Hydrogeological Investigation

Proposed Residential Buildings
5 & 15 Tangreen Court
Toronto, ON

Prepared For:

CentreCourt

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Toronto, ON M5V 2H2

Project No.: 23-011-100
Date: March 10, 2023

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23-011-100 **March 10, 2023**

Capreit 2 Limited Partnership
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Toronto, ON

Attn: Mr. Shawni Lo

RE: Hydrogeological Investigation – 5 & 15 Tangreen Court, Toronto, Ontario

DS Consultants Limited (DS) was retained by Capreit 2 Limited Partnership to complete a hydrogeological investigation for the proposed development located at 5 and 15 Tangreen Court in Toronto (Site). The Site is an 23,889 m^2 parcel of land situated approximately 500 meters west of the intersection of Yonge Street and Steeles Avenue. The Site is currently occupied by two (2) 18-storey residential buildings and associated paved parking space. It is understood that the proposed development will consist of constructing seven (7) high-rise buildings (Towers A to G) with podiums connecting some of the buildings. It is also understood that the proposed residential towers may potentially be built with two (2) and up to five (5) levels of underground parking (P2 and up to P5).

The average ground elevation at the site is at about 191.9 meters above sea level (masl). The assumed maximum excavation depth of P2 and P5 considering the footings and elevator shaft would be approximately 9 and 18 meters below ground surface (mbgs) respectively (Elev P2: 182.9 and P5: 173.9 masl.)

This investigation is based on five (5) monitoring wells (BH23-1 to BH23-5) advanced by DS between February 10 and 17, 2023 and seven (7) existing monitoring wells installed by Englobe in 2020 in support of previous geotechnical and hydrogeological investigations at the site. This hydrogeological investigation includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area, an assessment of the hydrogeological constraints, impacts of the proposed development on the local groundwater, and provides an estimation of construction dewatering and permanent drainage requirements during the proposed development phase.

The hydrogeological investigation report has been prepared in general accordance with the Ontario Water Resource Act (OWRA), the Ontario Water Taking Regulation (O.Reg.387/04), and the City of Toronto Sewers By-law (Toronto Municipal Code, Chapter 681, Sewers). If needed, the results of this investigation can be used in support of an application for a Category 3 Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) for construction dewatering from the Ministry of the Environment Conservation and Parks (MECP). The hydrogeological report may also be used to support Site Plan Approvals (SPA) and discharge permitting (short and long term) from the City of Toronto. Based on the results of this investigation, the following conclusions and recommendations are presented:

1. As part of the hydrogeological investigation, DS completed a search of the MECP water well records (WWRs) database. Based on the MECP WWR search, there are one hundred thirty-eight (138) water wells within 500 meters of the site. All wells were noted as monitoring well or unknown except for five

(5) wells recorded as domestic and three (3) wells noted as commercial well. The study area is serviced by municipal water, therefore there are no groundwater users expected within the study area, and therefore no impacts to water supply wells are anticipated.

2. Between February 10 to 17, 2023, DS drilled five (5) boreholes (BH23-1 through BH23-5) and equipped all drilled boreholes with monitoring wells at the site as part of the current geotechnical and hydrogeological investigations. The boreholes were advanced to a depth ranging from 24.9 to 37.2 mbgs. Monitoring wells were screened to depths ranging from 12.2 to 21.3 mbgs.

3. The surficial geology at the site is characterized as till deposits and consist of stone-poor sandy silt to silty sand-textured till on Paleozoic terrain. The overburden geology at the site generally consisted of upper sandy silt till, upper silty clay to clayey silt, lower sandy silt to silty sand (till) and lower silty clay to clayey Silt deposits.

4. Groundwater levels were measured in all available wells on March 3rd, 2023, by DS staff. The groundwater levels ranged from 8.57 to 17.11 mbgs (Elev: 173.32 to 184.53 masl). The flow direction in the study area is inferred to be easterly towards German Mills Creek, a tributary of Don River which ultimately discharges into Lake Ontario.

5. A total of nine (9) Single Well Response Tests (slug tests) were completed by DS on February 27 and 28, 2023, to estimate hydraulic conductivity (k) for the representative geological units in which the wells were screened. Hydraulic conductivity (k) values were calculated using the Hvorslev method using the AquiferTest® Software. The k-values ranged between 2.79×10^{-8} to 9.54×10^{-7} m/s.

