstruction.
			8.5	67.5									
		grey SHALE	9	67	50/100		12						

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 26-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-07**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831709.188	EASTING (m): 627629.410 ELEV. (m) 76.07
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) ▲ PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 26-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 2 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-10**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831947.937	EASTING (m): 627946.080 ELEV. (m) 76.59
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		60 mm Interlocking stone compact damp brown sand & angular gravel some fines FILL	0	76.5	15				42				
			0.5	76			1A						
							1B			5			
			1	75.5	13		2		33	0			
		---- sand pocket ----											
		firm to stiff	1.5	75	5		3A			0			
		grey trace black clayey silt to silty clay some sand trace gravel trace brick and shale pieces FILL	2	74.5			3B		50				
		----		74	3		4		25	0			
▼			2.5	73.5									
			3		3		5		38				
		soft	3.5	73									
			4	72.5	2		6		54				
			4.5	72									
					3		7		58				
			5	71.5									
			5.5	71	3		8			0			
		---- black sandy silt pocket ----	6	70.5									
					4		9		65	55			
			6.5	70									
			7	69.5	77		10		25				
		grey SHALE											
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: RR	DRILLING DATE: 24-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-11**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831917.007	EASTING (m): 627998.317 ELEV. (m) 77.75
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SAMPLE NO.	RECOVERY (%)	SV/TOV (ppm or %LEL)	REMARKS
120 mm ASPHALTIC CONCRETE dense moist brown sand & angular gravel some fines trace brick pieces FILL	0 – 0.5	77.5	1	83	<5	
grey trace black clayey silt some sand trace brick pieces trace shale pieces FILL	0.5 – 1.5	77 – 76.5	2	13	35	
	1.5 – 2	76	3	33	>5	
brown --- loose to compact sandy gravel to gravelly sand trace silt to silty trace cinders FILL	2 – 3.5	75.5 – 74	4	33	10	GRAVEL 70%, SAND 24%, FINE 6%
brown trace black --- wet	3.5 – 4	74.5	5	58	>5	
	4 – 4.5	74 – 73.5	6	29	>5	GRAVEL 35%, SAND 56%, FINE 9%
	4.5 – 7	73 – 71.5	7	67		
	7 – 7.5	71.5 – 70.5	8	44	>5	
firm grey trace black silty clay trace organics trace sand and angular gravel FILL	7.5 – 8	70	9A 9B	72	>5	
	8 – 9	69.5 – 69				
grey SHALE	9		10	75		

SHEAR STRENGTH (kPa) ● 40 80 120 160
N-VALUE (Blows/300mm) ▲ 20 40 60 80
WATER CONTENT (%) PL W.C. LL 20 40 60 80

N-VALUE: 49, 38, 50/75, 8, 25, 5, 50/75, 38, 9, 50/100

WATER CONTENT: 10, 17, 8, 10, 16, 17, 13, 27, 8

TERRAPEX	LOGGED BY: AD	DRILLING DATE: 16-MAY-22
	INPUT BY: RM	MONITORING DATE:
	REVIEWED BY: DM	PAGE 1 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF:** **BH22-11**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831917.007	EASTING (m): 627998.317 ELEV. (m) 77.75
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) ▲ PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 16-MAY-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 2 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: MW22-12**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831925.429	EASTING (m): 628073.939 ELEV. (m) 76.53
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm): 5	WELL DIAMETER (cm): 15	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: BE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		210 mm TOPSOIL trace asphalt pieces	0	76.5									
		moist compact to dense brown trace grey gravelly sand to sand and gravel FILL	0.5 1 1.5	76 75.5 75	6 33 20	21 8	1 2 3		13 54 17	10 >5 >5			
		wet	2	74.5									
		stiff dark grey trace black clayey silt to silty clay some sand trace angular gravel trace wood pieces trace brick & cinders FILL	2.5 3 3.5 4 4.5	74 73.5 73 72.5 72	3 11 2	20 21 21	4A 4B 5 6		38 15 17 33	>5 20 10			
		soft to very soft	5	71.5	0		7		8	>5			
		compact moist brown SAND trace silt trace shell fragments	5.5 6 6.5 7 7.5	71 70.5 70 69.5 69	1	24 20	8 9A 9B		33 100	>5 >5			
		grey SHALE END OF BOREHOLE	8		79/250								

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 16-May-22
INPUT BY: RM	MONITORING DATE: 22 JUN 22
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-13**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831792.876	EASTING (m): 627781.367 ELEV. (m) 76.03
CONTRACTOR: Profile Drilling	METHOD: Continous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		75 mm Patio Stone compact damp brown sand & angular gravel some fines FILL	0	76	21	4	1		58	<5			Upon completion borehole caved-in at 7 mbgs and groundwater was at a depth 6.1 mbgs.
		firm	0.5	75.5									
		---	1	75	7	14	2		54	<5			
		grey trace black silty clay to clayey silt some sand trace angular gravel trace brick trace asphalt trace concrete sand, gravel pockets FILL	1.5	74.5									
▽			2	74	4	14	3		54	<5			Water strike.
		firm to soft	2.5	73.5	3	17	4		58	<5			
			3	73			5						
			3.5	72.5									
			4	72	5	20	6		83	<5			
			4.5	71.5		21	7A			<5			
		loose moist black sand and cinders FILL	5	71	5	15	7B		58	<5			
▽		firm to stiff grey trace black silty clay to clayey silt some sand trace angular gravel FILL	5.5	70.5	11	15	8		0	<5			
			6	70									
			6.5	69.5	10	16	9		33	<5			
			7	69	7	19	10		50	<5			
		--- gravelly layer	7.5	68.5									
			8	68	12	3	11		42	<5			
		grey SHALE			50/125		12		40				
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 27-MAY-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-14**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831726.391	EASTING (m): 627827.125 ELEV. (m) 75.87
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		500 mm compact damp brown sand & angular gravel trace asphalt pieces FILL	0	75.5	28	3	1		41	<5			Upon completion the borehole caved-in at 5.2 mbgs and groundwater was at 1.8 mbgs.
		very stiff grey trace black sandy silty clay trace angular gravel & asphalt FILL	0.5										
			1	75	18	12	2A		33	<5			Water strike.
							2B			<5			
		loose	1.5	74.5									
		moist brown sand trace silt trace gravel FILL ---	2	74	4	17	3		42	<5			GRAVEL 5%, SAND 87%, FINES 8%
		compact	2.5	73.5	10	15	4		100	<5			
			3	73									
			3.5	72.5	10	18	5		83	<5			
			4	72	4	17	6		42	<5			
		firm to soft grey trace black dark brown silty clay to clayey silt some sand to sandy trace to some angular gravel trace concrete shaly layers FILL ---	4.5	71.5									
			5	71			7						
			5.5	70.5	3	20	8		83	<5			GRAVEL 7%, SAND 24%, SILT 45%, CLAY 24%
			6	70									
			6.5	69.5	8	20	9		29	<5			
		firm to stiff	7	69									
			7.5	68.5	9	13	10		67	<5			
			8	68	12	10	11		33	<5			
			8.5	67.5		16	12A		42	<5			
		grey SHALE		67	50/125		12B						
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 26-MAY-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-15**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831703.097	EASTING (m): 627922.446 ELEV. (m) 76.55
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) ● / N-VALUE (Blows/300mm) ▲ 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		100 mm Interlocking Stone dense damp brown sand & angular gravel trace asphalt FILL	0	76.5	37	4	1		83	20			
		loose moist brown sand FILL	0.5 1	76 75.5	6		2		29	10			
		grey, brown trace black silty clay to clayey silt trace to some sand some gravel trace brick trace cinder FILL	1.5 2 2.5	75 74.5 74	4 3	18 20	3 4		42 33	10 <5			SAND 2%, SILT 58%, CLAY 40% LL 30.9, PL 14, PI 14.2 (CI) Unit weight 19kN/m^3
		firm	3 3.5	73.5 73			5						
			4	72.5	3	20	6		83	10			
		----	4.5 5	72 71.5	5	24	7		63	<5			
		stiff	5.5	71	12	18	8		75	<5			
		--- gravelly ---	6	70.5	7	13	9		21				
		firm	6.5 7	70 69.5									
			7.5	69									
			8	68.5	4	19	10		33	<5			
			8.5 9	68 67.5									

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 31-MAY-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-15**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831703.097	EASTING (m): 627922.446 ELEV. (m) 76.55
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) ▲ PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		very soft grey trace black silty clay some sand trace shale pieces	9.5	67	▲ 9	■ 23	11		83	<5			higher N-value likely due to contact with shale pieces
		hard grey SHALY CLAY	10	66.5									
		END OF BOREHOLE	10.5	66		■ 8	12		60				

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 31-MAY-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 2 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: MW22-16**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831736.338	EASTING (m): 617994.267 ELEV. (m) 78.78
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm): 5	WELL DIAMETER (cm): 15	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: BE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) ● / N-VALUE (Blows/300mm) ▲	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		70 mm Interlocking Stone dense damp brown sand & gravel trace silt, trace brick FILL	0	78.5	57	9	1		75	10			
			0.5	78	6	16	2		71	15			
			1	77.5									
			1.5	77	4	12	3		79	10			
		grey brown trace black silty clay to clayey silt some sand to sandy trace to some gravel some brick trace cinders FILL	2	76.5									
			2.5	76	10	12	4		79	10			
		firm to stiff	3	75.5	8	15	5		50	15			
		--- gravelly & sandy layer ---	3.5	75									
			4	74.5	20	13	6		8	15			
		----	4.5	74	2	24	7		42	<5			GRAVEL 4%, SAND 21%, SILT 56%, CLAY 19% LL 24, PL 14.3, PI 9.7 (CL) Unit weight 18.6 kN/m^3
		soft	5	73.5			8						
		----	5.5	73									
			6	72.5	8	23	9		67	<5			
		firm to soft	6.5	72									
			7	71.5	14	22	10		67	<5			
			7.5	71	7	21	11		75	<5			
		--- stiff	8	70.5									
			8.5	70	9	16	12		75	<5			
			9	69.5									

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 31-MAY-22
INPUT BY: RM	MONITORING DATE: 22 JUN 22
REVIEWED BY: DM	PAGE 1 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: MW22-16**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831736.338	EASTING (m): 617994.267 ELEV. (m) 78.78
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm): 5	WELL DIAMETER (cm): 15	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: BE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) ▲ PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		firm to stiff brownish grey & grey SILTY CLAY trace sand trace gravel (possible fill)	9.5	69	▲ 8	■ 13	13		17	<5			
			10										
				68.5	▲ 9	■ 19	14		33	<5			
			10.5										
				68	▲ 17		15		33	<5			
			11										
		END OF BOREHOLE											No more augers.

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 31-MAY-22
INPUT BY: RM	MONITORING DATE: 22 JUN 22
REVIEWED BY: DM	PAGE 2 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-21**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4832160.302	EASTING (m): 628233.361 ELEV. (m) 76.59
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		130 mm ASPHALTIC CONCRETE	0	76.5									
		compact moist brown sand & gravel FILL	0.5	76	22	4, 11	1A, 1B		46	10, >5			
		compact damp brown & grey trace black silt & sand trace to some clay trace gravel trace topsoil trace brick FILL	1	75.5	26	18	2		42	15			
▽			1.5	75	23	16	3		72	25			GRAVEL 4%, SAND 55%, SILT 33%, CLAY 8%
▼		compact moist brown sand trace to some silt trace gravel FILL	2	74.5									
			2.5	74	12	21	4		50	15			
		firm brown & grey trace black clayey sandy silt trace topsoil FILL	3	73.5		17							
			3.5	73	6		5		100	>5			
		very loose brown sand some sand to silty trace clay trace gravel (PROBABLE FILL) wet / saturated	4	72.5	2	33	6		100	>5			GRAVEL 10%, SAND 79% FINES 11%
			4.5	72									
			5	71.5	3	24	7		100	>5			
		grey SHALE	5.5	71	50/125		8						Augers grinding
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 19-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: MW22-19**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4832237.411	EASTING (m): 628189.555 ELEV. (m) 76.90
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm): 5	WELL DIAMETER (cm): 15	SCREEN SLOT #: 10 SAND TYPE: 2 SEALANT TYPE: BE

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) ● 40 80 120 160 / N-VALUE (Blows/300mm) ▲ 20 40 60 80	WATER CONTENT (%) PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
▽		200 mm TOPSOIL	0	76.5	13	12 6	1A						
		compact damp brown sand and gravel trace asphalt & brick FILL	0.5				1B		63				
			1	76	26	13	2		67				
		very stiff grey trace black silty clay trace sand trace asphalt FILL	1.5	75.5									
			2	75	15	11	3		50				
		---	2.5	74.5	4	17	4		75				
		firm	3	74									
			3.5	73.5	4	14	5		67				
		stiff grey SILTY CLAY trace sand (possible fill)	4	73	53/225		6		17				Split spoon bouncing. Practical auger refusal at 4.3 mbgs.
		grey SHALE		72.5	50/75		7		13				
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: EM	DRILLING DATE: 20-May-22
INPUT BY: RM	MONITORING DATE: 22 JUN 22
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-22**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4832058.281	EASTING (m): 628244.431 ELEV. (m) 76.85
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		120 mm ASPHALTIC CONCRETE	0	76.5	15		1A		54	15			
		compact damp brown sand & gravel FILL	0.5				1B			10			
		firm brown trace black clayey silt some sand trace gravel trace concrete, shale & concrete trace topsoil FILL	1	76	7		2		63	10			
		compact moist brown and dark brown silty sand some gravel to gravelly sand some silt trace brick, cinders FILL	1.5	75.5									
			2	75	26		3		54	10			GRAVEL 3%, SAND 93%, FINES 4%
			2.5	74.5	11		4		0	5			
			3	74									
			3.5	73.5	12		5		42	5			
		soft to firm --- grey brown trace black silty clay some sand to sandy trace to some angular gravel trace asphalt FILL	4	73	4		6		83	>5			GRAVEL 5%, SAND 26%, SILT 47%, CLAY 22% LL 26.8, PL 14, PI 12.8 (CI) Unit weight 17kN/m^3
			4.5	72.5									
			5	72	11		7		21				
		stiff to firm	5.5	71.5									
			6	71									
			6.5	70.5	4		8		42				
			7	70									
			7.5	69.5									
		grey CLAYEY SHALE			50/125		9		80				
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 30-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-23**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831975.453	EASTING (m): 628214.782 ELEV. (m) 76.71
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		160 mm compact damp brown sand & gravel FILL	0	76.5	12	7	1A			>5			
			0.5	76		13	1B		33	10			
		stiff	1	75.5	11	10	2		42	10			
		---	1.5	75	2		3		13	15			
			2	74.5									
		dark brown grey trace black silty clay to clayey silt some sand to sandy trace angular gravel trace cinders trace woodchips FILL	2.5	74	4	15	4		25	35			
		soft to firm	3	73.5	3	14	5		33	30			
			3.5	73									
			4	72.5	2	17	6		21	15			
			4.5	72									
			5	71.5	5	19	7		58	>5			
			5.5	71									
			6	70.5	7	26	8		29	>5			
			6.5	70									
			7	69.5									
		grey SHALE	7.5	69	50/135	6	9		17				
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 18-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 1

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-24**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831844.187	EASTING (m): 628214.135 ELEV. (m) 77.75
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		115 mm CONCRETE compact moist brown sand & gravel some fines FILL	0	77.5	15		1		33	>5			
		compact moist dark brown, grey trace black sand some silt to silty some gravel to gravelly trace asphalt, brick FILL	0.5 1 1.5 2	77 76.5 76	14 13		2 3		58 33	>5 15			
▼		firm to soft --- sand pocket --- grey dark brown trace black silty clay to clayey silt some sand to sandy trace angular gravel trace woodchips --- trace brick, cinders & concrete FILL	2.5 3 3.5 4 4.5	75.5 75 74.5 74 73.5 73	10 8 4 2	14 19 17 20	4 5A 5B 6 7		54 67 8 42	>5 >5 >5 >5			
		soft --- firm	5 5.5 6 6.5	72.5 72 71.5	4	19	8		83	>5			
		grey SHALE	7 7.5 8 8.5 9	71 70.5 70 69.5 69 68.5	5	20	9		21	>5			

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 19-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF:** **BH22-24**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831844.187	EASTING (m): 628214.135 ELEV. (m) 77.75
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) ▲ PL 20 W.C. 40 60 LL 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		grey SHALE	9.5		89/250 ▲	■ 12	10						
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 19-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 2 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-25**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831897.652	EASTING (m): 628128.941 ELEV. (m) 77.31
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

SOIL DESCRIPTION

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION
0	77	25 mm TOPSOIL
0.5	76.5	stiff to very stiff
1	76	
1.5	75.5	---- sand & gravel pocket ---
2	75	----
2.5	74.5	firm
3	74	--- dark brown, grey trace black, clayey silt to silty clay, some sand to sandy, some angular gravel, trace concrete, brick, trace cinders, FILL
3.5	73.5	
4	73	
4.5	72.5	
5	72	soft to firm
5.5	71.5	
6	71	
6.5	70.5	
7	70	
7.5	69.5	
8	69	
8.5	68.5	
9	68	grey SHALE

SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	SHEAR STRENGTH (kPa) / N-VALUE (Blows/300mm)	WATER CONTENT (%) PL W.C. LL	LABORATORY TESTING	WELL INSTALLATION	REMARKS
1		29	>5	16	15			
2		33	15	12				
3A		10						
3B		50	10	16	10			
4		33	30	6	14			
5		17	15	1	25			
6		58	>5	1	17			
7		54	>5	4	20			
8		42	10	3	16			
9		5	>5	2	15			
10		73		50/125	13			

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 18-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 1 OF 2

CLIENT: Fotenn,TYLin	PROJECT NO.: CT3293.00	**RECORD OF: BH22-25**
ADDRESS: Infrastructure Improvments	STATION:	
CITY/PROVINCE: Ontario Place, Toronto, ON	NORTHING (m): 4831897.652	EASTING (m): 628128.941 ELEV. (m) 77.31
CONTRACTOR: Profile Drilling	METHOD: Continuous augering and split spoon sampling	
BOREHOLE DIAMETER (cm):	WELL DIAMETER (cm):	SCREEN SLOT #: SAND TYPE: SEALANT TYPE:

SAMPLE TYPE: AUGER | DRIVEN | CORING | DYNAMIC CONE | SHELBY | SPLIT SPOON

GWL (m)	SOIL SYMBOL	SOIL DESCRIPTION	DEPTH (m)	ELEVATION (m)	SHEAR STRENGTH (kPa) 40 80 120 160 / N-VALUE (Blows/300mm) 20 40 60 80	WATER CONTENT (%) ▲ PL W.C. LL 20 40 60 80	SAMPLE NO.	SAMPLE TYPE	RECOVERY (%)	SV/TOV (ppm or %LEL)	LABORATORY TESTING	WELL INSTALLATION	REMARKS
		END OF BOREHOLE											

TERRAPEX

LOGGED BY: AD	DRILLING DATE: 18-May-22
INPUT BY: RM	MONITORING DATE:
REVIEWED BY: DM	PAGE 2 OF 2

RECORD OF MONITORING WELL: MW6-18

LOCATION: Ontario Place | DATE DRILLED: April 30, 2018 | GROUND ELEVATION: 76.43 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831702.0 | WATER ELEVATION:

LOGGED BY: M. Shiry | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 627878.0 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: 592-908437 | CALIBRATED?: Yes | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
0	72	DT1A			**SILTY SAND (FILL):** Dark brown, moist, organics, fine grained, trace medium and coarse sand, trace rootlets.			Flushmount casing secured in concrete Bentonite Seal	6.4
							75.67 0.76		
1		DT1B		Metals & Inorg. PAHs (12:47) (0.91-1.52)	**CLAYEY SILT (FILL):** Brown, moist, high plasticity, trace brick and slag.				6.2
2	68	DT2A			- 10 cm seam sand brick, grey below, at 1.98 mbgs.			No. 2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe, #10-slot well screen	4.1
		DT2B			- 8 cm seam black staining at 2.64 mbgs.		73.76 2.67		4.2
3					**CLAY, SAND AND GRAVEL (FILL):** Grey, moist, high plasticity.				
	100	DT3A			- Wet below 3.25 mbgs.				3.9
4		DT3B							4.1
5	63	DT4A							3.9
							71.02 5.41		
					CONCRETE BLOCK RUBBLE (FILL):		70.84 5.59		
		DT4B			**SILTY CLAY (FILL):** Brown/grey, moist, high plasticity, trace fine to coarse sand and fine gravel, trace brick.				7.0
6				PHCs VOCs (12:56) (5.94-6.10)	- 15 cm seam solvent like odour at 5.94 mbgs. - 5 cm seam slag at 6.10 mbgs.				
		DT5							5.4
7					- 5 cm seam concrete rubble, followed by 8 cm seam brick and rail tie wood at 7.16 mbgs.				
	52	MC6A			- Grey 7.54 to 8.53 mbgs.				7.8

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RECORD OF MONITORING WELL: MW6-18

LOCATION: Ontario Place | DATE DRILLED: April 30, 2018 | GROUND ELEVATION: 76.43 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831702.0 | WATER ELEVATION:

LOGGED BY: M. Shiry | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 627878.0 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: 592-908437 | CALIBRATED?: Yes | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
		MC6B							5.9
9	55	MC7A							2.3
					SAND (FILL): Black, wet, fine grained.		66.98 9.45		
		MC7B					66.52		3.9
10				PAHs PHCs VOCs (13:43) (10.06-10.21)	**SILTY CLAY (FILL):** Brown/grey, moist, high plasticity. - 15 cm seam some brick and concrete at 10.06 mbgs.		9.91		
	7	MC8		Metals & Inorg. (14:02) (10.67-10.97)					4.4
11							65.38		
					Bottom of borehole at 11.06 mbgs - Refusal on suspected bedrock at 11.06 mbgs.		11.05		
12									
13									
14									
15									

ORGANIC VAPOUR READING (ppm) scale: 20 40 60 80

721EASTERN_MW_FT2M; 699912.GPJ; LIBRARY.GLB; 431079 - WALLACE.GDT; 6/8/18

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MW7-18

LOCATION: Ontario Place | DATE DRILLED: April 30, 2018 | GROUND ELEVATION: 76.55 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831706.4 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 627971.0 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
0	50	DT1A			**GRAVELLY SILT (FILL):** Light brown, dry, medium dense to stiff, rootlets.		75.64	Flushmount casing secured in concrete Bentonite Seal	3.0
1		DT1B			**CLAYEY SILT (FILL):** Dark grey to black, wet, some slag and sand.		0.91		3.4
				Metals & Inorg. (14:45) (1.52-1.83)	- Slight odour 1.52 to 2.13 mbgs.				
2	50	DT2A					74.42	No. 2 silica sand filter pack	4.8
					SILT (FILL): Greenish grey, stiff, dry.		2.13	50 mm diameter SCH 40 PVC pipe, #10-slot well screen	
3		DT2B							4.7
	72	DT3A							4.2
				PAHs PHCs VOCs (14:58) (3.66-4.27)			72.89		
4					**CLAYEY SILT (FILL):** Dark grey to black, moist, medium plasticity, slag.		3.66		
		DT3B			- Moderate odour 3.96 to 4.27 mbgs.		72.28		29.9
					SILTY SAND (FILL): Dark grey, moist, medium dense, some clay.		4.27		
5	57	DT4A					71.37		21.3
					SAND (FILL): Light grey, dry, medium dense, medium to coarse sand, some clay, concrete fragments.		5.18		
		DT4B							4.7
6							70.15		
	82	DT5A			**CLAYEY SILT (FILL):** Greyish brown, moist.		6.40		0.7
7		DT5B							3.4

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6/8/2018

RECORD OF MONITORING WELL: MW7-18

LOCATION: Ontario Place | DATE DRILLED: April 30, 2018 | GROUND ELEVATION: 76.55 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831706.4 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 627971.0 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
9	100	DT6A							3.8
		DT6B							3.2
					CLAY (FILL): Grey, moist to wet, plastic, debris.		67.71 / 8.84		
					CLAYEY SILT (FILL): Greyish brown, moist to wet, concrete fragments.		67.10 / 9.45		
10	100	DT7		Metals & Inorg. PAHs PHCs VOCs (15:20) (9.45-10.06)			66.49 / 10.06		1.2
					Bottom of borehole at 10.06 mbgs				
11									
12									
13									
14									
15									

ORGANIC VAPOUR READING (ppm) scale: 20 40 60 80

721EASTERN_MW_FT2M; 699912.GPJ; LIBRARY.GLB; 431079 - WALLACE.GDT; 6/8/18

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6/8/2018

RECORD OF MONITORING WELL: MW14-18

LOCATION: Ontario Place | DATE DRILLED: May 1, 2018 | GROUND ELEVATION: 77.68 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831905.9 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 628173.3 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
					ASPHALT:		77.63 / 0.05	Flushmount casing secured in concrete	
	48	DT1A		PAHs PHCs VOCs (16:10) (0.30-0.61)	**SAND AND GRAVEL (FILL):** Loose, dry, concrete fragments.			Bentonite Seal	8.0
							77.07 / 0.61		
1		DT1B			**CLAYEY SILT (FILL):** Dark grey, dry.				99.7
2	65	DT2A						No. 2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe, #10-slot well screen	19.5
		DT2B			- Wet, medium soft, concrete fragments below 2.13 mbgs.				16.7
3									
	70	DT3A							0.7
4		DT3B							12.3
5	80	DT4A							4.0
		DT4B			- Some slag below 5.49 mbgs.				6.3
6									
	68	DT5A		Metals & Inorg. (16:10) (6.71-7.01)					10.2
7		DT5B			- Dark brown, moist, medium stiff, fragments of bricks and concrete below 7.01 mbgs.				13.7

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6/8/2018

RECORD OF MONITORING WELL: MW14-18

LOCATION: Ontario Place | DATE DRILLED: May 1, 2018 | GROUND ELEVATION: 77.68 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831905.9 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 628173.3 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
9	78	DT6A, DT6B		Metals & Inorg. PAHs PHCs VOCs (16:10) (9.14-9.75)	**SAND:** Dark grey, wet, loose, fine to medium grained.		68.54 / 9.14		20.1, 9.6
10	100	DT7A, DT7B			**SHALE:** Bottom of borehole at 9.75 mbgs		67.95 / 9.73; 67.93 / 9.75		9.1, 11.1

20.1 40 60 80

11 12 13 14 15

721EASTERN_MW_FT2M; 699912.GPJ; LIBRARY.GLB; 431079 - WALLACE.GDT; 6/8/18

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MWD1-18

LOCATION: Ontario Place | DATE DRILLED: May 3, 2018 | GROUND ELEVATION: 76.68 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831778.1 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 627942.8 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
0				Metals & Inorg. PAHs PHCs VOCs Grain Size (13:30) (0.00-0.30)	**PAVING STONES (FILL):**		76.60 / 0.08	Flushmount casing secured in concrete; Bentonite Seal	
					CLAYEY SILT (FILL): Dark brown, dry, medium stiff, concrete fragments.				
	30	DT1			- Dark brown to black, wet, medium soft, brick and concrete fragments below 0.61 mbgs.				21.7
1									
				Metals & Inorg. PAHs PHCs VOCs Grain Size (13:32) (1.52-2.44)					
2	60	DT2A							23.8
		DT2B							10.2
3									
	60	DT3A							9.7
4									
		DT3B							7.1
					- Moist, soft below 4.27 mbgs.				
5	75	DT4A							6.6
							71.19 / 5.49		
					SANDY CLAY (FILL): Dark grey, soft, moist.				
		DT4B							9.6
6									
							70.28 / 6.40		
	67	DT5A			**GRAVEL (FILL):** Loose, concrete fragments, dry.				10.1
7							69.67 / 7.01		
					SILT (FILL): Dark brown, wet, soft to medium, some fine grained sand.				
		DT5B							10.0

CH2M HILL Canada Limited

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MWD1-18

LOCATION: Ontario Place | DATE DRILLED: May 3, 2018 | GROUND ELEVATION: 76.68 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831778.1 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 627942.8 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
	93	DT6A							2.3
							68.15		
					CLAY (FILL): Dark grey, wet, soft.		8.53		
		DT6B							9.6
9				Metals & Inorg. PAHs PHCs VOCs Grain Size (13:45) (9.14-9.75)	- Shale fragments below 9.14 mbgs.				
	100	DT7							4.7
							66.83		
10					**SHALE (GEORGIAN BAY FORMATION):** Run 1: RQD 0%, dark grey to blue, with fine laminae. Interbedded highly weathered siltstone.		9.85		
	99	HQ1						No. 2 silica sand filter pack	
					Run 2: RQD 23%, dark grey, with fine laminae. Interbedded highly weathered siltstone.			50 mm diameter SCH 40 PVC pipe, #10-slot well screen	
11									
	100	HQ2							
12							64.49		
					Bottom of borehole at 12.19 mbgs		12.19		
13									
14									
15									

ORGANIC VAPOUR READING (ppm) scale: 20 40 60 80

721EASTERN_MW_FT2M; 699912.GPJ; LIBRARY.GLB; 431079 - WALLACE.GDT; 6/8/18

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MWD2-18

LOCATION: Ontario Place | DATE DRILLED: May 7, 2018 | GROUND ELEVATION: 76.77 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831731.5 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 628064.7 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
				Metals & Inorg. PAHs PHCs VOCs Grain Size (11:20) (0.00-0.91)	**PAVING STONES:**		76.69 / 0.08	Flushmount casing secured in concrete; Bentonite Seal	20 40 60 80
	72	DT1A			**CLAYEY SILT (FILL):** Dark brown, dry, concrete fragments.				11.3
1		DT1B							10.4
2	77	DT2A			- Wet, soft, concrete and brick fragments below 1.83 mbgs.				10.6
		DT2B			- Dark brown to light orange, some sand below 2.44 mbgs.				13.0
3									
	100	DT3A							10.1
4		DT3B							9.6
							71.89		
5	98	DT4A			**BRICK (FILL):**		4.88		10.0
							71.28		
		DT4B			**SANDY SILT WITH CLAY (FILL):** Dark grey to brown, soft, moist, concrete fragments.		5.49		8.0
6									
							70.37		
	100	DT5A			**CLAYEY SILT (FILL):** Dark brown, wet, concrete fragments.		6.40		13.0
				Metals & Inorg. PAHs PHCs VOCs Grain Size (12:05) (6.71-7.62)					
7		DT5B							17.4

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MWD2-18

LOCATION: Ontario Place | DATE DRILLED: May 7, 2018 | GROUND ELEVATION: 76.77 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831731.5 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 628064.7 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
	100	DT6A							16.1
		DT6B							14.1
9							67.63		
					SAND: Dark brown, wet, loose, fine grained sand, slight odour.		9.14		
	67	DT7A		Metals & Inorg. PAHs PHCs VOCs Grain Size (12:15) (9.75-10.06)					8.0
10									
		DT7B							8.0
							66.10		
					SHALE (GEORGIAN BAY FORMATION): Run 1: RQD 18%, light grey to brown with fine laminae. Interbedded highly weathered siltstone.		10.67		
11									
	87	HQ1							
12								No. 2 silica sand filter pack	
					Run 2: RQD 16%, light grey with fine laminae. Interbedded weathered siltstone.			50 mm diameter SCH 40 PVC pipe, #10-slot well screen	
13	100	HQ2							
							63.05		
					Bottom of borehole at 13.72 mbgs		13.72		
14									
15									

CH2M HILL Canada Limited

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MWD3-18

LOCATION: Ontario Place | DATE DRILLED: May 4, 2018 | GROUND ELEVATION: 75.74 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831924.3 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 628104.1 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
0	63	DT1A		Metals & Inorg. PAHs PHCs VOCs Grain Size (15:05) (0.00-0.30)	**SILT AND CLAY (FILL):** Dark brown and dark grey, dry, loose, concrete fragments.			Flushmount casing secured in concrete Bentonite Seal	5.0
1		DT1B							14.2
2	38	DT2					73.30 2.44		16.0
					SILTY SAND (FILL): Dark grey and brown, wet, loose, some clay.				
3	83	DT3A							13.4
							72.08 3.66		
					CLAYEY SILT (FILL): Dark brown to black, wet, soft, concrete fragments.				
4		DT3B		Metals & Inorg. PAHs PHCs VOCs Grain Size (15:25) (3.96-4.57)					18.4
5	52	DT4A							17.2
					Dark brown to grey, moist, medium stiff below 5.49 mbgs.				
6		DT4B							16.8
							69.34 6.40		
	88	DT5A			**SILTY SAND:** Dark grey, wet, loose, medium to fine grained.				15.4
7		DT5B		Metals & Inorg. PAHs PHCs VOCs Grain Size (15:45) (7.01-7.62)	- Shale fragments below 7.32 mbgs.				17.8
							68.12 7.62		
					SHALE (GEORGIAN BAY FORMATION): Run 1: RQD 8%, light grey to blue with fine laminae. Interbedded highly weathered siltstone.				

DRAFT
6/8/2018

RECORD OF MONITORING WELL: MWD3-18

LOCATION: Ontario Place | DATE DRILLED: May 4, 2018 | GROUND ELEVATION: 75.74 masl | TOP OF PIPE:

PROJECT NUMBER: 699912 | DRILLER: Direct Environmental Drilling & Profile Drilling | NORTHING: 4831924.3 | WATER ELEVATION:

LOGGED BY: L. Ribeiro | DRILL METHOD: GeoProbe 7822 & Mobile B-45 | EASTING: 628104.1 | WATER LEVEL DATE:

SOIL VAPOR INSTRUMENT: | CALIBRATED?: | MOE WELL TAG#:

DEPTH (mbgs)	SAMPLES: Recovery (%)	SAMPLES: TYPE	SAMPLES: SPT (blows/15cm)	SAMPLES: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm)
9	80	HQ1			Run 2: RQD 35%, light grey with fine laminae. Interbedded weathered siltstone and wavy lamination.			No. 2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe, #10-slot well screen	20 40 60 80
10	100	HQ2					65.07 / 10.67		
					Bottom of borehole at 10.67 mbgs				
11									
12									
13									
14									
15									

721EASTERN_MW_FT2M; 699912.GPJ; LIBRARY.GLB; 431079 - WALLACE.GDT; 6/8/18

DRAFT
6/8/2018

REFERENCE No.: 076836 ENCLOSURE No.: 1

BOREHOLE No.: MW1-12
ELEVATION: 76.52 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 18, 2012 DATE (FINISH): September 18, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.52	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
	0.10	76.42		ASPHALT : 100 mm		SS-1A		5		--
1	0.23	76.29		GRANULAR MATERIAL : 125 mm CRUSHER RUN LIMESTONE, compact		SS-1B	42	12	12-10-14-7	24
2				FILL : SILTY CLAY, some gravel, grey, moist, very stiff						
3	0.76	75.76								
	1.0			Trace to some sand, trace gravel, black staining, brick fragments, stiff		SS-2	62	12	6-5-7-10	12
4										
5	1.52	75.00		Sand and Silt pockets, black coal fragments, stiff		SS-3	100	19	3-4-5-5	9
6										
	2.0									
7										
	2.29	74.23		Trace sand, plastic		SS-4	67	26	5-6-2-2	8
8										
9										
10	3.0									
	3.05	73.47		Soft		SS-5	67	22	1-1-2-4	3
11										
12										
13	4.0									
14										
15	4.57	71.95		SILTY SAND, grey, saturated, loose		SS-6A	67	22	1-2-5-46	7
16	5.0									
	5.03	71.49		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-6B		14		--
17										
18										
19						SS-7	100	17	79/ 150mm	100
	5.95	70.57								
20	6.0			BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		RUN-1	100	--	0	60
21										
22										
23	7.0					RUN-2	100	--	22	72
24										
25										
26	8.0									
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL 2.48 m 11/8/2012
Bentonite
5.34 m
Sand
Screen

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/21/12

REFERENCE No.: 076836 ENCLOSURE No.: 1

BOREHOLE No.: MW1-12

ELEVATION: 76.52 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')

PROJECT: Geotechnical Investigation - Ontario Place

LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario

DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash

DATE (START): September 18, 2012 DATE (FINISH): September 18, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		76.52		GROUND SURFACE						
	9.0					RUN-3	100	--	14.2	20
	10.0					RUN-4	100	--	20	57
	10.82	65.70		**END OF BOREHOLE**						
	11.0			NOTE : End of Borehole at 10.82 m bgs Monitoring well installed at 8.99 m bgs Water level at 2.48 m bgs on November 8, 2012 Rock coring from 5.95 m to 10.82 m bgs 'bgs' denotes below ground surface						
	12.0									
	13.0									
	14.0									
	15.0									
	16.0									

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

8.99 m
Sand
9.30 m
Bentonite
10.82 m

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/21/12

REFERENCE No.: 076836 ENCLOSURE No.: 2

BOREHOLE No.: MW2-12
ELEVATION: 76.32 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 19, 2012 DATE (FINISH): September 19, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.32	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
1				FILL : CLAYEY SILT, some sand, trace gravel, grey with black organic matters, brick fragments, damp to moist, very stiff		SS-1	100	2	9-10-7-9	17
2										
3	1.0					SS-2	75	12	10-10-8-10	18
4										
5	1.52	74.80		SANDY SILT, trace clay and gravel, grey to black with black organic matters, organic odour, moist, loose		SS-3	83	11	5-6-3-3	9
6										
7	2.0									
8						SS-4	67	11	3-4-2-2	6
9										
10	3.0									
	3.05	73.27		SILTY SAND, some clay, trace gravel, black staining, dark grey, moist, loose Sa : 46%, Si : 37%, Cl : 17%, Gr : 0%		SS-5	75	7	3-4-4-3	8
12										
13	4.0									
14										
15	4.57	71.75		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-6	78	20	47-55/ 75mm	100
16										
17	5.0									
18										
	5.64	70.68		BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		SS-7	75	12	37-50/ 50mm	100
19						RUN-1	89	--	25	67
20	6.0									
21										
22						RUN-2	100	--	83	87
23	7.0									
24										
25										
26	8.0					RUN-3	100	--	71	71
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

Bentonite
1.98 m
Sand
WL 2.50 m 11/8/2012
Sand
Screen
5.64 m
Sand
5.95 m
Bentonite

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 2

BOREHOLE No.: MW2-12
ELEVATION: 76.32 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 19, 2012 DATE (FINISH): September 19, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR
		76.32		GROUND SURFACE			%			N
	8.69	67.63		**END OF BOREHOLE**						
	9.0			NOTE : End of Borehole at 8.69 m bgs Monitoring well install at 5.64 m bgs Water level at 2.50 m bgs on November 8, 2012 Rock coring from 5.64 m to 8.69 m bgs 'bgs' denotes below ground surface Sa, Si, Cl and Gr denote Sand, Silt, Clay and Gravel respectively						
	10.0									
	11.0									
	12.0									
	13.0									
	14.0									
	15.0									
	16.0									

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

8.84 m

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 3

BOREHOLE No.: MW3-12
ELEVATION: 76.35 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 12, 2012 DATE (FINISH): October 12, 2012

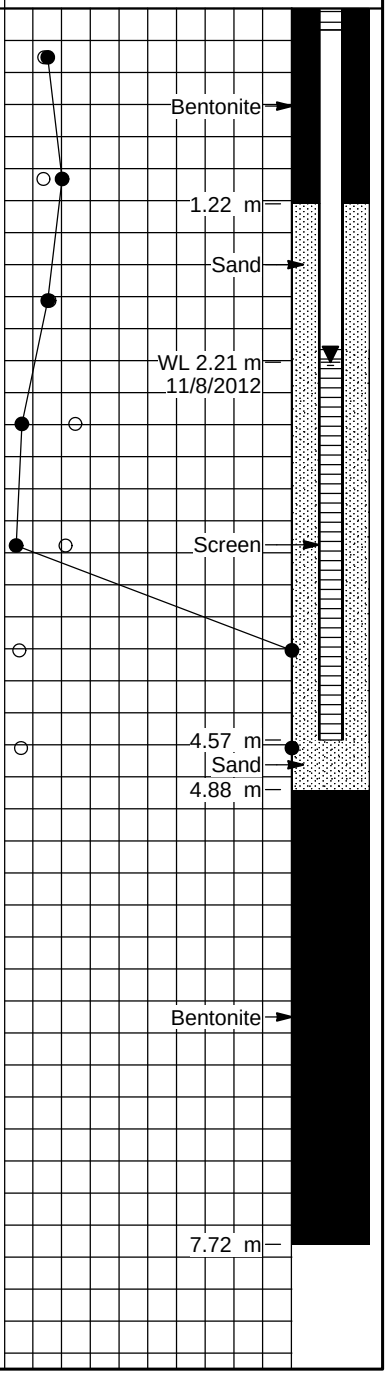
LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.35	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
	0.08	76.27		ASPHALT : 75 mm						
1	0.23	76.12		GRANULAR MATERIAL : CRUSHER RUN LIMESTONE : 150 mm		SS-1	58	14	5-7-8-10	15
2				FILL : SILTY SAND with crusher run limestone, brown, moist, compact						
3	1.0					SS-2	67	14	6-9-11-13	20
4										
5	1.52	74.83		Trace clay and gravel, grey with black staining, damp to moist		SS-3	42	16	5-10-5-4	15
6										
7	2.0									
	2.29	74.06		CLAYEY SILT, some sand, grey, very moist, firm		SS-4	58	25	4-3-3-3	6
8										
9										
10	3.0									
	3.05	73.30		Grey with black staining, brick fragments, very moist, soft Sa : 19%, Si : 45%, Cl : 36%, Gr : 0%		SS-5	62	21	2-2-2-2	4
11										
12										
	3.81	72.54		SANDY SILT, trace clay, grey, damp to moist, very dense		SS-6	63	5	14-40-55/ 50mm	100
13	4.0									
	4.10	72.25		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-7	50	6	60/ 100mm	100
14										
15										
	4.67	71.68		BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		RUN-1	100	--	28	81
16	5.0									
17										
18										
19						RUN-2	98	--	31	92
20	6.0									
21										
22										
23	7.0					RUN-3	81	--	25	79
24										
25										
	7.72	68.63		**END OF BOREHOLE**						
26	8.0			NOTE : End of Borehole at 7.72 m bgs						
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 3

BOREHOLE No.: MW3-12
ELEVATION: 76.35 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 12, 2012 DATE (FINISH): October 12, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR
		76.35		GROUND SURFACE			%			N
				Monitoring well installed at 4.57 m bgs Water level at 2.21 m bgs on November 8, 2012 Rock coring from 4.67 m to 7.72 m bgs 'bgs' denotes below ground surface Sa, Si, Cl and Gr denote Sand, Silt, Clay and Gravel respectively						
29	9.0									
30										
31										
32										
33	10.0									
34										
35										
36	11.0									
37										
38										
39	12.0									
40										
41										
42										
43	13.0									
44										
45										
46	14.0									
47										
48										
49	15.0									
50										
51										
52	16.0									
53										
54										
55										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 4