6. To assess the suitability for discharge of groundwater to the City of Toronto's Sanitary/Storm Sewers, two (2) unfiltered groundwater sample were collected from monitoring well BH23-2 and BH23-3 on February 28th, 2023. The reported analytical results indicated that no parameters were in exceedance of the Toronto's Storm Sewer Discharge By-Law criteria except Total Suspended Solid (TSS), Manganese, Phosphorus and Zinc for BH23-2 and TSS, Manganese and Biochemical Oxygen Demand (BOD5) for BH23-3. All parameters met the City's Sanitary Sewer Discharge By-Law criteria except TSS for BH23-2. Therefore, water cannot be discharged to the City's storm and sanitary sewers without pre-treatment. Treatment is needed to comply with the water quality limits set in Table 1 for sanitary and combined sewers and Table 2 for storm sewers before any discharge.

7. The total estimated daily dewatering rate of short-term construction dewatering for the proposed development Considering the unsealed excavation method for two and five levels of underground parking (P2 and P5), would be approximately 212,400 L/day (212.4 m^3/day) and 377,200 L/day (377.2 m^3/day), respectively. This estimated conservative value incorporates a safety factor of x2 and a theoretical 10 mm storm event into the open excavation during construction. These calculations are based on the assumption that the entire site will be excavated concurrently, as such, dewatering values have to be further refined when details design and construction sequencing become available.

8. Based on the assumed design, depth to water and estimated k-values, the estimated permanent theoretical flow would be 37,000 L/day (37 m^3/day). However, if a safety factor 2 is included, a conservative permanent flow of 74,000 L/day (74 m^3/day) will be needed to be pumped into the sewer system to manage any unforeseen groundwater issues in the future. The City of Toronto's foundation drainage policy and guidelines effective as of January 1, 2022, should be considered during the design for on-site management of foundation drainage or permanent drainage in future. As mentioned in the policy, on-site management options for foundation drains/permanent drainage may include but are not limited to, waterproofing the foundation, modifying building design to avoid intersection with the maximum anticipated groundwater level, and/or above-ground discharge and infiltration from sump pumps.

9. Since the expected design dewatering rate for the unsealed excavation for proposed construction considering P2 and P5 is between the MECP water taking limit of 50,000 and 400,000 L/day, an EASR application is required to be submitted to the MECP for short-term dewatering prior to construction. Based on current groundwater conditions, permanent groundwater flow or permanent drainage is expected to be more than the water-taking limit of 50,000 L/day. Therefore, a PTTW is required on a permanent basis.

10. Once a groundwater dewatering system is set up at the Site, daily and weekly monitoring should be implemented to assess the groundwater conditions such as water levels, measurement of discharge flow, discharge water quality and any adverse impacts as a result of dewatering.

11. A groundwater level monitoring program has been implemented at the Site on a bi-weekly basis for three (3) months to document the pre-construction groundwater conditions and assess seasonal groundwater fluctuations. To meet the City of Toronto’s requirements, the monitoring program includes all monitoring wells and a total of six (6) water level measurements.

12. There are structures and utilities within the maximum predicted zone of influence (ZOI) of about 77 meters considering the proposed development with P2 and 106 meters when considering an unsealed excavation including P5. Assuming the proposed development to be built with P5, since the construction is anticipated to be constructed within the water bearing silty sand till deposits, an effect of settlement due to dewatering would be expected within the predicted zone of influence.

13. In conformance with Regulation 903 of the Ontario Water Resources Act, the decommissioning of any dewatering system and monitoring wells should be carried out by a licensed contractor under the supervision of a licensed water well technician.

Should you have any questions regarding these findings, please contact the undersigned.

DS Consultants Ltd.

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1.0 INTRODUCTION

DS Consultants Limited (DS) was retained by Capreit 2 Limited Partnership to complete a hydrogeological investigation for the proposed development located at 5 and 15 Tangreen Court in Toronto (Site). The Site is a 23,889 m^2 parcel of land situated approximately 500 meters west of the intersection of Yonge Street and Steeles Avenue. The Site is currently occupied by two (2) 18-storey residential buildings and associated paved parking space. It is understood that the proposed development will consist of constructing seven (7) high-rise buildings (Towers A to G) with podiums connecting some of the buildings. It is also understood that the proposed residential towers may potentially be built with two (2) and up to five (5) levels of underground parking (P2 and up to P5). **Figure 1** presents the site location map that highlights the location of the site and the surrounding area.

The average ground elevation at the site is at about 191.9 meters above sea level (masl). The assumed maximum excavation depth of P2 and P5 considering the footings and elevator shaft would be approximately 9 and 18 meters below ground surface (mbgs) respectively (Elev P2: 182.9 and P5: 173.9 masl.)

1.1 Purpose

The purpose of this Hydrogeological Investigation is to assess the current groundwater conditions at the Site in order to evaluate the following:

- Temporary construction dewatering for the excavations of the proposed building on Site;
- Explore the potential need for a Permit to Take Water (PTTW) or Environmental Activity and Sector Registration (EASR) for the purposes of Construction Dewatering from the MECP;
- Temporary management and discharge of groundwater during short term construction dewatering
- Asses permanent drainage requirements; and
- Assess groundwater quality to identify potential adverse impacts to Toronto Region's sewer system.

1.2 Scope of Work

The scope of work for this investigation included:

- Site visits;
- Desktop review of pertinent geological and hydrogeological resources;
- Review the MECP Water Well Records and water use in the surrounding area;
- Field work drilling program including installation of five (5) monitoring wells;

- Conducting single well response tests (slug tests) to determine hydraulic conductivity values across the site;
- Characterize the stratigraphy and measure the ground water levels across the site;
- Collection and analysis of groundwater samples in order to quantify and characterize any possible contaminants that may impact future discharge applications;
- Estimation of construction dewatering volumes, which is to be used to predict the short-term groundwater control requirements for the construction of the proposed building on site.

2.0 FIELDWORK

Between February 10 to 17, 2023, DS drilled five (5) boreholes (BH23-1 through BH23-5) and equipped all drilled boreholes with monitoring wells at the site as part of the current geotechnical and hydrogeological investigations. The boreholes were advanced to a depth ranging from 24.9 to 37.2 mbgs. Monitoring wells were screened to depths ranging from 12.2 to 21.3 mbgs. All wells were completed with 50 mm diameter PVC pipes with 1.5 and 3.05 m well screens and were installed using flush-mounted protective casings. In order to help better understating of the hydrogeological setting, DS also utilized the existing monitoring wells BH1, BH2, BH3, BH5, BH6, BH8 and BH10 installed by Englobe in 2020. All monitoring wells were developed before any use to allow for groundwater level monitoring, hydraulic conductivity testing, and to assess groundwater quality. A total of nine (9) single well response tests (SWRTs) were completed by performing a rising head test (slug test) to estimate hydraulic conductivity values of soils at the site. Two (2) unfiltered groundwater samples were also collected and analyzed for the parameters listed under the City of Toronto Sewers By-law (Toronto Municipal Code, Chapter 681, Sewers) to assess groundwater quality. The borehole (BH) and monitoring well (MW) location plan is shown in **Figure 3**.

3.0 PHYSICAL SETTING

Available topographic maps, environmental, geotechnical, and hydrogeological reports were used to develop an understanding of the physical setting of the study area. Borehole logs and the MECP WWRs were used to interpret the geological and hydrogeological conditions at the development site.

3.1 Physiography and Drainage

The topography at the Site is relatively flat with a surface elevation of approximately 191.9 metres above sea level (masl). The nearest surface water body to the Site is German Mills Creek a tributary of Don River, located about 2.4 km to the east of the Site, which drains into Don River and ultimately Lake Ontario. Drainage in the study area is generally controlled by streams, artificial channels, and the local topography.

3.2 Geology

The following presents a brief description of regional and development site geology based on the review of available information and development site-specific soil investigations.

3.2.1 Quaternary Geology

According to the Ontario Geological Survey mapping across the region, the site lies within the Bevelled Till Plains physiographic region of southern Ontario and quaternary geology of the Site is partially characterized by glaciolacustrine deposits of silt and clay, minor sand, basin and quiet water and Halton till predominantly silt to silty clay matrix, high in carbonate content and clast poor deposits of Pleistocene. The surficial geology at the site is characterized as till deposits and consist of stone-poor sandy silt to silty sand-textured till on Paleozoic terrain. The surficial geology map is shown in **Figure 2.**

3.2.2 Bedrock Geology

According to the Ontario Geological Survey mapping across the region the bedrock at the site is predominantly comprised of shale, limestone, dolostone, siltstone of the Georgian Bay formation; Blue Mountain formation; Billings formation; Collingwood Member, and Eastview Member. Bedrock was not encountered during the current investigation.