BOREHOLE No.: MW4-12
ELEVATION: 76.15 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 20, 2012 DATE (FINISH): September 20, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.15	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
	0.08	76.07		ASPHALT : 80 mm						
	0.23	75.92		GRANULAR MATERIAL : 150 mm						
1				FILL : CLAYEY SILT, some sand, trace gravel, grey with black staining, damp to moist, stiff		SS-1	50	12	4-6-6-9	12
2										
	0.76	75.39								
3	1.0			SANDY CLAYEY SILT, trace gravel, grey, moist, stiff		SS-2	100	21	5-5-5-6	10
4										
5	1.52	74.63		SILTY SAND, trace clay and gravel, grey, wet, loose		SS-3	62	15	3-3-3-3	6
6										
7	2.0									
	2.29	73.86				SS-4A	67	16	1-2-2-2	4
8				White substance/fragments (possibly Gypsum)						
	2.54	73.61		Saturated		SS-4B		53		--
9										
10	3.0									
	3.05	73.10		SANDY SILT, trace clay and gravel, grey, saturated, loose		SS-5	33	33	1-2-2-1	4
11										
12										
	3.81	72.34				SS-6	100	--	60/ 75mm	100
13	3.90 4.0	72.25		BEDROCK, Sandy Silt, trace clay and gravel, completely to highly weathered SHALE, grey to dark grey, saturated, very dense		RUN-1	100	--	30	30
14										
15				BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey						
16	5.0									
17										
18						RUN-2	100	--	67	67
19										
20	6.0									
21										
22										
23	7.0					RUN-3	100	--	72	72
24										
25										
26	8.0									
27						RUN-4	100	--	56	56

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

Bentonite
WL 2.06 m 11/8/2012
3.20 m Sand
Screen
6.86 m Sand 7.17 m
Bentonite

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 4

BOREHOLE No.: MW4-12
ELEVATION: 76.15 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 20, 2012 DATE (FINISH): September 20, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		76.15		GROUND SURFACE						
29	8.87	67.28								
	9.0			**END OF BOREHOLE**						
30				NOTE :						
31				End of Borehole at 8.87 m bgs						
32				Rock coring from 3.9 m to 8.87 m bgs						
33	10.0			A 50 mm diameter monitoring well install at 5.64 m bgs						
34				'bgs' denotes below ground surface						
35										
36	11.0									
37										
38										
39	12.0									
40										
41										
42										
43	13.0									
44										
45										
46	14.0									
47										
48										
49	15.0									
50										
51										
52	16.0									
53										
54										
55										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

8.87 m

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 9

BOREHOLE No.: MW9-12
ELEVATION: 76.08 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 24, 2012 DATE (FINISH): September 24, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.08	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
	0.08	76.00		ASPHALT : 75 mm						
1				GRANULAR MATERIAL : CRUSHER RUN LIMESTONE : 375 mm		SS-1A	83	10	30-23-24-16	47
	0.46	75.62		FILL :		SS-1B		12		--
2				SANDY CLAYEY SILT, trace gravel, grey with black staining, moist, very stiff						
3	1.0					SS-2	67	19	14-10-7-7	17
4										
5	1.52	74.56		Brick fragments, stiff						
6						SS-3	100	14	3-5-4-5	9
7	2.0									
	2.29	73.79		CLAYEY SILT, some sand, trace gravel, dark grey with black staining, brick fragments, moist, firm						
8						SS-4	100	17	3-4-3-9	7
9										
10	3.0									
	3.05	73.03		SANDY CLAYEY SILT, trace gravel, dark grey with black stainings, brick fragments, moist to very moist, firm						
11						SS-5	100	15	3-2-3-2	5
12										
	3.81	72.27		Wood fragments						
13	4.0					SS-6	100	22	2-3-2-2	5
14										
15										
16						SS-7	100	23	5-4-4-8	8
17	5.0									
18	5.49	70.59		Brick fragments						
19						SS-8	67	17	4-4-5-7	9
20	6.0									
						SS-9A	67	18	7-4-4-10	8
21	6.40	69.68		SILTY SAND, trace gravel, dark grey with black staining, saturated, loose		SS-9B		20		--
22										
	6.86	69.22		SANDY SILT, trace gravel, grey to dark grey, saturated, compact						
23	7.0					SS-10A	100	16	3-9-17-60/ 250mm	26
24	7.32	68.76				SS-10B		12		--
	7.41	68.67		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		RUN-1	94	--	78	--
25										
26	8.0			BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey						
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

Bentonite
WL 2.09 m
11/8/2012
3.74 m
Sand
Screen
7.40 m
Sand
7.71 m

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 9

BOREHOLE No.: MW9-12

ELEVATION: 76.08 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')

PROJECT: Geotechnical Investigation - Ontario Place

LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario

DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash

DATE (START): September 24, 2012 DATE (FINISH): September 24, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		76.08		GROUND SURFACE						
	9.0					RUN-2	97	--	55	--
	10.0					RUN-3	98	--	63	--
	10.49	65.59		**END OF BOREHOLE**						

NOTE :
End of Borehole at 10.49 m bgs
Monitoring well installed at 7.41 m bgs
Water level at 2.09 m bgs on November 8, 2012
Rock coring from 7.41 m to 10.49 m bgs
'bgs' denotes below ground surface

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

Bentonite

10.45 m

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 13

BOREHOLE No.: MW13-12
ELEVATION: 76.80 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 28, 2012 DATE (FINISH): September 28, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
	0.10	76.70		INTERLOCKED BRICK : 100 mm						
	0.25	76.55		GRANULAR BASE : 100 mm						
1				FILL : SANDY CLAYEY SILT, trace gravel, dark grey with black staining, damp, very stiff		SS-1	79	11	11-10-9-11	19
2										
	0.76	76.04								
3	1.0			CLAYEY SILT, trace to some sand, trace gravel, dark grey with black staining, brick fragments, damp to moist, very stiff		SS-2	83	13	9-9-8-8	17
4										
5	1.52	75.28		Brick fragments, firm						
6						SS-3	87	20	4-3-2-4	5
7	2.0									
	2.29	74.51								
8				SANDY CLAYEY SILT, trace gravel, wood fragments, dark grey, damp to moist, stiff		SS-4	75	13	5-4-7-7	11
9										
10	3.0									
	3.05	73.75		Dark grey with black staining, very moist, soft		SS-5	67	15	2-2-2-3	4
11										
12										
	3.81	72.99		Dark grey with black stains, very miost to wet, firm						
13	4.0					SS-6	75	17	4-4-3-4	7
14										
15										
16						SS-7	67	20	5-5-3-4	8
17	5.0									
	5.34	71.46		GRAVELLY SAND, trace silt and clay, grey, saturated, compact						
18						SS-8	58	24	6-15-22-8	27
19										
20	6.0									
	6.10	70.70		SILTY SAND, trace gravel, black, saturated, compact		SS-9	75	28	5-7-8-3	15
21										
22										
	6.86	69.94		SANDY CLAYEY SILT, trace gravel, plastic, dark grey with black stains, wet, firm						
23	7.0					SS-10	75	18	3-3-2-2	5
24										
25	7.62	69.18		Brick fragments						
26	8.0			Sa : 26%, Si : 41%, Cl : 32%, Gr : 1%		SS-11	100	19	2-2-4-5	6
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL 3.12 m
11/8/2012
Bentonite
7.01 m
Sand

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 13

BOREHOLE No.: MW13-12
ELEVATION: 76.80 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): September 28, 2012 DATE (FINISH): September 28, 2012

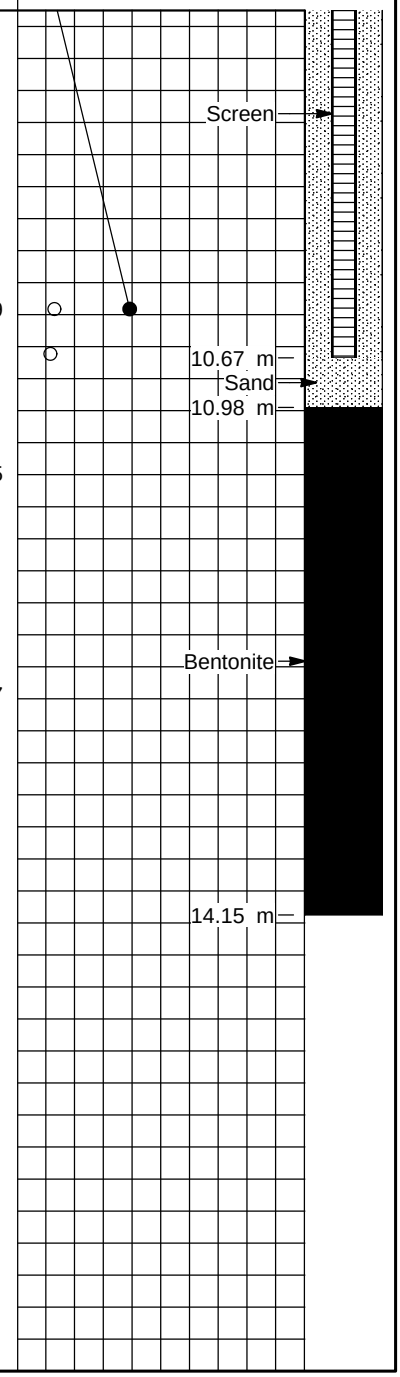
LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.80	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
29	8.84	67.96		Boulder from 8.84 m to 9.45 m bgs		SS-12		--		--
30	9.0									
31										
32										
33	10.0									
34	10.21	66.59		SANDY SILT, trace gravel, grey, damp to wet, very dense		SS-13A		13	10-9-30-50/ 200mm	39
35	10.52	66.28		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-13B		11		--
36	10.77	66.03								
37	11.0			BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		RUN-1	44	--	0	15
38										
39	12.0									
40										
41										
42						RUN-2	98	--	40	77
43	13.0									
44										
45						RUN-3		--		--
46	14.0									
47	14.15	62.65		**END OF BOREHOLE**						
48				NOTE :						
49	15.0			End of Borehole at 14.15 m bgs Monitoring well installed at 10.67 m bgs Water level at 3.12 m bgs on November 8, 2012 Rock coring from 10.77 m to 14.15 m bgs 'bgs' denotes below ground surface Sa, Si, Cl and Gr denote Sand, Silt, Clay and Gravel respectively Due to technical difficulty during RUN-3, the rock core stuck in the core barrel and about 10 cm core was retreived						
50										
51										
52										
53	16.0									
54										
55										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
Atterberg limits (%) w_p w_l
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 16

BOREHOLE No.: MW16-12
ELEVATION: 77.38 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 15, 2012 DATE (FINISH): October 15, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		77.38		GROUND SURFACE						
	0.10	77.28		INTERLOCKED BRICK : 100 mm						
1	0.25	77.13		GRANULAR MATERIAL : CRUSHER RUN LIMESTONE : 150 mm		SS-1	58	4	8-9-11-12	20
2				FILL : SANDY SILT, trace clay and gravel, brownish grey with black staining, damp, compact						
3	1.0					SS-2	62	12	9-10-8-6	18
4										
5	1.52	75.86		Brick fragments, grey, moist, compact		SS-3	67	18	5-6-5-8	11
6										
7	2.0									
8	2.29	75.09		Wood fragments		SS-4	50	14	5-5-6-6	11
9										
10	3.0									
11	3.05	74.33		SANDY CLAYEY SILT, trace gravel, dark grey with black staining, very moist to wet, firm		SS-5	58	14	3-3-3-4	6
12										
13	3.81	73.57		SANDY SILT, some gravel, trace clay, grey, black staining, saturated, loose		SS-6	62	26	3-3-3-2	6
14	4.0									
15	4.57	72.81		Trace gravel, grey to dark grey, very loose		SS-7	67	17	2-1-2-2	3
16										
17	5.0									
18	5.34	72.04		Saturated, loose		SS-8	58	19	2-2-2-3	4
19										
20	6.0									
21	6.10	71.28		Dark grey, wet, loose		SS-9	58	12	3-3-3-2	6
22										
23	7.0									
24										
25	7.62	69.76		BEDROCK, completely to highly weathered shale, grey to dark grey, damp, very dense		SS-10	78	11	44-55/ 75mm	100
26	8.0									
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

Bentonite
WL 3.87 m 11/8/2012
4.88 m
Sand
Screen

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 16

BOREHOLE No.: MW16-12
ELEVATION: 77.38 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 15, 2012 DATE (FINISH): October 15, 2012

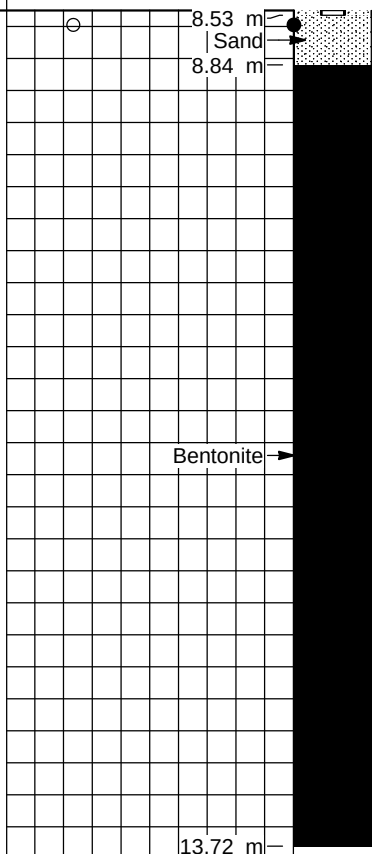
LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		77.38		GROUND SURFACE						
	8.64	68.74		BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		SS-11	100	23	55/ 100mm	100
29	9.0					RUN-1	88	--	31	46
30										
31										
32										
33	10.0					RUN-2	100	--	76	95
34										
35										
36	11.0									
37										
38						RUN-3	95	--	50	88
39										
40	12.0									
41										
42										
43	13.0					RUN-4	100	--	52	83
44										
45	13.72	63.66		**END OF BOREHOLE**						
46	14.0			NOTE : End of Borehole at 13.72 m bgs Monitoring well installed at 8.53 m bgs Water level at 3.87 m bgs on November 8, 2012 Rock coring from 8.64 m to 13.72 m bgs 'bgs' denotes below ground surface						
47										
48										
49	15.0									
50										
51										
52	16.0									
53										
54										
55										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

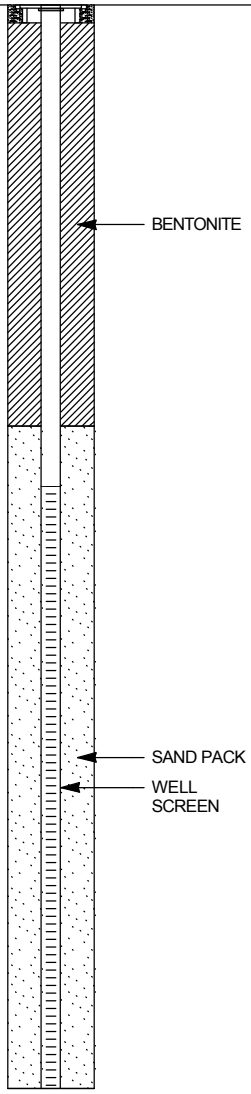
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW18-12
DATE COMPLETED: September 27, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS
	INTERLOCKING BRICK	0.03
	GRANULAR MATERIAL CRUSHED LIMESTONE	0.08
	SAND AND LIMESTONE (FILL)	
0.5		
	CLAYEY SILT (FILL), very dense, some sand, crushed brick	0.61
1.0		
1.5	- crushed red brick layer at 1.68m BGS	
2.0		
	- stone layer at 2.36m BGS	
2.5	- mixed with stones at 2.44m BGS	
3.0		
3.5	- very wet soil at 3.66m BGS	
4.0		
	- Refusal at 4.11m BGS	4.11
	END OF BOREHOLE @ 4.11m BGS	
4.5		
5.0		
5.5		
6.0		
6.5		

MONITOR INSTALLATION



WELL DETAILS
Screened interval:
2.44 to 5.49m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
2.13 to 5.49m BGS
Material: #2 SILICA

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1				1.3
2				3.5
3				1.2
4				23.6
5				0.9
6				0.9
7				0.1

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

REFERENCE No.: 076836 ENCLOSURE No.: 19

BOREHOLE No.: MW19-12
ELEVATION: 76.03 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 11, 2012 DATE (FINISH): October 11, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.03	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
1				FILL : CLAYEY SILT, some sand, trace gravel, trace topsoil and rootlets, grey, damp, stiff		SS-1	67	12	2-3-8-9	11
2										
3	0.76	75.27		Very stiff		SS-2	58	12	8-10-7-6	17
4	1.0									
5	1.52	74.51		SANDY CLAYEY SILT, trace gravel, brick fragments, grey, moist, stiff		SS-3	67	16	10-6-3-3	9
6										
7	2.0									
8	2.29	73.74		Trace gravel, plastic, grey, very moist, stiff		SS-4	62	15	10-6-3-3	9
9										
10	3.0									
11	3.05	72.98		Black staining, stiff		SS-5	75	11	1-1-1-2	2
12										
13	3.81	72.22		Trace gravel, soft		SS-6	75	23	1-2-2-2	4
14	4.0									
15	4.57	71.46		SAND with SHALE fragments, grey, saturated, compact		SS-7	67	17	2-4-10-12	14
16										
17	5.0									
18	5.49	70.54		Dense		SS-8	67	14	1-5-35-40	40
19										
20	6.0									
21	6.10	69.93		SANDY CLAYEY SILT, trace gravel, grey, saturated, loose		SS-9	58	21	5-3-3-2	6
22										
23	7.0									
24										
25	7.62	68.41		Trace gravel, layered, greyish black, saturated, firm		SS-10	58	19	2-3-4-7	7
26	8.0									
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL 2.04 m
11/8/2012

Bentonite

6.55 m
Sand

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 19

BOREHOLE No.: MW19-12
ELEVATION: 76.03 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 11, 2012 DATE (FINISH): October 11, 2012

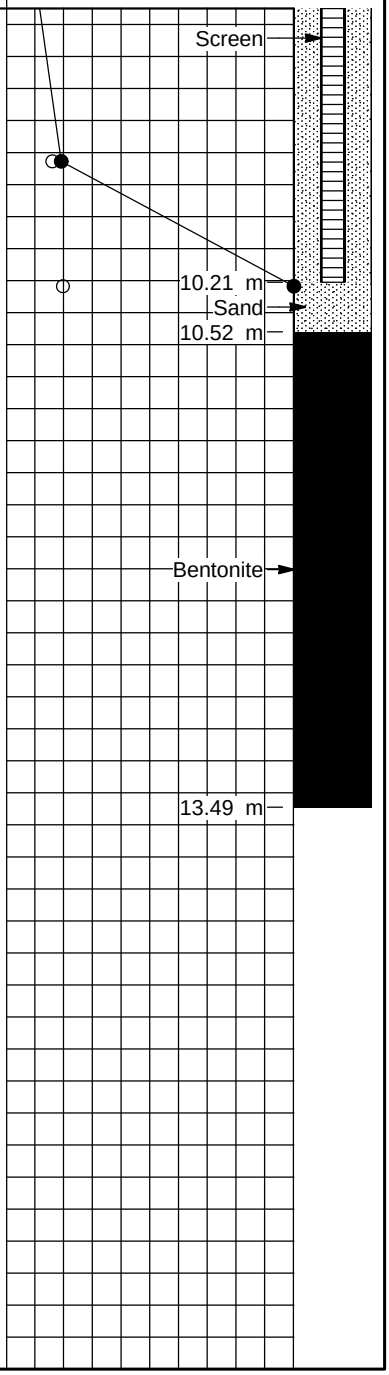
LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 76.03	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
	9.0					SS-11	67	16	6-7-12-13	19
	10.0									
	10.21	65.82		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-12	100	20	55/ 50mm	100
	10.26	65.77		BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		RUN-1	84	--	15	45
	11.0									
	12.0					RUN-2	100	--	53	53
	13.0					RUN-3	78	--	67	87
	13.49	62.54		**END OF BOREHOLE**						
	14.0			NOTE : End of Borehole at 13.49 m bgs Monitoring well installed at 10.21 m bgs Water level at 2.04 m bgs on November 8, 2012 Rock coring from 10.26 m to 13.49 m bgs 'bgs' denotes below ground surface						
	15.0									
	16.0									

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
Atterberg limits (%) w_p w_l
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW20-12
DATE COMPLETED: September 28, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0.5	INTERLOCKING BRICK	0.03		1		100		0.4
	GRANULAR MATERIAL CRUSHED LIMESTONE	0.08						
	SAND AND GRAVEL (FILL), coarse grained with stones	0.40						
	CLAYEY SILT (FILL) with stones and crushed red brick							
1.0				2		100		0.3
			BENTONITE					
1.5	- layer of wood at 1.52m BGS			3		100		1.2
	- some gravel, grey, very wet at 1.58m BGS							
2.0				4				0.0
2.5				5		50		0.0
3.0	- with gravel, grey, saturated, black staining present at 3.05m BGS			6		50		0.1
3.5								
			SAND PACK					
4.0			WELL SCREEN	7		50		0.1
4.5	- small rootlets around black staining, vegetation stain, crushed red brick at 4.57m BGS			8		50		0.6
5.0				9		100		0.3
5.5			WELL DETAILS Screened interval: 2.44 to 5.49m BGS Length: 3.05m Diameter: 51mm Slot Size: #10 Material: PVC Sand Pack: 2.13 to 5.49m BGS Material: #2 SILICA					
	- layer of red brick at 5.79m BGS			10		100		0.2
6.0								
6.5				11		50		0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (1)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW20-12
DATE COMPLETED: September 28, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
				12		50		0.2
7.5				13		50		0.1
8.0				14		50		1.0
8.5								
	SHALE, weathered, some silty clay, very wet	8.84		15		50		0.2
9.0								
	- Refusal in Bedrock at 9.45m BGS	9.45						
9.5	END OF BOREHOLE @ 9.45m BGS							
10.0								
10.5								
11.0								
11.5								
12.0								
12.5								
13.0								
13.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG 76836-ENVIRO.GPJ CRA_CORP.GDT 11/28/12

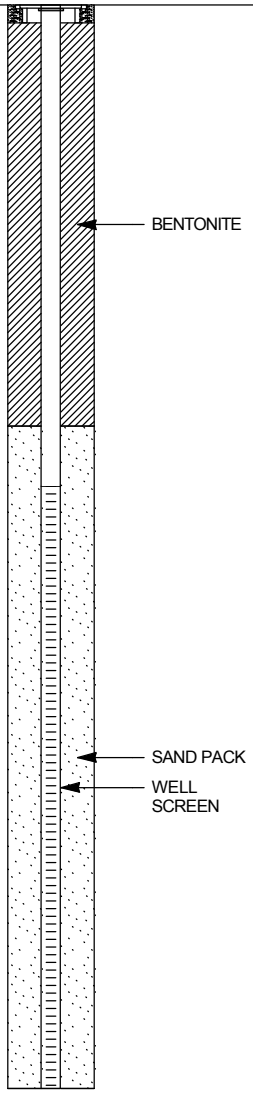
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW21-12
DATE COMPLETED: September 28, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS
	INTERLOCKING BRICK	0.03
	GRANULAR MATERIAL CRUSHED LIMESTONE	0.08
	SAND AND GRAVEL (FILL)	0.30
0.5	CLAYEY SILT (FILL), with trace sand	
1.0	- stone layer at 1.22m BGS	
1.5	- with crushed red brick and black staining throughout at 1.52m BGS	
2.0		
2.5		
3.0		
3.5		
	GRAVELLY CLAYEY SILT with stones, dark grey, saturated	3.66
4.0		
	CLAYEY SILT (FILL)	4.27
4.5		
5.0		
5.5		
6.0	- wood fragments and black staining at 5.94m BGS	
6.5		

MONITOR INSTALLATION



WELL DETAILS
Screened interval:
2.44 to 5.49m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
2.13 to 5.49m BGS
Material: #2 SILICA

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1		26		0.5
2		100		0.6
3		100		0.6
4		100		0.3
5		100		0.3
6		100		0.6
7		100		0.2
8		100		1.1
9		100		1.0
10		100		3.3
11		100		0.1

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 76836-ENVIRO.GPJ CRA_CORP.GDT 11/28/12

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW21-12
DATE COMPLETED: September 28, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5				12		100		0.5
8.0				13		100		0.5
8.5	- pieces of coloured glass, coarse sand at 8.53m BGS			14		100		0.8
9.0	END OF BOREHOLE @ 9.14m BGS	9.14						
9.5								
10.0								
10.5								
11.0								
11.5								
12.0								
12.5								
13.0								
13.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

REFERENCE No.: 076836 ENCLOSURE No.: 22

BOREHOLE No.: MW22-12
ELEVATION: 75.94 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 9, 2012 DATE (FINISH): October 9, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 75.94	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
1	0.35	75.59		GRANULAR MATERIAL : CRUSHER RUN LIMESTONE : 350 mm		SS-1A	75	5	7-9-8-5	17
2				FILL : SANDY CLAYEY SILT, trace gravel, dark grey, moist, very stiff		SS-1B		14		--
3	0.76	75.18		Oxidized seams, black staining, firm		SS-2	67	14	4-4-4-5	8
4	1.0									
5	1.52	74.42		Brick fragments, grey, moist to very moist, soft		SS-3	67	14	2-2-2-2	4
6										
7	2.0									
8	2.29	73.65		Dark grey, firm		SS-4	75	19	2-3-3-5	6
9										
10	3.0									
11	3.05	72.89		Soft		SS-5	67	14	2-2-1-5	3
12										
13	4.0					SS-6	75	19	0-2-2-4	4
14										
15	4.57	71.37		Black staining, wet, firm		SS-7	83	18	2-2-5-3	7
16	5.0									
17										
18	5.34	70.60		Back staining		SS-8	100	20	2-2-2-3	4
19										
20	6.0									
21	6.10	69.84		Firm		SS-9	62	17	2-3-4-5	7
22										
23	7.0									
24										
25	7.62	68.32		Trace shale fragments, dark grey, very moist, firm		SS-10	58	17	2-3-4-4	7
26	8.0									
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL 1.51 m 11/8/2012
Bentonite
Sand
5.11 m
Screen

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 22

BOREHOLE No.: MW22-12
ELEVATION: 75.94 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 9, 2012 DATE (FINISH): October 9, 2012

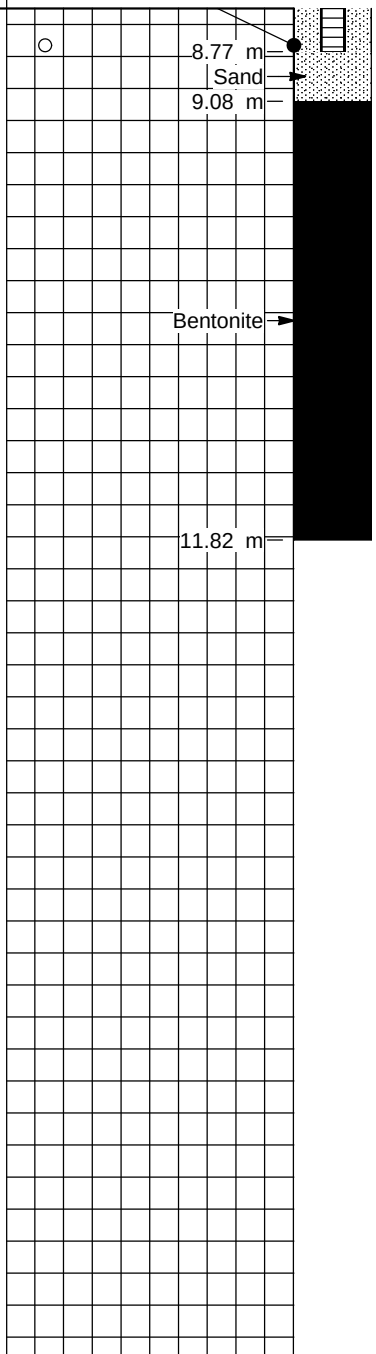
LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 75.94	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
29	8.69	67.25				SS-11	100	13	60/ 75mm	100
	8.77	67.17		BEDROCK, completely to highly weathered shale, grey to dark grey, damp, very dense						
	9.0					RUN-1	83	--	0	42
30				BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey						
31										
32										
33	10.0					RUN-2	98	--	55	90
34										
35										
36	11.0									
37						RUN-3	94	--	77	92
38										
39	11.82	64.12								
	12.0			**END OF BOREHOLE**						
40				NOTE :						
41				End of Borehole at 11.82 m bgs						
42				Monitoring well installed at 8.77 m bgs						
43	13.0			Water level at 1.51 m bgs on November 8, 2012						
44				Rock coring from 8.77 m to 11.82 m bgs						
45				'bgs' denotes below ground surface						
46	14.0									
47										
48										
49	15.0									
50										
51										
52	16.0									
53										
54										
55										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 23

BOREHOLE No.: MW23-12
ELEVATION: 75.49 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lake Shore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 16, 2012 DATE (FINISH): October 16, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		75.49		GROUND SURFACE						
	0.10	75.39		INTERLOCKED BRICK : 100 mm						
1	0.30	75.19		GRANULAR MATERIAL : CRUSHER RUN LIMESTONE : 200 mm		SS-1	50	4	3-7-4-6	11
2				FILL : SANDY SILT, trace clay and gravel, brick fragments, brownish grey, damp to moist, loose						
3	1.0					SS-2	42	17	3-2-2-2	4
4										
5	1.52	73.97		SANDY CLAYEY SILT, trace gravel, grey with black staining, moist to very moist, soft						
6						SS-3	50	13	1-1-2-2	3
7	2.0									
8	2.29	73.20		Firm		SS-4	50	24	6-7-1-2	8
9										
10	3.0									
11	3.05	72.44		Black staining		SS-5	67	19	1-2-3-6	5
12	3.66	71.83		SANDY SILT, some gravel, trace clay, grey, very moist, compact						
13	4.0					SS-6	75	21	3-5-5-3	10
14										
15	4.57	70.92		Trace gravel, saturated, loose						
16						SS-7	67	15	5-2-3-6	5
17	5.0									
18						SS-8	58	19	4-4-3-3	7
19										
20	6.0									
21						SS-9	58	18	4-3-4-6	7
22										
23	7.0									
24										
25	7.62	67.87		SANDY CLAYEY SILT, trace gravel, black staining, grey, wet, firm						
26	8.0					SS-10	67	16	1-2-4-7	6
27				Sa : 31%, Si : 42%, Cl : 25%, Gr : 2%						

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL 1.40 m 11/8/2012
Bentonite
5.49 m
Sand
Screen

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 23

BOREHOLE No.: MW23-12
ELEVATION: 75.49 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lake Shore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 16, 2012 DATE (FINISH): October 16, 2012

LEGEND

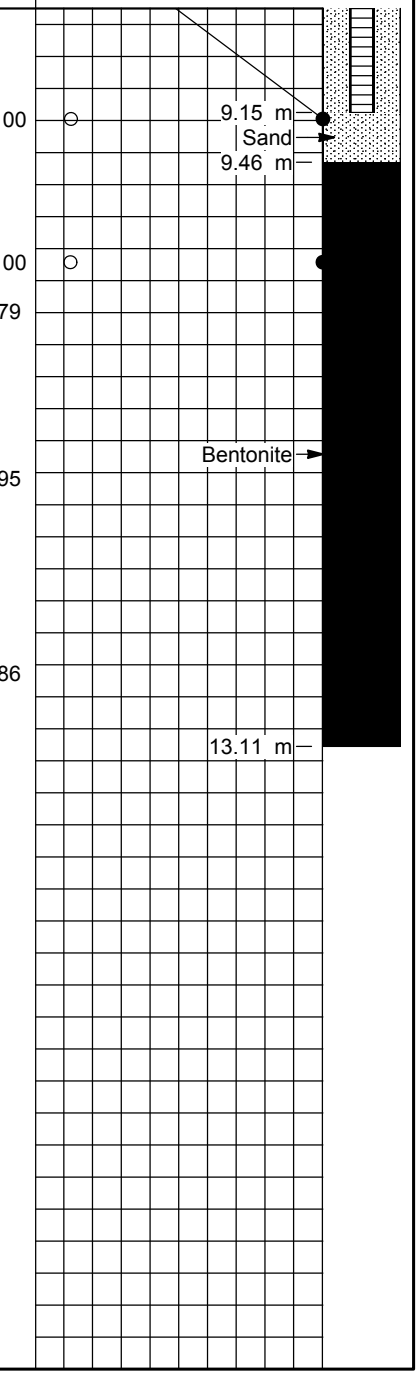
- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
		75.49		GROUND SURFACE						
	9.0									
	9.15	66.34		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-11	100	12	60/ 75mm	100
	10.0									
	10.11	65.38		BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		SS-12	100	12	60/ 50mm	100
						RUN-1	96	--	38	79
	11.0									
						RUN-2	100	--	71	95
	12.0									
						RUN-3	89	--	64	86
	13.0									
	13.11	62.38		**END OF BOREHOLE**						

NOTE :
End of Borehole at 13.11 m bgs
Monitoring well installed at 9.15 m bgs
Water level at 1.40 m bgs on November 8, 2012
Rock coring from 9.15 m to 13.11 m bgs
'bgs' denotes below ground surface
Sa, Si, Cl and Gr denote Sand, Silt, Clay and Gravel respectively

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
w_p w_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW24-12
DATE COMPLETED: October 1, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0.5	GRASS AND TOPSOIL, brown, dry, roots			1				0.2
1.0	CLAYEY SILT (FILL)	0.91	BENTONITE	2				0.0
1.5	CLAYEY SILT (FILL) with some gravel and trace sand, grey, very wet, black pieces of asphalt/coal, crushed brick	1.52		3				0.1
2.0	- black vegetation staining, very dense, wet, copper fragments, crushed brick at 2.13m BGS			4				0.0
2.5				5				5.1
3.0	- red brick fragments at 2.90m BGS - with gravel and trace sand, very wet, crushed red brick, black vegetative staining at 3.05m BGS							
3.5	- saturated at 3.35m BGS			6				0.1
4.0			SAND PACK WELL SCREEN	7				2.6
4.5	- trace sand, asphalt, crushed brick, dark grey, very wet at 4.57m BGS			8				0.0
5.0				9				1.1
5.5			WELL DETAILS Screened interval: 2.44 to 5.49m BGS Length: 3.05m Diameter: 51mm Slot Size: #10 Material: PVC Sand Pack: 2.13 to 5.49m BGS Material: #2 SILICA	10				0.8
6.0	- crushed red brick, dense, dark grey, wet at 6.10m BGS							
6.5				11				0.6

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (⬭)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW24-12
DATE COMPLETED: October 1, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5	- crushed red brick, dark grey, wet at 7.62m BGS			12				0.0
8.0				13				0.1
8.5				14				0.2
9.0				15				2.0
	END OF BOREHOLE @ 9.14m BGS	9.14		16				0.0
9.5								
10.0								
10.5								
11.0								
11.5								
12.0								
12.5								
13.0								
13.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG 76836-ENVIRO.GPJ CRA_CORP.GDT 11/28/12

REFERENCE No.: 076836 ENCLOSURE No.: 3

BOREHOLE No.: MW103
ELEVATION:

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Supplementary Soil and Groundwater Assessment
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: C. Gilbert CHECKED BY: R. Pasqualoni
DATE (START): August 6, 2013 DATE (FINISH): August 6, 2013

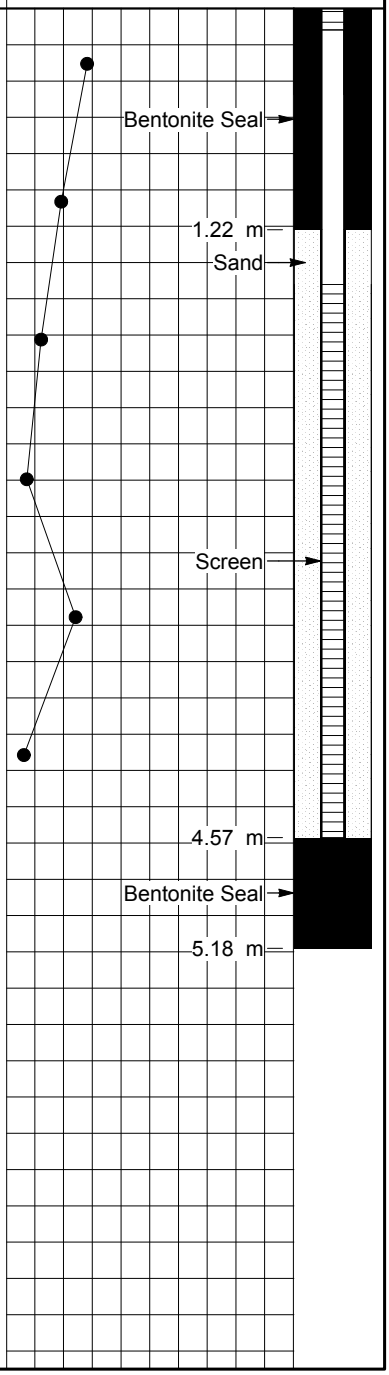
LEGEND

- SS - SPLIT SPOON
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	PID ppm	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR% N
				GROUND SURFACE						
1				SILT, trace sand and gravel, trace rootlets, brick and slag fragments, brown, moist, compact - FILL		SS-1	50	1.2	8-13-15-11	28
2										
3	0.91									
	1.0			SILTY CLAY, trace sand and gravel, slag fragments, medium plasticity, brown, moist, very stiff - FILL		SS-2	50	0.4	5-9-10-10	19
4										
5	1.52			stiff						
6	1.83					SS-3	75	0.6	2-5-7-8	12
	2.0			odorous, greyish black, moist to wet						
7										
8	2.44			18 " thick sand seam		SS-4	50	0.5	3-3-4-3	7
9										
10	3.0									
	3.05			some sand, wet, very stiff		SS-5	60	1.2	1-1-23-12	24
11										
12										
	3.81									
13	4.0			firm		SS-6	70	0.4	1-1-5-4	6
14										
15	4.57			SILTY SAND TILL, trace gravel, poorly graded, odorous, grey, wet, very loose		SS-7	100	1.4	-	-
16										
	5.0									
17	5.18			**END OF BOREHOLE**						
18										
19				NOTE :						
20	6.0			End of Borehole at 5.18 m bgs Borehole open and dry upon completion 50 mm diameter monitoring well installed to 4.57 m bgs 'bgs' denotes below ground surface						
21										
22										
23	7.0									
24										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
w_p w_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEO-2013.GPJ INSPEC_SOL.GDT 8/15/13

Log of Borehole 1

Project No. GOR-00238817-A0 Drawing No. 2

Project: Prposed Festival Commons Park Feasibility Study Sheet No. 1 of 1

Location: 955 Lakeshore Boulevard West, Toronto, Ontario

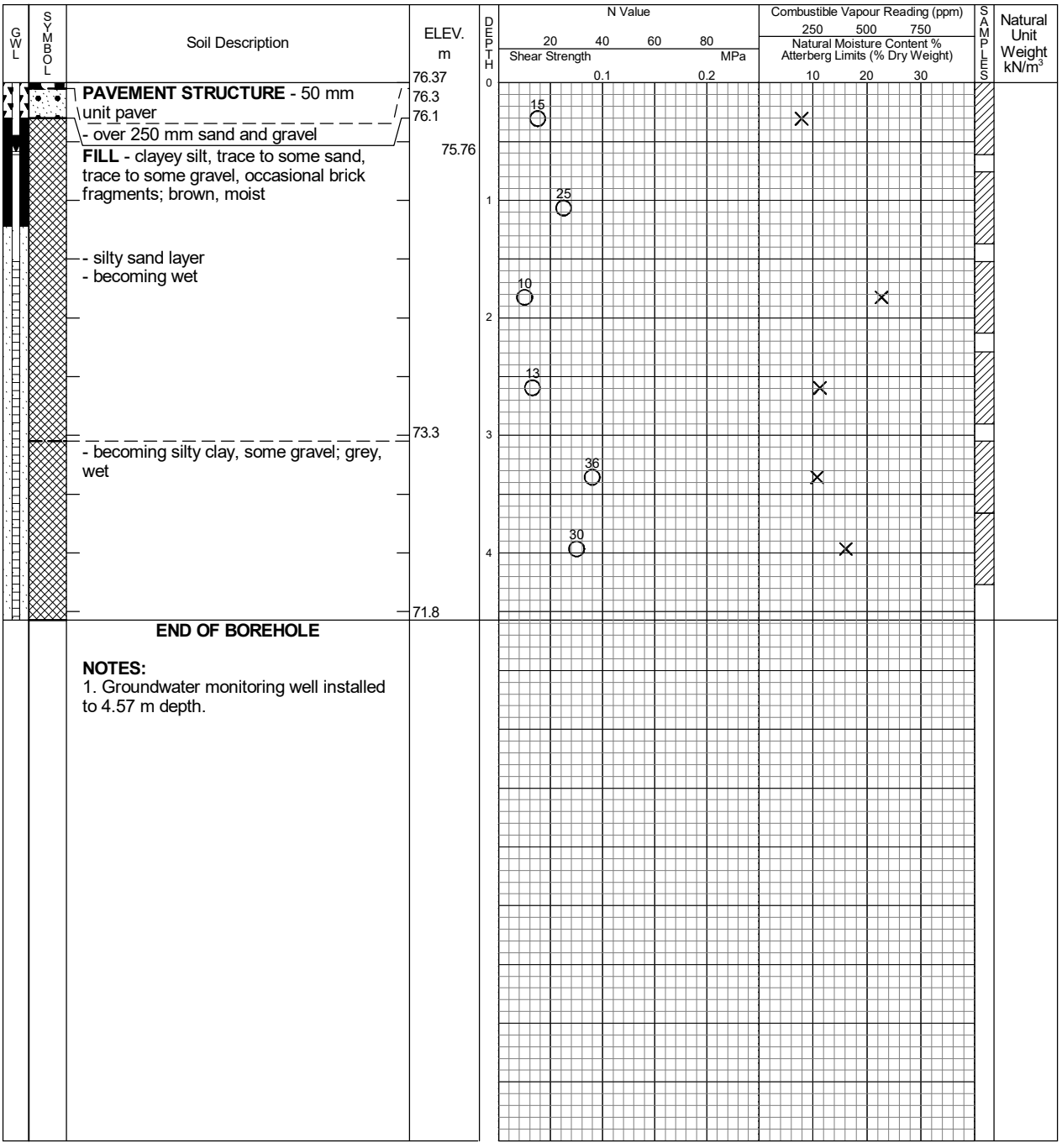
Date Drilled: June 23, 2017

Drill Type: B57 Track Mount

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test S

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



LAGWGL02 GOR00238817-A0.GPJ NEW.GDT 8/10/17

Time	Water Level (m)	Depth to Cave (m)
On completion	4.27	Well
July 24, 2017	0.61	Well