3.2.3 Site Geology

On-site subsurface soil conditions were summarized from the boreholes advanced by DS for the current investigation. Detailed subsurface conditions are presented in **Figure 4,** and the borehole logs are presented in **Appendix A**. The subsurface conditions in the boreholes are summarized in the following paragraphs.

Topsoil: A surficial topsoil layer with a thickness of approximately 200 mm was encountered at all boreholes by DS. It should be noted that the thickness of the topsoil explored at the borehole locations may not be representative for the site and should not be relied on to calculate the amount of topsoil at the site. Shallow hand-dug test-pits should be carried out to further explore the topsoil conditions.

Fill Materials: Fill materials consisting of silty clay and sandy silt with organics were encountered in all boreholes (BH23-1 to BH23-5). Fill material extended to depths ranging from approximately 1.8 to 2.6 mbgs.

Upper Sandy Silt Till Deposit: Upper sandy silt till deposit was encountered below the fill materials in all boreholes and extended to depths ranging from 4.6 to 5.6 mbgs.

Upper Silty Clay to Clayey Silt (Till): An upper silty clay to clayey silt (till) deposit was encountered below the upper sandy silt till deposit in all boreholes and extended to depths ranging from 9.1 to 16.8 mbgs.

Lower Sandy Silt to Silty Sand (Till) Deposit: Lower sandy silt to silty sand (till) deposit was encountered below the upper silty clay to clayey silt (till) deposit in all boreholes and extended to depths ranging from approximately 15.2 to 21.3 mbgs. A silt layer was encountered at a depth of approximately 12.2 to 13.7 mbgs in borehole BH23-3.

Lower Silty Clay to Clayey Silt (Till): A lower silty clay to clayey silt (till) deposit was encountered below the lower sandy silt to silty sand (till) deposit in all boreholes and extended to depths ranging from 24.9 to 37.2 mbgs.

3.3 Hydrogeology

The hydrogeology at the site was evaluated using the on-site monitoring wells installed by DS, Englobe and the MECP WWRs in the study area.

3.3.1 Local Groundwater Use

As part of the hydrogeological investigation, DS completed a search of the MECP water well records (WWRs) database. Based on the MECP WWR search, there are one hundred thirty-eight (138) water wells within 500 meters of the site (**Appendix D**). All wells were noted as monitoring well, or unknown except five (5) wells recorded as domestic and three (3) wells noted as commercial well. **Figure 1** shows the MECP water well location plan. There are no groundwater users expected within the study area, and therefore no impacts to water supply wells are anticipated.

3.3.2 Groundwater Conditions

Groundwater levels were measured in all available wells on March 3rd, 2023, by DS staff. **Table 3-1** presents the groundwater levels in all monitoring wells. The groundwater levels ranged from 8.57 to 17.11 mbgs (Elev: 173.32 to 184.53 masl). The flow direction in the study area is inferred to be easterly towards German Mills Creek, a tributary of Don River which ultimately discharges into Lake Ontario.

Table 3-1: Groundwater Levels in Monitoring Wells

Well ID	Ground Elevation (masl)	Screened Interval (mbgs)	Depth to Water (mbgs)	Groundwater Elevation (masl)
BH1	191.82	15.2-18.3	9.45	182.37
BH2	193	12.2-15.2	11.88	181.12
BH3	192.66	17.1-20.1	16.61	176.05
BH5	193.1	9.1-12.1	8.57	184.53
BH6	191.6	9.1-12.2	11.32	180.28
BH8	191.91	16.8-19.8	Dry	-
BH10	191.57	22.5-23.5	18.25	173.32
BH23-1	191.57	12.2-15.2	Dry	-
BH23-2	191.82	18.3-21.3	17.11	174.71
BH23-3	192.66	15.3-18.3	12.69	179.97
BH23-4	191.91	15.2-18.2	14.9	177.01
BH23-5	191.6	13.7-16.7	15.84	175.76

3.3.3 Hydraulic Conductivity

A total of nine (9) Single Well Response Tests (slug tests) were completed by DS on February 27 and 28, 2023 to estimate hydraulic conductivity (k) for the representative geological units in which the wells were screened. SWRTs were completed by performing a rising head test (slug test) with the use of Waterra® tubing to 'instantaneously' remove water from the well. A data logger was placed at the bottom of the wells to accurately measure the change in the hydraulic head versus time. Hydraulic conductivity (k) values were calculated using the Hvorslev method using the AquiferTest® Software. The semi-log plots for normalized drawdown versus time are provided in **Appendix B.** The k-values ranged between 2.79 x 10^{-8} to 9.54 x 10^{-7} m/s. **Table 3-2** presents the Hydraulic Conductivity (k) values for the representative geological units.