Log of Borehole 7

Project No. GOR-00238817-A0 | Drawing No. 8

Project: Prposed Festival Commons Park Feasibility Study | Sheet No. 1 of 1

Location: 955 Lakeshore Boulevard West, Toronto, Ontario

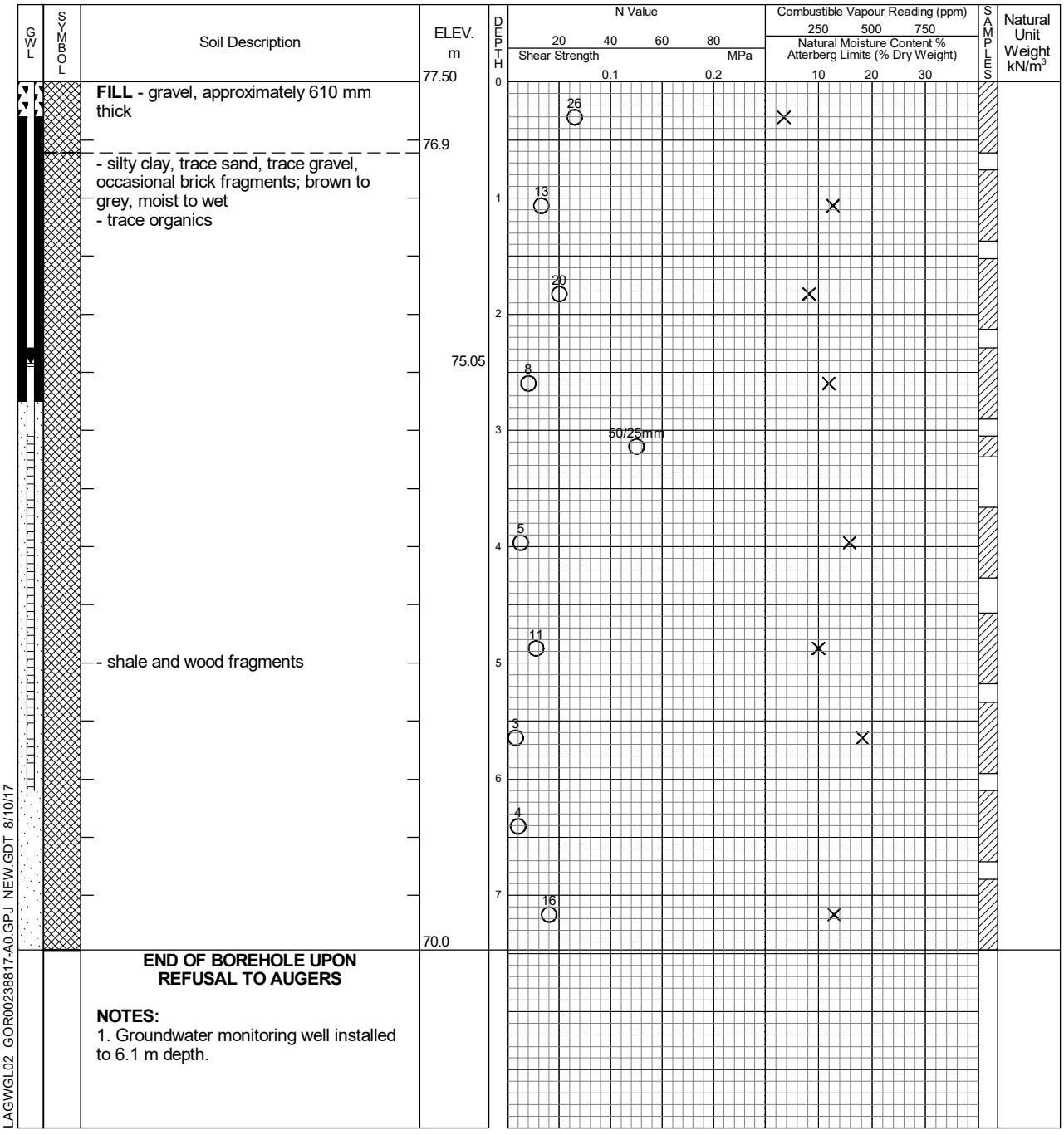
Date Drilled: June 22, 2017

Drill Type: B57 Track Mount

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



LAGWGL02 GOR00238817-A0.GPJ NEW.GDT 8/10/17

Time	Water Level (m)	Depth to Cave (m)
On completion	3.66	Well
July 24, 2017	2.45	Well

Log of Borehole 8

Project No. GOR-00238817-A0 Drawing No. 9

Project: Prposed Festival Commons Park Feasibility Study Sheet No. 1 of 1

Location: 955 Lakeshore Boulevard West, Toronto, Ontario

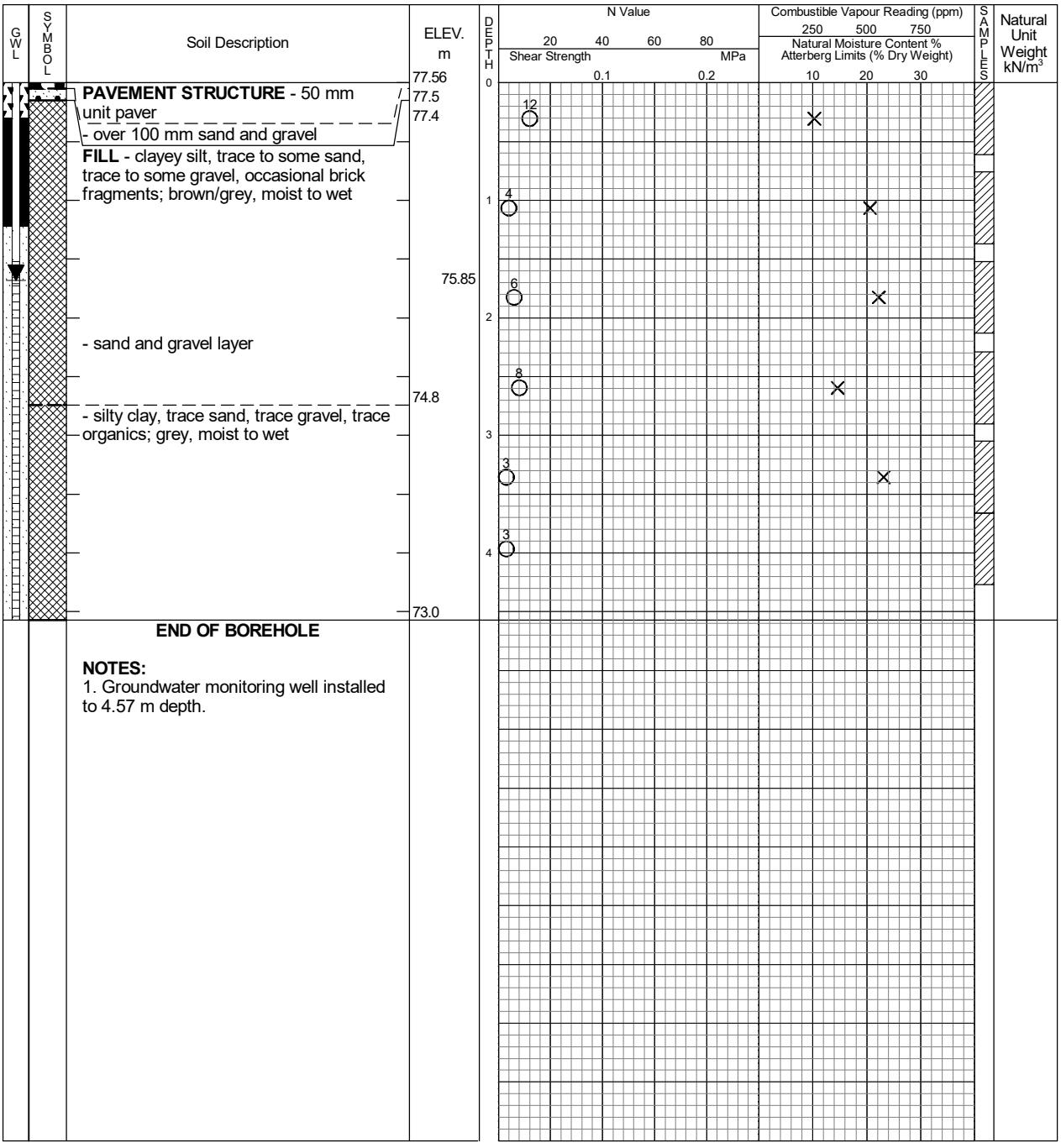
Date Drilled: June 21, 2017

Drill Type: B57 Track Mount

Datum: Geodetic

Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Field Vane Test

Combustible Vapour Reading
Natural Moisture
Plastic and Liquid Limit
Undrained Triaxial at % Strain at Failure
Penetrometer



NOTES:
1. Groundwater monitoring well installed to 4.57 m depth.

Time	Water Level (m)	Depth to Cave (m)
On completion	3.05	Well
July 24, 2017	1.71	Well

LAGWGL02 GOR00238817-A0.GPJ NEW.GDT 8/10/17

RECORD OF BOREHOLE: EI-MW07

CLIENT: Infrastructure Ontario
LOCATION: Ontario Place East Island
PROJECT NUMBER: 825400
LOGGED BY: M. Leung

DATE DRILLED: November 22, 2021
DRILLER: Atcost
DRILL RIG: Geoprobe
DRILL METHOD: 152 mm SSA

GROUND ELEVATION:
NORTHING:
EASTING:
BOREHOLE DIAMETER: 152 mm

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) eV PID BULB
					ASPHALT:					
1	90	DT1		Metals & Inorg. PHCs PAHs VOCs (12:00) (0.30-1.52)	**FILL:** Silty sand, brown, moist, some gravel, some concrete.		0.15	0.30	Flushmount casing secured in concrete Bentonite seal	1.6
2	47	DT2			**FILL:** Silty clay, dark grey, moist to wet, medium plasticity, some asphalt, some gravel.		1.68	1.83	#3 silica sand filter pack	6.0
3				pH (12:30) (3.05-4.57)	- Grey, wet, low plasticity, trace asphalt below 3.20 mbgs.				50 mm diameter SCH 40 PVC pipe #10-slot well screen	
4	65	DT3								5.2
5					- Very wet, little gravel below 4.57 mbgs.					
6	82	DT4		Metals & Inorg. PHCs PAHs VOCs (13:10) (5.49-6.25)	- Light brown, moist, medium plasticity, trace brick below 6.10 mbgs.			5.49	Bentonite seal	0.5
7	83	DT5			- Some brick, some asphalt below 7.62 mbgs.					0.5

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
3/10/2022

Prepared by: ML
Reviewed by:

CH2M HILL Canada Limited

MASTER_BH_FT2M_SS: MASTER_INPUT_R0_EI.GPJ: MASTER_LIBRARY_R03.GLB: 431079 - WALLACE.GDT: 3/10/22

Jacobs

RECORD OF BOREHOLE: EI-MW07

CLIENT: Infrastructure Ontario
LOCATION: Ontario Place East Island
PROJECT NUMBER: 825400
LOGGED BY: M. Leung

DATE DRILLED: November 22, 2021
DRILLER: Atcost
DRILL RIG: Geoprobe
DRILL METHOD: 152 mm SSA

GROUND ELEVATION:
NORTHING:
EASTING:
BOREHOLE DIAMETER: 152 mm

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) eV PID BULB
9	80	DT6			**SHALE BEDROCK:** Shale.		8.84	8.89	0.2
					Bottom of borehole at 8.89 mbgs		8.89		
10									
11									
12									
13									
14									
15									

ORGANIC VAPOUR READING (ppm) eV PID BULB: 20 40 60 80

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
3/10/2022

Prepared by: ML
Reviewed by:

CH2M HILL Canada Limited

MASTER_BH_FT2M_SS; MASTER_INPUT_R0_EI.GPJ; MASTER_LIBRARY_R03.GLB; 431079 - WALLACE.GDT; 3/10/22

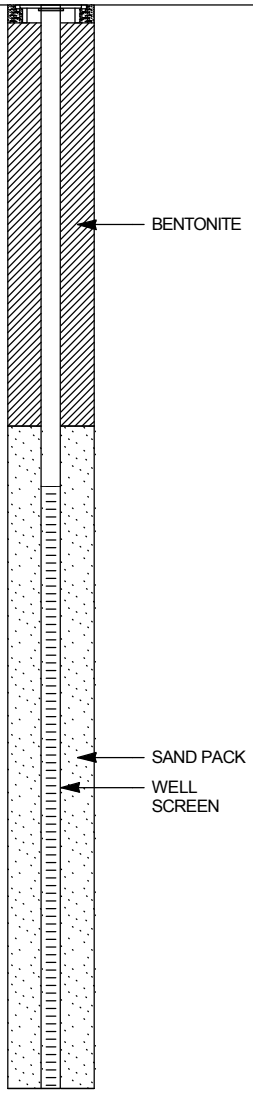
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW26-12
DATE COMPLETED: October 1, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS
	INTERLOCKING BRICK	0.03
	GRANULAR MATERIAL CRUSHED LIMESTONE	0.08
0.5	SILTY CLAY (FILL), with sand, dark grey, pieces of wood	
	- crushed red brick layer at 0.46m BGS	0.61
1.0	SANDY CLAYEY SILT (FILL) with gravel and stones	
1.5		1.52
	CLAYEY SILT (FILL), with crushed red brick, trace sand, wet	
2.0		
2.5	- sand seam at 2.44m BGS	
3.0		
3.5		
4.0		
4.5	- crushed red/yellow brick, saturated at 4.57m BGS	
5.0		
5.5		
	- gravel layer, pieces of weathered shale and red brick at 5.79m BGS	
6.0	- crushed yellow and red brick, stone, weathered shale at 6.10m BGS	
6.5		

MONITOR INSTALLATION



WELL DETAILS
Screened interval:
2.44 to 5.49m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
2.13 to 5.49m BGS
Material: #2 SILICA

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1		100		8.5
2		100		7.3
3		100		4.4
4		100		1.3
5		100		0.5
6		0		0
7		0		0
8		50		1.8
9		50		2.8
10		50		2.4
11		100		3.3

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW26-12
DATE COMPLETED: October 1, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
7.5				12		100		0.6
8.0				13		100		1.0
8.5				14		100		1.2
9.0	- wood fragments at 9.14m BGS			15		100		0.8
9.5				16		100		0.7
10.0				17		100		1.5
10.5	- weathered shale bedrock at 10.36m BGS END OF BOREHOLE @ 10.36m BGS	10.36						
11.0								
11.5								
12.0								
12.5								
13.0								
13.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

REFERENCE No.: 076836 ENCLOSURE No.: 27

BOREHOLE No.: MW27-12
ELEVATION: 77.57 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 24, 2012 DATE (FINISH): October 24, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 77.57	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
	0.10	77.47		GROUND SURFACE TOPSOIL : 100 mm						
1				FILL : SANDY SILT, trace gravel and clay, organics with black stain, grey, moist, compact		SS-1	58	14	3-5-7-7	12
2										
3	1.0					SS-2	67	26	4-5-5-5	10
4										
5	1.52	76.05		Grey, moist, loose		SS-3	50	14	4-5-4-3	9
6										
7	2.0									
8	2.29	75.28		Dark grey with black staining		SS-4	50	15	2-2-3-3	5
9										
10	3.0	74.52		Dark grey with black staining, saturated, very loose		SS-5	92	23	1-1-1-1	2
11										
12	3.81	73.76		Loose		SS-6	83	20	1-3-4-3	7
13	4.0									
14										
15	4.57	73.00		SANDY CLAYEY SILT, trace gravel, brick fragments, grey, very moist to wet, firm		SS-7	67	18	2-2-4-5	6
16	5.0									
17										
18	5.34	72.23		SANDY SILT, trace clay and gravel, grey, wet, compact		SS-8	67	20	4-6-9-9	15
19										
20	6.0 3.05 6.10	71.47		SANDY CLAYEY SILT, trace gravel, dark grey with black staining, wet, stiff		SS-9	75	16	7-5-5-3	10
21										
22										
23	7.0									
24										
25	7.62	69.95		Trace gravel, sand seams, brownish grey, damp to moist, stiff		SS-10	58	19	6-6-6-6	12
26	8.0									
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

WL 2.06 m
11/8/2012
Bentonite
7.16 m
Sand

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/22/12

REFERENCE No.: 076836 ENCLOSURE No.: 27

BOREHOLE No.: MW27-12
ELEVATION: 77.57 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 24, 2012 DATE (FINISH): October 24, 2012

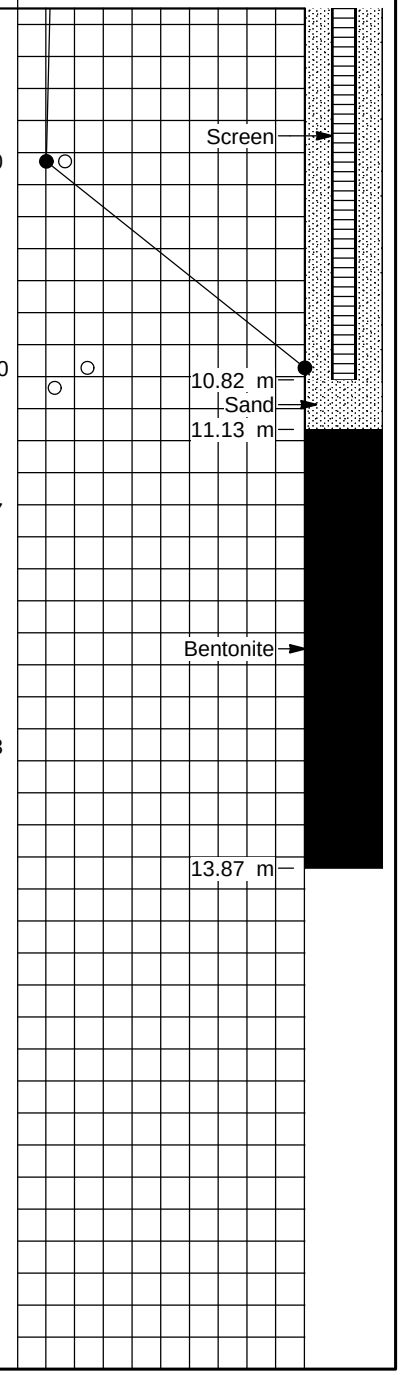
LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 77.57	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
	9.0									
29.52	9.15	68.42		Brick fragments, dark grey, saturated, stiff		SS-11	67	17	7-5-5-4	10
	10.0									
34.12	10.82	66.75				SS-12A	90	24	3-60/	100
34.45	10.92	66.65		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense		SS-12B		13	100mm	--
	11.0			BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey		RUN-1	85	--	25	57
	12.0									
	13.0					RUN-2	100	--	35	83
45.70	13.87	63.70								
	14.0			**END OF BOREHOLE**						
				NOTE : End of Borehole at 13.87 m bgs Monitoring well installed at 10.82 m bgs Water level at 2.06 m bgs on November 8, 2012 Rock coring from 10.92 m to 13.87 m bgs 'bgs' denotes below ground surface						
	15.0									
	16.0									

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
Atterberg limits (%) w_p w_l
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/22/12

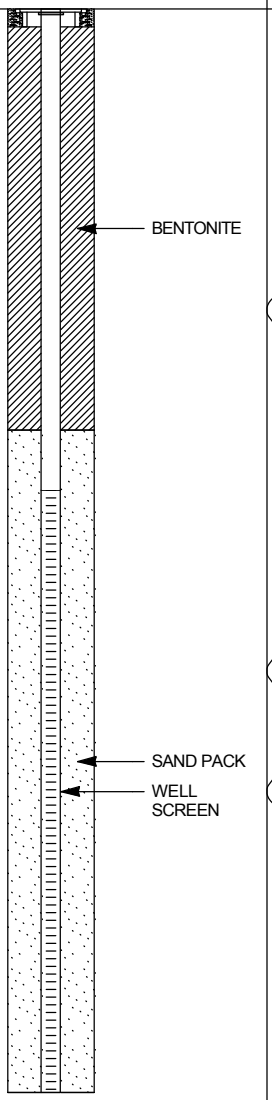
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW28-12
DATE COMPLETED: October 2, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS
	INTERLOCKING BRICK	0.03
	GRANULAR MATERIAL CRUSHED LIMESTONE - grey stones, silty clay fill at 0.12m BGS	0.08
0.5	SANDY SILT (FILL), with gravel, coarse grained, poorly sorted, brown, moist	
1.0		
1.5		1.52
	SANDY CLAYEY SILT (FILL), with crushed red brick, dark grey, moist - dark black staining at 1.83m BGS	
2.0		
2.5	- crushed bricks, stone layer at 2.44m BGS	
3.0	- crushed red brick, trace sand, grey at 3.05m BGS	
3.5		
4.0		
4.5	- sand seam, saturated, black staining at 4.57m BGS	
5.0		
5.5		
6.0		
6.5		

MONITOR INSTALLATION



WELL DETAILS
Screened interval:
2.44 to 5.49m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
2.13 to 5.49m BGS
Material: #2 SILICA

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1		100		0.5
2		100		0.4
3		100		1.4
4		100		1.0
5		0		
6		100		0.5
7		100		0.2
8		100		0.1
9		100		0.2
10		100		1.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW28-12
DATE COMPLETED: October 2, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
7.5	- weathered shale bedrock at 7.77m BGS	7.77						
8.0	END OF BOREHOLE @ 7.77m BGS							
8.5								
9.0								
9.5								
10.0								
10.5								
11.0								
11.5								
12.0								
12.5								
13.0								
13.5								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

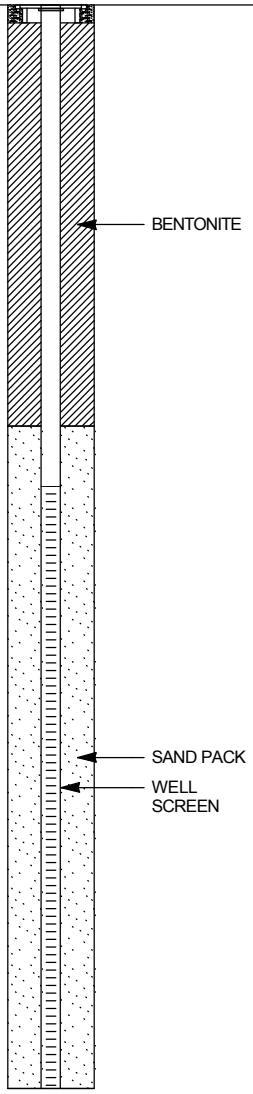
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: ONTARIO PLACE
PROJECT NUMBER: 076836
CLIENT: INFRASTRUCTURE ONTARIO
LOCATION: TORONTO, ONTARIO

HOLE DESIGNATION: MW29-12
DATE COMPLETED: October 2, 2012
DRILLING METHOD: HSA
FIELD PERSONNEL: N. MCFADDEN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS
	INTERLOCKING BRICK	0.03
	GRANULAR MATERIAL CRUSHED LIMESTONE	0.08
	SANDY SILT (FILL), with gravel and rocks	
	- crushed yellow brick at 1.22m BGS	
	SANDY CLAYEY SILT (FILL), with crushed red brick, very wet	1.52
	- crushed yellow and red brick layer at 2.74m BGS	
	- with some sand, grey at 3.05m BGS	
	- black staining, dark grey, wet at 3.51m BGS	
	- very dense, dark grey, saturated at 4.57m BGS	
	- Shale bedrock at 6.10m BGS	6.10
	END OF BOREHOLE @ 6.10m BGS	

MONITOR INSTALLATION



WELL DETAILS
Screened interval:
2.44 to 5.49m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: #10
Material: PVC
Sand Pack:
2.13 to 5.49m BGS
Material: #2 SILICA

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1				0.3
2				0.6
3				0.6
4				1.0
5				1.6
6				1.2
7				1.0
8				1.2
9				3.4
10				1.1

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 76836-ENVIRO.GPJ CRA_CORP.GDT 11/28/12

REFERENCE No.: 076836 ENCLOSURE No.: 30

BOREHOLE No.: MW30-12
ELEVATION: 78.41 m

BOREHOLE REPORT

Page: 1 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 25, 2012 DATE (FINISH): October 25, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 78.41	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
1				FILL : SANDY SILT, trace gravel, trace topsoil and rootlets with vegetation, black staining, moist, compact		SS-1	50	36	4-8-6-6	14
2	0.76	77.65		SANDY CLAYEY SILT, trace gravel, grey, damp, very stiff		SS-2	75	17	8-10-12-18	22
3	1.0									
4										
5	1.52	76.89		Brick pieces, grey, moist, very stiff		SS-3	62	13	15-12-10-8	22
6										
7	2.0									
8	2.29	76.12		Brick pieces, brownish grey, moist, loose		SS-4	75	15	5-3-2-4	5
9										
10	3.0									
11	3.05	75.36		Trace gravel, wood fragments, grey, wet, soft		SS-5	67	24	3-2-2-4	4
12										
13	3.81	74.60		Moist, soft		SS-6	75	18	1-1-1-2	2
14	4.0									
15	4.57	73.84		Brick pieces, grey, moist, firm		SS-7	67	19	2-3-4-5	7
16										
17	5.0									
18	5.34	73.07		Brick fragments, saturated		SS-8	100	28	3-3-4-6	7
19										
20	6.0									
21	6.10	72.31		Brownish grey, moist, firm Sa : 32%, Si : 35%, Cl : 26%, Gr : 7%		SS-9	100	16	1-1-3-5	4
22										
23	7.0									
24										
25	7.62	70.79		Grey, moist, stiff		SS-10	83	19	3-7-6-15	13
26	8.0									
27										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

Bentonite
WL 2.67 m 11/8/2012
4.88 m
Sand
Screen

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

REFERENCE No.: 076836 ENCLOSURE No.: 30

BOREHOLE No.: MW30-12
ELEVATION: 78.41 m

BOREHOLE REPORT

Page: 2 of 2

CLIENT: Infrastructure Ontario ('IO')
PROJECT: Geotechnical Investigation - Ontario Place
LOCATION: 955 Lakeshore Blvd. West, Toronto, Ontario
DESCRIBED BY: S. Hussain CHECKED BY: S. Siavash
DATE (START): October 25, 2012 DATE (FINISH): October 25, 2012

LEGEND

- PQ - PQ size continue coring
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth (bgs) Feet	Depth (bgs) Metres	Elevation (m) 78.41	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery %	Moisture Content	Blows per 6 in. / 15 cm or RQD	Penetration Index/SCR N
				GROUND SURFACE						
29	8.54	69.87				SS-11	100	17	60/ 50mm	100
	8.59	69.82		BEDROCK, completely to highly weathered SHALE, grey to dark grey, damp, very dense						
	9.0					RUN-1	63	--	0	13
30				BEDROCK-SHALE interbedded with LIMESTONE & DOLOSTONE, occasional fossils, occasional horizontal and vertical fractures, grey to dark grey						
31										
32						RUN-2	100	--	46	83
33	10.0									
34										
35										
36	11.0					RUN-3	90	--	43	80
37										
38										
	11.74	66.67								
39				**END OF BOREHOLE**						
	12.0									
40				NOTE :						
41				End of Borehole at 11.74 m bgs						
42				Monitoring well installed at 8.54 m bgs						
	13.0			Water level at 2.67 m bgs on November 8, 2012						
43				Rock coring from 8.59 m to 11.74 m bgs						
44				'bgs' denotes below ground surface						
45				Sa, Si, Cl and Gr denote Sand, Silt, Clay and Gravel respectively						
46	14.0									
47										
48										
49	15.0									
50										
51										
52	16.0									
53										
54										
55										

Shear test (Cu) △ Field
Sensitivity (S) ☐ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

8.54 m
Sand
8.85 m
Bentonite
11.74 m

SOIL LOG WITH GRAPH+WELL 76836-GEOTECH.GPJ INSPEC_SOL.GDT 11/23/12

RECORD OF MONITORING WELL: MW04-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 9, 2021	TOP OF PIPE: 76.85 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.98 masl	WATER ELEVATION: 74.77 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831878.0	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627274.6	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					FILL: Sandy Silt, dark brown, some gravel, trace clay, moist, dense.		76.88 / 0.10			
					Sand and Gravel, trace cobble fragments, brown, damp, dense.			76.68 / 0.30	Flushmount casing secured in concrete Bentonite Seal	
1					- cobble from 1.07m to 1.22 mbgs.					
					Sandy Clayey Silt, trace gravel, trace rootlets, brick fragments, brown, moist, very stiff.		75.46 / 1.52			
2					Sandy Silt, trace clay and gravel, brick fragments, brown, moist, dense.		74.69 / 2.29			
3					Sandy Clayey Silt, trace gravel, brick fragments, grey, moist, firm.		73.93 / 3.05			
4					Sandy Silt, some clay, trace gravel, trace cobble and shale fragments, gravelly sand pockets, grey, wet, loose.		72.41 / 4.57			
5					Sand and Gravel, dark brown, wet, medium grained sand, poorly sorted.		71.65 / 5.33			
	33	SS1	9	VOCs (14:00) (5.33-5.49)						2.5
6					- dark grey below 6.10 mbgs.					
	75	SS2	50+	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (14:40) (6.40-6.86)						5.1
					SHALE: Grey.		70.12 / 6.86	70.12 / 6.86		
7								69.36 / 7.62	No. 2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe	

Notes:
1. Information to be used for intrepretation of environmental conditions only

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10/26/2022

Prepared by: AM

Reviewed by: MS

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Jacobs

RECORD OF MONITORING WELL: MW04-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 9, 2021	TOP OF PIPE: 76.85 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.98 masl	WATER ELEVATION: 74.77 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831878.0	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627274.6	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9										20 40 60 80
10									#10-slot well screen	
							66.31 / 10.67	66.31 / 10.67		
					Lithology inferred from adjacent borehole (MW33-12) from 0 to 5.33 mbgs. 100mm Air Rotary below 6.86 mbgs. Bottom of borehole at 10.67 mbgs					
11										
12										
13										
14										
15										

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RECORD OF MONITORING WELL: MW07A-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 5, 2021	TOP OF PIPE: 78.67 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.76 masl	WATER ELEVATION: 74.80 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831731.6	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627279.8	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					ASPHALT:		78.71 / 0.05		
	91	SS1	27		**FILL:** Sand, dry to moist, medium grained, some fine gravel, some brick. - 15 cm seam of silty sand, brown, moist, some gravel at 0.30 mbgs.			78.46 / 0.30	4.0
1	79	SS2	12		Sandy Silt, brown, moist, mottled, medium sand, some oxidation.		77.85 / 0.91		2.1
	83	SS3	30		Clayey Silt, brown, moist, some medium sand beddings, mottled, black staining, some brick.		77.08 / 1.68		10.8
2					Silty Sand, brown, moist, mottled, black staining to 2.29mbgs.		76.78 / 1.98		
	25	SS4	11		- wet, some brick, some angular gravel.				4.6
3	83	SS5	10		- dry to moist, medium grained sand, some coarse gravel below 3.05 mbgs. - 15 cm seam of asphalt at 3.20 mbgs.				2.9
4	4	SS6	4		- 76 cm seam brick at 3.96 mbgs.				3.6
	50	SS7	28		Sandy Silt, wet, some asphalt, brick, gravel, mottled.		74.04 / 4.72		4.2
5	50	SS8	7	Metals PAHs (10:30) (5.49-5.79)					5.4
6	62	SS9	16		- dark brown to black staining from 6.10 mbgs to 6.86 mbgs.				2.8
7	17	SS10	6					71.44 / 7.32	2.6
	50	SS11	15		Sand and Gravel, dark grey, wet, medium grained sand, some clay, some silt, some brick.		71.14 / 7.62	71.14 / 7.62	3.8

Flushmount casing secured in concrete
Bentonite Seal
No. 2 silica sand filter pack
50 mm diameter SCH 40 PVC pipe #10-slot well screen

Notes:
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Reviewed by: MS

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RECORD OF MONITORING WELL: MW07A-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 5, 2021	TOP OF PIPE: 78.67 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.76 masl	WATER ELEVATION: 74.80 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831731.6	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627279.8	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9	62	SS12	37		- 15 cm clayey silt seam, dark brown at 8.53 mbgs. - 30 cm seam of silt and gravel at 8.69 mbgs.				1.5
				Metals PAHs (11:05) (9.14-9.45)	Sandy Silt, wet, medium sand, some gravel.		69.62 / 9.14		
	50	SS13	5						4.6
10					Silty Sand, dark grey, wet, some gravel, some brick.		68.85 / 9.91		
	54	SS14	13						3.8
	21	SS15	50+		- 2 cm seam of gravel, trace brick fragments at 10.67 mbgs.		68.07 / 10.69	68.09 / 10.67	
11					**SHALE:** Grey		67.94 / 10.82	67.94 / 10.82	
					Bottom of borehole at 10.82 mbgs				
12									
13									
14									
15									

20 40 60 80

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RECORD OF MONITORING WELL: MW07B-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 6, 2021	TOP OF PIPE: 78.70 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.76 masl	WATER ELEVATION: 74.77 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831731.4	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627280.8	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					ASPHALT:		78.71 / 0.05			
					FILL: Sand, dry to moist, medium grained, some fine gravel, some brick. - 15 cm seam of silty sand, brown, moist, some gravel at 0.30 mbgs.			78.46 / 0.30	Flushmount casing secured in concrete Bentonite Seal	
1					Sandy Silt, brown, moist, mottled, medium sand, some oxidation.		77.85 / 0.91			
					Clayey Silt, brown, moist, some medium sand beddings, mottled, black staining, some brick.		77.08 / 1.68			
2					Silty Sand, brown, moist, mottled, black staining to 2.29mbgs. - wet, some brick, some angular gravel.		76.78 / 1.98			
3					- dry to moist, medium grained sand, some coarse gravel below 3.05 mbgs. - 15 cm seam of asphalt at 3.20 mbgs.					
4					- 76 cm seam brick at 3.96 mbgs.					
					Sandy Silt, wet, some asphalt, brick, gravel, mottled.		74.04 / 4.72			
5										
6					- dark brown to black staining from 6.10 mbgs to 6.86 mbgs.					
7										
					Sand and Gravel, dark grey, wet, medium grained sand, some clay, some silt, some brick.		71.14 / 7.62			

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RECORD OF MONITORING WELL: MW07B-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 6, 2021	TOP OF PIPE: 78.70 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.76 masl	WATER ELEVATION: 74.77 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831731.4	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627280.8	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9					- 15 cm clayey silt seam, dark brown at 8.53 mbgs. - 30 cm seam of silt and gravel at 8.69 mbgs.					
					Sandy Silt, wet, medium sand, some gravel, some gravel.		69.62 / 9.14			
10					Silty sand, dark grey, wet, some gravel, some brick.		68.85 / 9.91			
					- 15 cm seam of gravel, trace brick fragments at 10.67 mbgs.		68.07 / 10.69	68.07 / 10.69		
11					**SHALE:** Grey.					
								66.87 / 11.89	No. 2 silica sand filter pack	
12								66.57 / 12.19	50 mm diameter SCH 40 PVC pipe #10-slot well screen	
13										
							65.04 / 13.72	65.04 / 13.72		
					Lithology inferred from adjacent borehole MW07A-21. 100 mm Air Rotary below 10.69 mbgs.					
14					Bottom of borehole at 13.72 mbgs					
15										

20 40 60 80

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RECORD OF MONITORING WELL: MW08-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 12, 2021	TOP OF PIPE: 77.12 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 77.26 masl	WATER ELEVATION: 74.78 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831780.5	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627299.0	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					ASPHALT:		77.21 / 0.05		
	77	SS1	19		**FILL:** Gravel, light tan, moist, poorly sorted, angular.			76.96 / 0.30 Flushmount casing secured in concrete; Bentonite Seal	0.1
1	83	SS2	50+	Metals PAHs PHCs & BTEX VOCs (09:00) (0.91-1.37)	Sandy Silt, grey, moist, some gravel, mottled, some clay.		76.50 / 0.76		0.6
	100	SS3	15		- dark grey below 1.52 mbgs.				0.7
2									
	62	SS4	50+	Metals PAHs PHCs & BTEX VOCs (10:27) (2.44-2.74)	- some asphalt below 2.29 mbgs.				0.8
3	0	SS5	50+						
					Silty Sand, grey to brown, wet, some gravel, some asphalt, trace brick.		73.45 / 3.81		
4	50	SS6	22						2.9
								No. 2 silica sand filter pack	
								72.69 / 4.57	
	71	SS7	10					50 mm diameter SCH 40 PVC pipe #10-slot well screen	2.4
5					Clayey Silt, brown to grey, wet, some brick, some asphalt, mottled, some sand.		71.93 / 5.33		
	83	SS8	22						2.5
6	50	SS9	10	Metals PAHs PHCs & BTEX VOCs pH (11:09) (6.10-6.40)					2.2
					- some rounded gravel below 6.86 mbgs.				
7	33	SS10	11						2.8
					CLAYEY SILT TILL: Brown, some rounded gravel.		69.64 / 7.62	69.64 / 7.62	
	50	SS11	37	Metals PAHs PHCs & BTEX VOCs			69.34	69.34	2.0

Notes:
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10/26/2022

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Reviewed by: MS

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RECORD OF MONITORING WELL: MW08-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 12, 2021	TOP OF PIPE: 77.12 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 77.26 masl	WATER ELEVATION: 74.78 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831780.5	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627299.0	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
				(11:41) (7.62-7.92)	**SHALE:** Grey.		7.92 / 69.03	7.92 / 69.03	Bentonite Seal	20 40 60 80
					Bottom of borehole at 8.23 mbgs		8.23	8.23		
9										
10										
11										
12										
13										
14										
15										

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: AM
Reviewed by: MS

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MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

RECORD OF MONITORING WELL: MW10-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 4, 2021	TOP OF PIPE: 76.07 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.16 masl	WATER ELEVATION: 74.30 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831752.6	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627517.8	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0	92	SS1	3		**FILL:** Clayey Silt, dark brown, some sand, some gravel, some organics.			75.86 / 0.30	4.1
1	50	SS2	4	Metals PAHs PHCs & BTEX VOCs (14:15) (0.91-1.22)	- grey, moist to wet, low plasticity, trace brick below 0.76 mbgs.				4.7
					Silty Clay, dark grey, wet, trace brick and asphalt.		74.64 / 1.52		
2	33	SS3	18		- 15 cm shale seam at 1.68 mbgs.				5.5
								74.03 / 2.13	
					- some sand lenses, some gravel, some rootlets below 2.29 mbgs.			73.72 / 2.44	
3	71	SS4	1	Metals PAHs PHCs & BTEX VOCs (14:30) (2.59-2.90)					4.3
	17	SS5	3						3.6
4	62	SS6	18		- 15 cm sand seam, dry, medium grained sand, fine gravel at 3.81 mbgs.		72.20 / 3.96		14.7
					Clayey Silt, moist, low plasticity, some fine gravel, trace brick.				
5	33	SS7	5	Metals PAHs PHCs & BTEX VOCs (15:00) (4.57-4.88)	- wet, medium grained sand lenses, trace brick and asphalt below 4.57 mbgs.				26.8
					Silty Clay, dark brown, moist, trace asphalt, mottled.		70.83 / 5.33		
	17	SS8	1		- dark grey, wet, trace sand below 5.54 mbgs.			70.67 / 5.49	10.9
6								70.37 / 5.79	
	58	SS9	3		- moist, some brick and asphalt, some fine gravel below 6.10 mbgs.				9.3
7	71	SS10	5		- dark brown, high plasticity, trace brick and asphalt, trace orange oxidation mottling below 6.86 mbgs.				3.3
	92	SS11	16	Metals PAHs PHCs & BTEX VOCs	- 15 cm clay seam, dark grey, wet, trace gravel at 8.08 mbgs.				2.1

BOREHOLE COMPLETION DETAILS:
- Flushmount casing secured in concrete
- Bentonite Seal
- No. 2 silica sand filter pack
- 50 mm diameter SCH 40 PVC pipe #10-slot well screen
- Bentonite Seal

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
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10/26/2022

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Reviewed by: MS

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RECORD OF MONITORING WELL: MW10-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 4, 2021	TOP OF PIPE: 76.07 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.16 masl	WATER ELEVATION: 74.30 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831752.6	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627517.8	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
				(16:00) (7.62-8.08)			67.95 / 8.21		20 40 60 80
					SHALE: Grey.				
	100	SS12	50+				67.53 / 8.63	67.53 / 8.63	
					Bottom of borehole at 8.63 mbgs				
9									
10									
11									
12									
13									
14									
15									

Notes:
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Reviewed by: MS

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RECORD OF MONITORING WELL: MW10B-21

CLIENT: Infrastructure Ontario	DATE DRILLED: October 19, 2021	TOP OF PIPE: 76.08 masl	WATER LEVEL DATE: November 12, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.17 masl	WATER ELEVATION: 74.04 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831751.8	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627517.7	MECP WELL TAG#: A338337

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					FILL: Clayey Silt, dark brown, some sand, some gravel, some organics.			75.87 / 0.30	Flushmount casing secured in concrete Bentonite Seal	
1					- grey, moist to wet, low plasticity, trace brick below 0.76 mbgs.					
					Silty Clay, dark grey, wet, trace brick and asphalt.		74.65 / 1.52			
2					- 15 cm shale seam at 1.68 mbgs. - some sand lenses, some gravel, some rootlets below 2.29 mbgs.					
3										
4					- 15 cm sand seam, dry, medium grained sand, fine gravel at 3.81 mbgs.					
					Clayey Silt, moist, low plasticity, some fine gravel, trace brick.		72.21 / 3.96			
5					- wet, medium grained sand lenses, trace brick and asphalt below 4.57 mbgs					
					Silty Clay, dark brown, moist, trace asphalt, mottled.		70.84 / 5.33			
6					- dark grey, wet, trace sand below 5.54 mbgs. - moist, some brick and asphalt, some fine gravel below 6.10 mbgs					
7					- dark brown, high plasticity, trace brick and asphalt, trace orange oxidation mottling below 6.86 mbgs - 15 cm clay seam, dark grey, wet, trace gravel at 8.08 mbgs					

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
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Reviewed by: MS

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RECORD OF MONITORING WELL: MW10B-21

CLIENT: Infrastructure Ontario	DATE DRILLED: October 19, 2021	TOP OF PIPE: 76.08 masl	WATER LEVEL DATE: November 12, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.17 masl	WATER ELEVATION: 74.04 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831751.8	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627517.7	MECP WELL TAG#: A338337

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
							67.96 / 8.21	67.96 / 8.21		20 40 60 80
					SHALE: Grey.					
9								67.03 / 9.14	No. 2 silica sand filter pack	
								66.72 / 9.45	50 mm diameter SCH 40 PVC pipe #10-slot well screen	
10										
							65.20 / 10.97	65.20 / 10.97		
11					Lithology inferred from adjacent borehole MW10-21. 100 mm Air Rotary below 8.21 mbgs. Bottom of borehole at 10.97 mbgs					
12										
13										
14										
15										

Notes:
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RECORD OF MONITORING WELL: MW11-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 11, 2021	TOP OF PIPE: 82.21 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 82.27 masl	WATER ELEVATION: 75.65 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831790.4	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627363.7	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
										20 40 60 80
	79	SS1	14		**FILL:** Sandy Silt, dark brown, moist, some gravel, some brick, mottled. - 15 cm sand seam, light tan, moist at 0.15 mbgs.			81.97 / 0.30	Flushmount casing secured in concrete Bentonite Seal	0.1
1	67	SS2	20	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (14:25) (0.91-1.22)	- 30 cm silt seam, dark brown, dry to moist, mottled at 0.91 mbgs.					1.3
					- some grey clay below 1.52 mbgs.					
	58	SS3	3							1.6
2					- dark grey to brown below 2.29 mbgs.					
	42	SS4	2							1.1
3					Clayey Silt, dark brown, some rounded gravel.		79.22 / 3.05			
	100	SS5	8							1.0
4	87	SS6	7							0.7
									No. 2 silica sand filter pack	
				Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (15:05) (4.57-4.88)				77.70 / 4.57		
	87	SS7	36		- 45 cm gravel seam, light tan, moist, poorly sorted, angular at 4.57 mbgs.				50 mm diameter SCH 40 PVC pipe #10-slot well screen	2.1
5					- dry to moist, mottled below 5.03 mbgs.					
					- 15 cm seam asphalt and concrete at 5.33 mbgs.					
		SS8								
6					- 30 cm sandy silt seam, brown, moist, some gravel, some brick, trace oxidation at 6.10 mbgs.					
	58	SS9	8		- dark grey, wet, some asphalt, some sand below 6.40 mbgs.					2.0
7										
	33	SS10	1							2.6
				Metals & Inorg. ABNs PAHs PHCs & BTEX	- moist below 7.62 mbgs.			74.65 / 7.62		
	87	SS11	7					74.35		2.7