Table 3-2: Summary of Hydraulic Conductivity (k) Test Results

Well ID	Screened Interval (mbgs)	Screened Formation	K-value (m/s)	Geomean value
BH1	15.2-18.3	SANDY SILTY CLAY TILL	6.70 x 10^{-8}	1.24 x 10^{-7}
BH2	12.2-15.2	SANDY CLAYEY SILT TILL/SANDY SILT	2.42 x 10^{-7}	
BH3	17.1-20.1	SANDY SILTY TILL	6.49 x 10^{-8}	
BH5	9.1-12.1	SANDY CLAYEY SILT TILL/SILTY CLAY	9.54 x 10^{-7}	
BH6	9.1-12.2	SILTY CLAY TILL	2.59 x 10^{-8}	
BH10	22.5-23.5	SILTY CLAY TILL	1.19 x 10^{-7}	
BH23-2	18.3-21.3	CLAYEY SILT TILL/SILTY SAND	2.23 x 10^{-7}	
BH23-3	15.3-18.3	SILTY SAND/SANDY SILT TILL	3.75 x 10^{-7}	
BH23-5	13.7-16.7	SILTY SAND/CLAYEY SILT TILL	2.79 x 10^{-8}	

3.3.4 Groundwater Quality

To assess the suitability for discharge of groundwater to the City of Toronto's Sanitary/Storm Sewers, two (2) unfiltered groundwater sample was collected from monitoring well BH23-2 and BH23-3 on February 28th, 2023. The samples were placed in pre-cleaned laboratory supplied vials and/or bottles provided with analytical test group-specific preservatives, as required. Dedicated nitrile gloves were used during sample handling. The groundwater samples were submitted to SGS Laboratories in Mississauga, Ontario. SGS is certified by the Canadian Association of Laboratory Accreditation Inc. (CALA) and the Canadian Standard Association (CSA). The analytical results were compared to the City of Toronto's Table 1 Limits for Sanitary and Combined Sewer Discharge, and Table 2 Limits for Storm Sewer Discharge. The reported analytical results indicated that no parameters were in exceedance of the Toronto's Storm Sewer Discharge By-Law criteria except Total Suspended Solid (TSS), Manganese, Phosphorus and Zinc for BH23-2 and TSS, Manganese and Biochemical Oxygen Demand (BOD5) for BH23-3. All parameters met the City's Sanitary Sewer Discharge By-Law criteria except TSS for BH23-2. Therefore, water cannot be discharged to the City's storm and sanitary sewers without treatment. Treatment is needed to comply with the water quality limits set in Table 1 for sanitary and combined sewers and Table 2 for storm sewers before any discharge. **Table 3-3** presents a summary of the exceeded parameters, and the certificates of analyses are provided in **Appendix C.**

Table 3-3: Parameters in Groundwater Exceeding City of Toronto Sewer Use By-law 100-2016

Parameter	Unit	Toronto Sanitary By-Law Criteria	Toronto Storm By-Law Criteria	BH23-2	BH23-3
Total Suspended Solid (TSS)	mg/L	350	15	**1,000**	187
Manganese	mg/L	5	0.05	1.11	0.154
Phosphorus	mg/L	10	0.4	2.34	0.187
Zinc	mg/L	2	0.04	0.049	0.030
Biochemical Oxygen Demand (BOD5)	mg/L	300	15	< 4↑	42

Bold- Exceeds Sanitary Sewer Use by Law Criteria
Underlined- Exceeds Storm Sewer Use by Law Criteria