Notes:
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Reviewed by: MS

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Jacobs

RECORD OF MONITORING WELL: MW11-21

CLIENT: Infrastructure Ontario | DATE DRILLED: August 11, 2021 | TOP OF PIPE: 82.21 masl | WATER LEVEL DATE: August 17, 2021

LOCATION: 955 Lakeshore Blvd. West | DRILLER: Aardvark Drilling | GROUND ELEVATION: 82.27 masl | WATER ELEVATION: 75.65 masl

PROJECT NUMBER: CE813600 | DRILL RIG: CME 75M | NORTHING: 4831790.4 | BOREHOLE DIAMETER: 210 mm

LOGGED BY: M. Leung | DRILL METHOD: 108 mm HSA | EASTING: 627363.7 | MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
				VOCs (15:41) (7.62-7.92)	- 5 cm crushed brick seam at 7.92 mbgs. - brown with grey clay, some brick below 7.98 mbgs.			7.92	Bentonite Seal	
9	83	SS12	7							2.2
	96	SS13	10	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (16:32) (9.14-9.45)						2.7
10	4	SS14	50+		**SHALE:** Grey.		72.19 / 10.08			2.7
					Bottom of borehole at 10.36 mbgs		71.91 / 10.36	71.91 / 10.36		
11										
12										
13										
14										
15										

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
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Reviewed by: MS

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RECORD OF MONITORING WELL: MW13-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 11, 2021	TOP OF PIPE: 75.79 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 75.95 masl	WATER ELEVATION: 74.77 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831859.6	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627445.7	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0					**ASPHALT:**		75.87 / 0.08		
					FILL: Sand, dark brown, moist, medium, some gravel.			75.65 / 0.30	
	86	SS1	50+	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (09:15) (0.30-0.91)	- light grey, dry to moist, increased gravel content below 0.30 mbgs.				2.5
1	8	SS2			- 60 cm layer of concrete rubble at 0.91 mbgs.				
					Sandy Silt, grey to brown, wet, some brick, some asphalt.		74.43 / 1.52		
	62	SS3	18	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (09:40) (1.68-1.98)	- 15 cm seam brick and wood at 1.83 mbgs.				2.3
2								73.82 / 2.13	
							73.51 / 2.44	73.51 / 2.44	
	50	SS4	35		Clayey Silt, dark grey, wet, some asphalt, brick and wood, mottled, some medium sand.				1.9
3	67	SS5	3		- trace wood fragments, some sand lenses below 3.20 mbgs.				3.7
4	0	SS6	5						
	87	SS7	9	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (10:15) (4.57-5.18)	- trace fine gravel below 4.57 mbgs.				4.3
5								70.46 / 5.49	
	75	SS8	2	Metals & Inorg. ABNs PAHs PHCs & BTEX VOCs (10:24) (5.49-5.79)					3.6
6								69.85 / 6.10	
		SS9	50+				69.70 / 6.25		
					SHALE: Grey.				
		SS10	50+				69.04 / 6.91	69.04 / 6.91	
7					Bottom of borehole at 6.91 mbgs				

Flushmount casing secured in concrete

Bentonite Seal

No. 2 silica sand filter pack

50 mm diameter SCH 40 PVC pipe #10-slot well screen

Bentonite Seal

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
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Prepared by: AM

Reviewed by: MS

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RECORD OF MONITORING WELL: MW14-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 4, 2021	TOP OF PIPE: 77.95 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.02 masl	WATER ELEVATION: 74.72 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831899.8	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627456.0	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0	78	SS1	13		**FILL:** Sand, moist, medium grained, mottled, some silt, some organics, some brick, some fine gravel.			77.72 / 0.30	
1	83	SS2	37		- 30 cm silty sand seam, dark brown, trace gravel, mottled medium sand, some brick at 0.76 mbgs. - some clay, some silt below 1.07 mbgs.				
							76.50 / 1.52		
	62	SS3	3		Clayey Silt, dark brown, some medium sand, some asphalt, some oxidation, some organics, trace brick fragments.				
2								76.04 / 1.98	
								75.73 / 2.29	
	75	SS4	12				75.53 / 2.49		
					Sand, wet, medium grained, some asphalt.				
3					- trace gravel, trace brick and asphalt below 3.05 mbgs.				
	62	SS5	9						0.0
4					- 30 cm sandy silt seam, grey, wet, trace gravel, mottled at 3.81 mbgs.				2.1
	54	SS6	6						
							73.45 / 4.57		
					Silty Clay, dark grey, moist to wet, some gravel.				
5	62	SS7	50+						1.7
	100	SS8	50+				72.66 / 5.36	72.69 / 5.33	
					Refusal on Shale Bedrock at 5.36 mbgs. Bottom of borehole at 5.36 mbgs			72.66 / 5.36	
6									
7									

Flushmount casing secured in concrete

Bentonite Seal

No. 2 silica sand filter pack

50 mm diameter SCH 40 PVC pipe #10-slot well screen

Bentonite Seal

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
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Prepared by: AM

Reviewed by: MS

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RECORD OF MONITORING WELL: MW15-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 3, 2021	TOP OF PIPE: 76.92 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 77.04 masl	WATER ELEVATION: 75.22 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831801.5	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627495.1	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0					**ASPHALT:**		76.89 / 0.15	76.74 / 0.30	20 40 60 80
	89	SS1	5		**FILL:** Silty Sand, brown, moist, low plasticity, some gravel, trace clay.			Flushmount casing secured in concrete Bentonite Seal	0.2
1	62	SS2	7	Metals PAHs PHCs & BTEX VOCs (12:00) (1.07-1.22)	- dark brown, some organics below 0.76 mbgs. - some asphalt, fine gravel, and oxidation below 1.52 mbgs.				0.1
	92	SS3	9		- wet below 1.83 mbgs.				0.3
2								74.91 / 2.13	
					- grey, some coarse gravel, trace fine gravel, trace brick below 2.29 mbgs.			No. 2 silica sand filter pack 74.60 / 2.44 50 mm diameter SCH 40 PVC pipe #10-slot well screen	
	33	SS4	0	Metals PAHs PHCs & BTEX VOCs (12:30) (2.44-2.74)					0.4
3									
	60	SS5	2				73.69 / 3.35		0.9
					Sandy Silt, dark brown, moist to wet.				
4	83	SS6	3	pH Grain Size (15:00) (3.96-4.42)					1.0
					- brown, moist, medium plasticity, trace gravel below 4.57 mbgs.				
	33	SS7	5						0.4
5									
					- grey to brown, some gravel, some brick, grey increasing with depth below 5.33 mbgs.			71.55 / 5.49	
	79	SS8	9						0.8
								71.25 / 5.79	
6								Bentonite Seal	
					Silty Sand, grey to brown, moist to wet, low plasticity, medium grained sand, some gravel, trace clay.		70.94 / 6.10		
	62	SS9	1						88.0
					- brown, wet below 6.86 mbgs.				
7	29	SS10	26						2.7
	67	SS11	50+				69.12		3.8

Notes:
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10/26/2022

Prepared by: AM
Reviewed by: MS

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RECORD OF MONITORING WELL: MW15-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 3, 2021	TOP OF PIPE: 76.92 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 77.04 masl	WATER ELEVATION: 75.22 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831801.5	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627495.1	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
							7.92			20 40 60 80
	62	SS12	50+		Clayey Silt, trace gravel.		68.51 / 8.53			0.5
					SHALE: Grey.		68.35 / 8.69	68.35 / 8.69		
					Bottom of borehole at 8.69 mbgs					
9										
10										
11										
12										
13										
14										
15										

Notes:
1. Information to be used for intrepretation of environmental conditions only

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10/26/2022

Prepared by: AM
Reviewed by: MS

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

Jacobs

RECORD OF MONITORING WELL: MW16-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 9, 2021	TOP OF PIPE: 75.86 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 75.90 masl	WATER ELEVATION: 74.75 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831884.0	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627497.6	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					FILL: Interlocking brick.		75.87 / 0.03			20 40 60 80
					Granular material, crushed limestone.		75.82 / 0.08	75.60 / 0.30	Flushmount casing secured in concrete Bentonite Seal	
					Sandy Silt, with gravel and rocks.					
1					- crushed yellow brick at 1.22 mbgs.					
					Sandy Clayey Silt, with crushed red brick, very wet.		74.38 / 1.52			
2										
					- crushed yellow and red brick layer at 2.74 mbgs.					
3					- some sand, grey at 3.05 mbgs.					
					- black staining, dark grey, wet at 3.51 mbgs.					
4										
					- very dense, dark grey, saturate at 4.57 mbgs.					
5										
6					**SHALE:** Grey.		69.80 / 6.10	69.80 / 6.10		
7										

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: AM
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

Jacobs

RECORD OF MONITORING WELL: MW16-21

CLIENT: Infrastructure Ontario	DATE DRILLED: August 9, 2021	TOP OF PIPE: 75.86 masl	WATER LEVEL DATE: August 17, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 75.90 masl	WATER ELEVATION: 74.75 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831884.0	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: 108 mm HSA	EASTING: 627497.6	MECP WELL TAG#: A323438

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9								66.76 / 9.14	No. 2 silica sand filter pack; 50 mm diameter SCH 40 PVC pipe; #10-slot well screen	20 40 60 80
10										
					Note: Lithology inferred from adjacent borehole (MW29-12). 100 mm Air Rotary below 6.10 mbgs.		65.23 / 10.67	65.23 / 10.67		
11					Bottom of borehole at 10.67 mbgs					
12										
13										
14										
15										

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: AM
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

RECORD OF MONITORING WELL: MW17-21

CLIENT: Infrastructure Ontario	DATE DRILLED: October 14, 2021	TOP OF PIPE: 76.18 masl	WATER LEVEL DATE: November 12, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.29 masl	WATER ELEVATION: 74.80 masl
PROJECT NUMBER: CE813600	DRILL RIG: Geoprobe	NORTHING: 4831755.3	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: Direct Push	EASTING: 627570.2	MECP WELL TAG#: A338337

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
1	67	MC1			**ASPHALT:**		76.14 / 0.15		
					FILL: Sand, brown, moist, some brick.		75.99 / 0.30	75.99 / 0.30	
					Gravel and Sand, light tan, moist.		75.83 / 0.46		
					Silty Sand, brown, moist.				
2	100	MC2			Clayey Silt, brown, moist, some brick, mottled, some sand.		74.16 / 2.13	73.55 / 2.74	
3					- cobbles, some asphalt below 3.05 mbgs.			73.24 / 3.05	
4	20	MC3					71.72 / 4.57		
5	100	MC4			Silty Clay, dark brown to dark grey, wet, some brick, some asphalt, mottled, some gravel, some sand.				
6					- moist to wet below 6.10 mbgs			70.19 / 6.10	
								69.89 / 6.40	
7	67	MC5			- 15 cm brick seam at 7.47 mbgs. - moist below 7.62 mbgs.				

BOREHOLE COMPLETION DETAILS:
- Flushmount casing secured in concrete
- Bentonite Seal
- No. 2 silica sand filter pack
- 50 mm diameter SCH 40 PVC pipe #10-slot well screen
- Bentonite Seal

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB — 20 40 60 80

20.9 ⊕
11.0 ⊕
11.4 ⊕
37.1 ⊕
439.6 ⊕

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: ML
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

Jacobs

RECORD OF MONITORING WELL: MW17-21

CLIENT: Infrastructure Ontario	DATE DRILLED: October 14, 2021	TOP OF PIPE: 76.18 masl	WATER LEVEL DATE: November 12, 2021
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 76.29 masl	WATER ELEVATION: 74.80 masl
PROJECT NUMBER: CE813600	DRILL RIG: Geoprobe	NORTHING: 4831755.3	BOREHOLE DIAMETER: 210 mm
LOGGED BY: M. Leung	DRILL METHOD: Direct Push	EASTING: 627570.2	MECP WELL TAG#: A338337

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
	100	MC6							100.2
							67.45 / 8.84	67.45 / 8.84	
9					Refusal on bedrock at 8.84 mbgs. Bottom of borehole at 8.84 mbgs				
10									
11									
12									
13									
14									
15									

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: ML
Reviewed by: MS

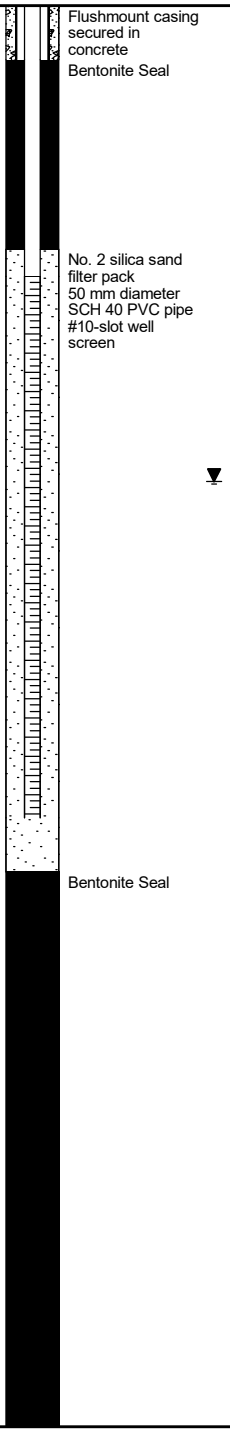
CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

RECORD OF MONITORING WELL: MW22-22

CLIENT: Infrastructure Ontario	DATE DRILLED: June 8, 2022	TOP OF PIPE: 77.92 masl	WATER LEVEL DATE: July 7, 2022
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.07 masl	WATER ELEVATION: 75.39 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831886.9	BOREHOLE DIAMETER: 210 mm
LOGGED BY: C. Ferguson	DRILL METHOD: 108 mm HSA	EASTING: 627408.4	MECP WELL TAG#: A346179

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					ASPHALT:		77.92 / 0.15	77.77 / 0.30	
	75	SS1	18		**FILL:** Sand and Gravel with construction debris, brown to grey, moist, some crushed brick, trace silt				
					Sandy silt, dark grey, moist, some gravel, some construction debris		77.31 / 0.76		
1	71	SS2	15	Metals & Inorg. PHCs & BTEX VOCs PAHs (08:30) (0.91-1.52)	- 46 cm seam of crushed brick and concrete at 1.06 mbgs			76.70 / 1.37	
					Silty Clay, grey, moist, trace gravel		76.39 / 1.68	76.55 / 1.52	
2	67	SS3	5						
	100	SS4	50		- trace construction debris below 2.29 mbgs				
3					Silty Sand, grey to dark grey, wet, some gravel, some construction debris		75.02 / 3.05		
	63	SS5	2	Metals & Inorg. PHCs & BTEX VOCs PAHs (09:30) (3.20-3.81)					
4					- trace costruction debris below 3.96 mbgs				
	25	SS6	4						
					- trace clay, decaying organic odour below 4.57 mbgs			73.50 / 4.57	
								73.19 / 4.88	
5	92	SS7	16						
					- trace rootlets below 5.48 mbgs				
	33	SS8	12						
6					- seams of black sand below 6.10 mbgs				
	25	SS9	5						
					Sandy Silt, grey, wet		71.21 / 6.86		
7	50	SS10	2						
					Sand, grey, wet, fine to medium		70.45 / 7.62		
				Metals & Inorg. PHCs & BTEX VOCs					



ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

0.7 0.3 0.1 0.3 0.1 0.3 0.3 0.9 0.3

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: AK
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

Jacobs

RECORD OF MONITORING WELL: MW22-22

CLIENT: Infrastructure Ontario	DATE DRILLED: June 8, 2022	TOP OF PIPE: 77.92 masl	WATER LEVEL DATE: July 7, 2022
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 78.07 masl	WATER ELEVATION: 75.39 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831886.9	BOREHOLE DIAMETER: 210 mm
LOGGED BY: C. Ferguson	DRILL METHOD: 108 mm HSA	EASTING: 627408.4	MECP WELL TAG#: A346179

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
	100	SS11	50	PAHs (10:30) (7.77-8.38)	**SHALE:** Grey Bottom of borehole at 8.38 mbgs		69.72 8.35 69.69 8.38	69.69 8.38	0.3

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

9 10 11 12 13 14 15

Notes:
1. Information to be used for intrepretation of environmental conditions only

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10/26/2022

Prepared by: AK
Reviewed by: MS

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RECORD OF MONITORING WELL: MW23-22

CLIENT: Infrastructure Ontario	DATE DRILLED: June 10, 2022	TOP OF PIPE: 75.55 masl	WATER LEVEL DATE: July 7, 2022
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 75.73 masl	WATER ELEVATION: 75.10 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 75M	NORTHING: 4831895.5	BOREHOLE DIAMETER: 210 mm
LOGGED BY: C. Ferguson	DRILL METHOD: 108 mm HSA	EASTING: 627374.8	MECP WELL TAG#: A346179

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
					ASPHALT:		75.58 / 0.15		
				Metals & Inorg. PHCs & BTEX VOCs PAHs (11:10) (0.15-0.76)	**FILL:** Gravel, grey, moist Sand and Gravel, brown to tan, wet, coarse		75.55 / 0.18	75.43 / 0.30	
	42	SS1	16						1.6
1	13	SS2	5					74.36 / 1.37	1.7
					5 cm seam of angular gravel at 1.47 mbgs		74.21 / 1.52	74.21 / 1.52	
				Metals & Inorg. PHCs & BTEX VOCs PAHs (11:20) (1.68-2.29)	Sandy Silt, grey, wet, trace construction debris, low plasticity - 8 cm seam of coarse tan sand at 1.82 mbgs				
2	71	SS3	17						0.7
					Sand, grey, wet, fine to medium		73.29 / 2.44		
	17	SS4	1						0.3
3					Sandy Silt. grey, wet		72.79 / 2.94		
					- trace gravel below 3.20 mbgs.				
	8	SS5	1						0.9
4					- coarse gravel below 3.96 mbgs				
	42	SS6	12						0.7
					- moist below 4.42 mbgs.			71.16 / 4.57	
				Metals & Inorg. PHCs & BTEX VOCs PAHs (12:05) (4.72-5.33)	- trace highly weathered shale, trace black staining, trace wood below 4.72 mbgs.			70.85 / 4.88	
5	42	SS7	19						0.6
					- increased shale content below 5.51 mbgs				
	78	SS8	50						0.6
6					Bottom of borehole at 6.10 mbgs		69.63 / 6.10	69.63 / 6.10	
7									

Flushmount casing secured in concrete
Bentonite Seal
No. 2 silica sand filter pack
50 mm diameter SCH 40 PVC pipe
#10-slot well screen
Bentonite Seal

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: AK
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

RECORD OF MONITORING WELL: MW26-22

CLIENT: Infrastructure Ontario	DATE DRILLED: June 20, 2022	TOP OF PIPE: 82.96 masl	WATER LEVEL DATE: July 7, 2022
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 83.17 masl	WATER ELEVATION: 76.14 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 45	NORTHING: 4831852.2	BOREHOLE DIAMETER: 210 mm
LOGGED BY: C. Ferguson	DRILL METHOD: 108 mm HSA	EASTING: 627370.2	MECP WELL TAG#: A346179

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE N Value	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
									20 40 60 80
	54	SS1	26		**FILL:** Sand and Gravel, brown, damp, some organics, some concrete pieces. - grey, trace red brick, trace silt, no organics, no concrete.			82.71 / 0.46	Flushmount casing secured in concrete Bentonite Seal
1	75	SS2	13	Metals PAHs PHCs & BTEX VOCs pH (09:35) (0.91-1.52)	- brown to grey, mottled, some silt, some red brick below 0.91 mbgs.				
2	100	SS3	9		- moist, increasing silt content, trace asphalt below 1.67 mbgs.				
					5 cm seam of crushed concrete at 2.44 mbgs.		80.68 / 2.49		
	67	SS4	8		Sandy silt, grey, moist, trace clay, low plasticity.				0.0
3					- trace construction debris below 3.20 mbgs.				
	75	SS5	7						0.0
4	67	SS6	7	Metals & Inorg. PAHs (10:15) (3.96-4.57)	- 3 cm seam of orange brown crushed concrete at 4.31 mbgs. - trace weathered shale, trace wood pieces below 4.57 mbgs.				0.0
	50	SS7	2						0.0
5									
	75	SS8	46		- 5 cm seam of crushed concrete at 5.48 mbgs. - 33 cm seam of crushed brick at 5.53 mbgs.				0.0
6								77.23 / 5.94 77.07 / 6.10	No. 2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe #10-slot well screen
	75	SS9	9						0.0
					Sand, medium grey, moist.		76.46 / 6.71		
7	67	SS10	4		- medium to coarse sand, wet, some silt, some gravel, some construction debris below 7.01 mbgs.				0.0
	59	SS11	1	Metals PAHs PHCs & BTEX	- trace organic black sand pockets below 7.70 mbgs.				0.3

Notes:
1. Information to be used for intrepretation of environmental conditions only

DRAFT
10/26/2022

Prepared by: AK
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

Jacobs

RECORD OF MONITORING WELL: MW26-22

CLIENT: Infrastructure Ontario	DATE DRILLED: June 20, 2022	TOP OF PIPE: 82.96 masl	WATER LEVEL DATE: July 7, 2022
LOCATION: 955 Lakeshore Blvd. West	DRILLER: Aardvark Drilling	GROUND ELEVATION: 83.17 masl	WATER ELEVATION: 76.14 masl
PROJECT NUMBER: CE813600	DRILL RIG: CME 45	NORTHING: 4831852.2	BOREHOLE DIAMETER: 210 mm
LOGGED BY: C. Ferguson	DRILL METHOD: 108 mm HSA	EASTING: 627370.2	MECP WELL TAG#: A346179

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: N Value	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
				VOCs pH (11:08) (7.77-8.38)						20 40 60 80
9	13	SS12	16		- 18 cm seam of crushed concrete at 8.99 mbgs.		74.00 / 9.17	74.03 / 9.14		0.3
	17	SS13	1		Crushed tan brick, moist below 9.17 mbgs.			73.87 / 9.30	Bentonite Seal	0.2
10	33	SS14	10	Metals PAHs PHCs & BTEX VOCs pH (11:35) (10.06-10.67)	- strong organic odour, some sheen below 10.05 mbgs.					0.4
11	67	SS15	10		- increase in construction debris below 10.67 mbgs.					0.0
	50	SS16	9		Sand and coarse gravel, grey, wet, some silt, trace red brick, trace construction debris.		71.74 / 11.43			0.0
12	33	SS17	15		Coarse Sand, grey, wet, some tan and red brick and construction debris.		70.98 / 12.19			0.0
13					Bottom of borehole at 12.80 mbgs		70.37 / 12.80	70.37 / 12.80		
14										
15										

Notes:
1. Information to be used for intrepretation of environmental conditions only

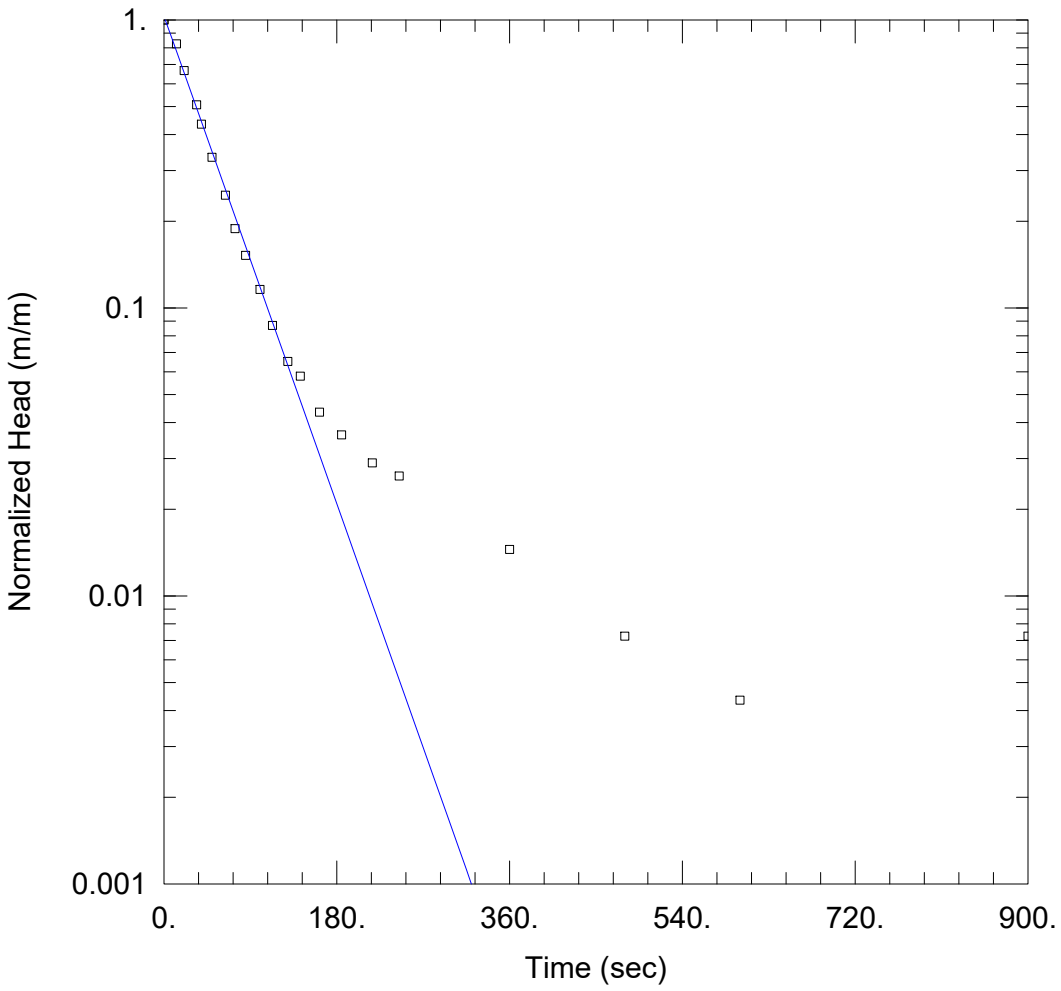
DRAFT
10/26/2022

Prepared by: AK
Reviewed by: MS

CH2M HILL Canada Limited

MASTER_MW_FT2M_SS; MASTER_INPUT_R03.GPJ; MASTER_LIBRARY_R05.GLB; 431079 - WALLACE.GDT; 10/26/22

APPENDIX III
HYDRAULIC ANALYSES



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW04-21.aqt
Date: 11/04/22 Time: 15:31:37

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: Urban Strategies Inc.
Project: CT3643.00
Location: West Island, Ont. Pl., Toronto
Test Well: MW04-21
Test Date: November 2, 2022

AQUIFER DATA

Saturated Thickness: 8.1 m Anisotropy Ratio (Kz/Kr): 0.1

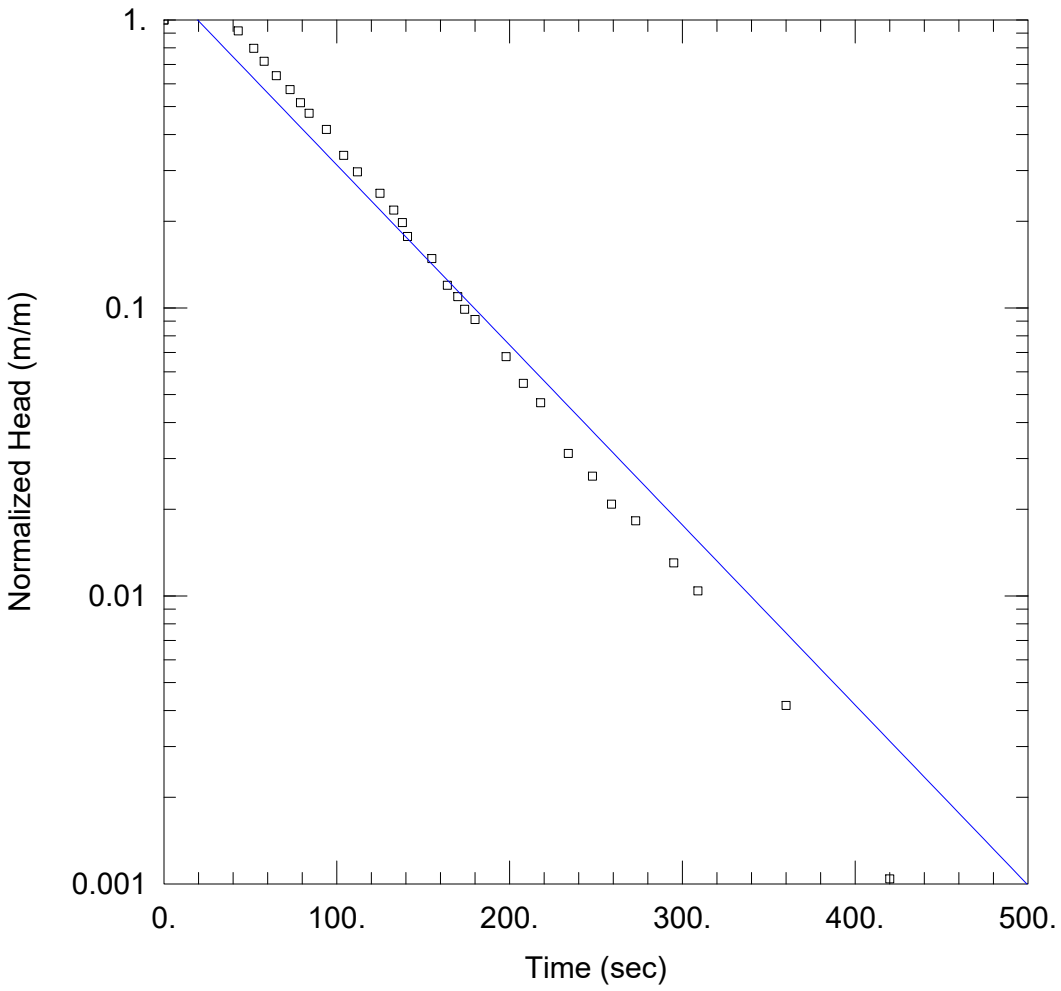
WELL DATA (MW04-21)

Initial Displacement: 0.69 m
Total Well Penetration Depth: 8.06 m
Casing Radius: 0.026 m
Static Water Column Height: 8.1 m
Screen Length: 3.05 m
Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.238E-5 m/sec
y0 = 0.7124 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW07B-21.aqt
Date: 11/04/22 Time: 15:31:54

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: Urban Strategies Inc.
Project: CT3643.00
Location: West Island, Ont. Pl., Toronto
Test Well: MW07B-21
Test Date: November 2, 2022

AQUIFER DATA

Saturated Thickness: 9.1 m Anisotropy Ratio (Kz/Kr): 0.1

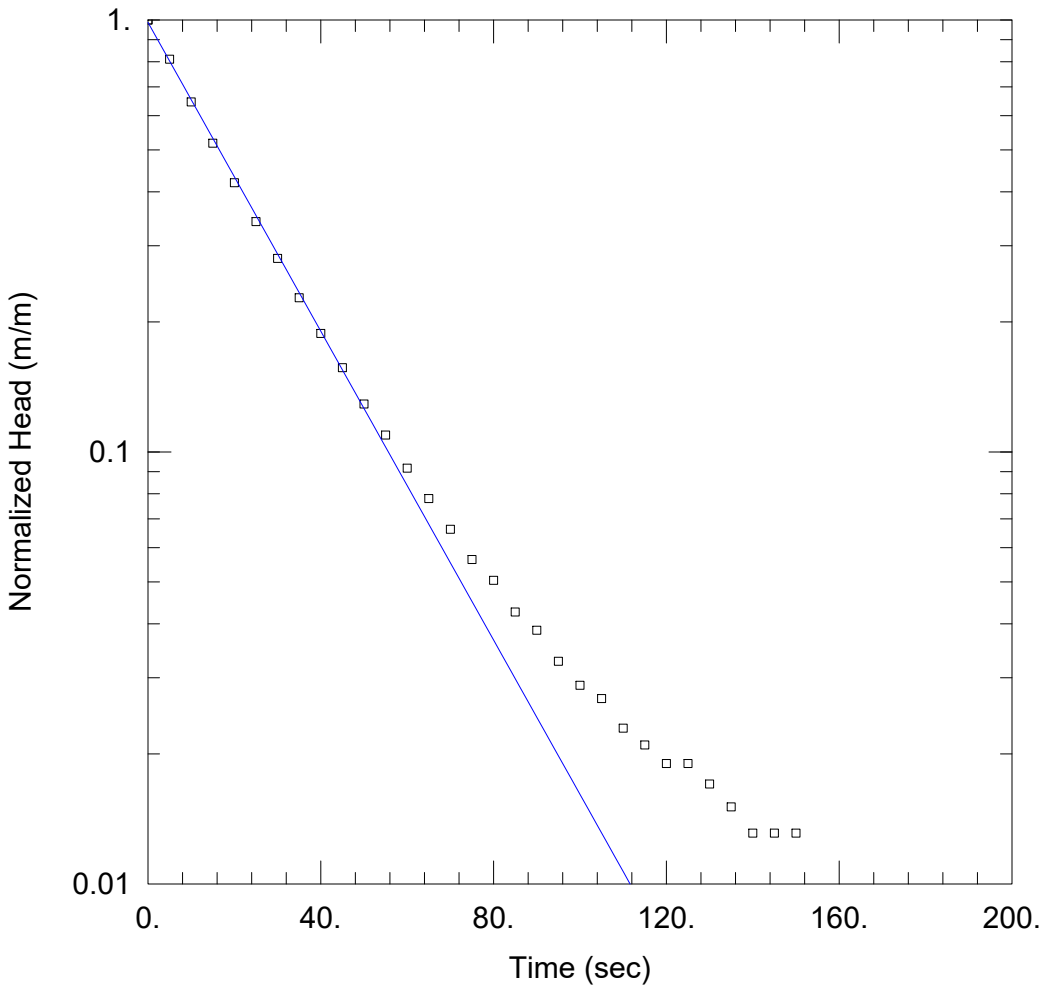
WELL DATA (MW07B-21)

Initial Displacement: 1.92 m
Total Well Penetration Depth: 9.11 m
Casing Radius: 0.026 m
Static Water Column Height: 9.1 m
Screen Length: 1.52 m
Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 1.609E-5 m/sec
y0 = 2.54 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW16-21.aqt
Date: 11/04/22 Time: 15:32:09

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: Urban Strategies Inc.
Project: CT3643.00
Location: West Island, Ont. Pl., Toronto
Test Well: MW16-21
Test Date: November 2, 2022

AQUIFER DATA

Saturated Thickness: 9. m Anisotropy Ratio (Kz/Kr): 0.1

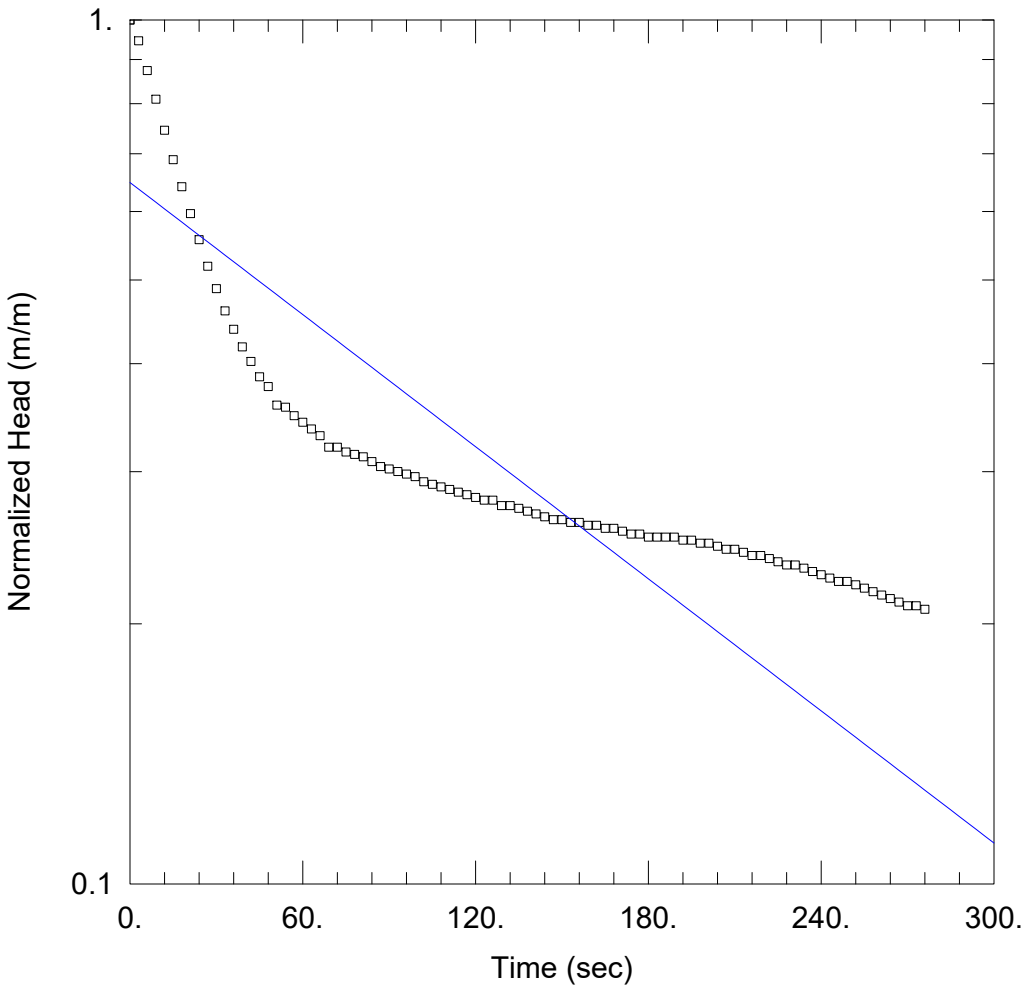
WELL DATA (MW16-21)

Initial Displacement: 1.526 m
Total Well Penetration Depth: 9.01 m
Casing Radius: 0.026 m
Static Water Column Height: 9. m
Screen Length: 1.52 m
Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 4.595E-5 m/sec
y0 = 1.506 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW26-12.aqt
Date: 11/07/22 Time: 14:52:44

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: Urban Strategies Inc.
Project: CT3643.00
Location: West Island, Ont. Pl., Toronto
Test Well: MW26-12
Test Date: November 4, 2022

AQUIFER DATA

Saturated Thickness: 2.8 m Anisotropy Ratio (Kz/Kr): 0.1

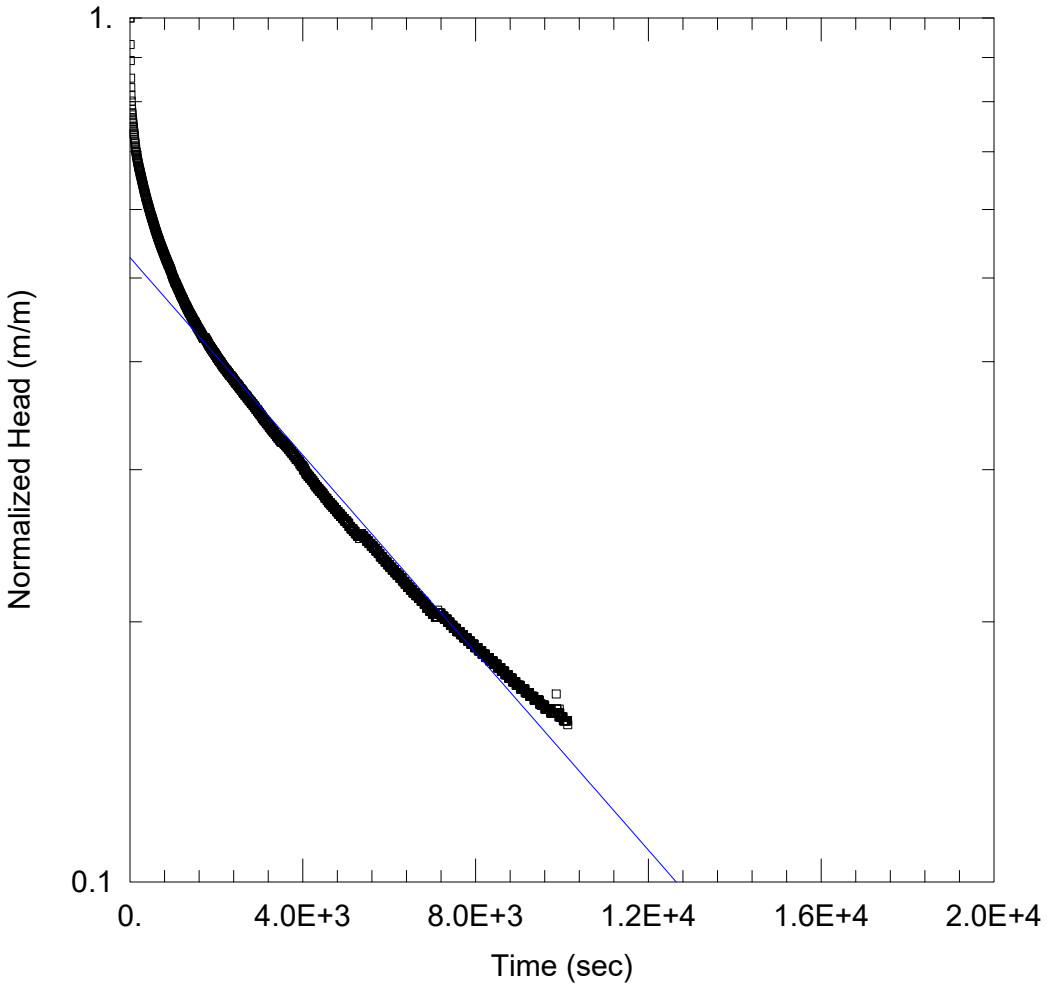
WELL DATA (MW26-12)

Initial Displacement: 1.496 m
Total Well Penetration Depth: 3.05 m
Casing Radius: 0.026 m
Static Water Column Height: 2.8 m
Screen Length: 3.05 m
Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 2.492E-6 m/sec
y0 = 0.97 m



HYDROGEOLOGICAL ASSESSMENT

Data Set: I:\...\MW26-22.aqt
Date: 11/04/22 Time: 15:32:29

PROJECT INFORMATION

Company: Terrapex Environmental Ltd.
Client: Urban Strategies Inc.
Project: CT3643.00
Location: West Island, Ont. Pl., Toronto
Test Well: MW26-22
Test Date: November 2, 2022

AQUIFER DATA

Saturated Thickness: 1.5 m Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA (MW26-22)

Initial Displacement: 1.842 m Static Water Column Height: 1.5 m
Total Well Penetration Depth: 3.05 m Screen Length: 3.05 m
Casing Radius: 0.026 m Well Radius: 0.031 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 1.012E-7 m/sec y0 = 0.9726 m