4.0 CONSTRUCTION DEWATERING

The proposed residential development will include the construction of seven (7) high-rise building (Towers A to G) with podiums connecting some of the buildings. It is also understood that the proposed towers may potentially be built with two (2) or five (5) levels of underground parking (P2 or P5). The assumed maximum excavation depth of P2 and P5 considering the footings and elevator shaft would be approximately 9 and 18 meters below ground surface (mbgs) respectively (Elev P2: 182.9 and P5: 173.9 masl.). For construction dewatering purposes, the groundwater level should be lowered at least one (1) m below the footings and elevator shaft elevation at about 183.9 masl for P2 and 172.9 masl for P5. The unsealed construction excavation method with excavation dimensions of 200 m long and 80 m wide for considered for the proposed development. Since the proposed underground structure will be below the groundwater table, dewatering will be required during the excavation of overburden material.

Dewatering calculations are based on the assumption that the entire site will be excavated concurrently, as such, dewatering values have to be further refined when details design and construction sequencing become available.

4.1 Estimation of Flow Rate - Unsealed Excavation

This section calculates the estimated dewatering required during the construction of the proposed building based on the geomean k-value, the highest groundwater elevations at the site using the steady-state flow equation for unsealed excavation as follows. The estimated flow rates for the proposed buildings are summarised in Table 4-1.

$$Q_R = K\,x\frac{H^2 - h^2}{0.733}\,x\,Log\,(R_0/r_e)$$

$$r_e = \left(\frac{(a\ x\ b)}{\pi}\right)^{0.5}$$

$$R_0 = (r_e + 3000)(H - h)(k^{0.5})$$

Table: 4-1 Estimation of Flow Rate (Short-term Discharge) - Unsealed Excavation

Parameters	Option 1	Option 2
	P2	P5
K -Hydraulic conductivity(geomean) (m/s)	9.54×10^{-7}	9.54×10^{-7}
H-Distance from water level to the bottom of an aquifer (m)	3	13
h -Depth of water in the well while pumping (m)	1	1
a- length of excavation (m)	200	200
b- Width of excavation (m)	80	80
r_e–equivalent radius, where a and b excavation dimensions (m)	71	71
R_o- Radius of the cone of depression	77	106
Estimated Flow Rate- L/day (without safety factor)	26,200	108,600

4.2 Estimation of Flow Rate- Storm Water Consideration

During construction, additional removal of stormwater from precipitation into the open excavation will be required. The estimated flow rate is based on the excavation dimensions for the entire development and a theoretical 10 mm precipitation event in 24 hours. The total estimated dewatering that might be needed as a result of a 10 mm precipitation event for would be approximately 160,000 L/day (160 m^3/day).

4.3 Total Estimation of Flow Rate (Short-Term/ Temporary Discharge)

Considering the unsealed excavation method, the recommended pumping rate for the proposed development considering two and five levels of underground parking (P2 and P5), would be approximately 212,400 L/day (212.4 m^3/day) and 377,200 L/day (377.2 m^3/day), respectively. These values incorporate a safety factor of x2 and account for stormwater as a result of a 10 mm precipitation event. The recommended flow rates for the proposed buildings are summarised in Table 4-2.

Table 4-2: Total Construction Dewatering (Short-term Discharge) - Unsealed Excavation

U/G	Flow Rate Q- without a safety factor (L/day)	Flow Rate Q- with a safety factor x2 (L/day)	Storm water (@ 10 mm/24 hrs.) (L/day)	Designed Flow Rate Or Total Flow Rate (L/day)
P2	26,200	52,400	160,000	212,400
P5	108,600	217,200	160,000	377,200

It is expected that the initial dewatering rate will be higher to remove groundwater within the overburden formation. The dewatering rates are expected to decrease once the target water level is achieved in the excavation footprint as groundwater will have been removed locally from storage resulting in lower seepage rates into the excavation. The maximum flow calculation is intended to provide a conservative value to account for unforeseeable conditions that may arise during construction.

4.4 Permanent Drainage (Long-term Discharge)

Following the construction of the underground structure, long-term groundwater flow to the underfloor drainage system for the building will be a function of the upward flux and drainage along the foundation wall. Based on the assumed design, depth to water and given k-value, the estimated permanent theoretical flow would expect to be 37,000 L/day (37 m^3/day). However, if a safety factor 2 is included, a conservative permanent flow of **74,000 L/day (74 m^3/day)** will be needed to be pumped into the sewer system to manage any unforeseen groundwater issues in the future. The City of Toronto's foundation drainage policy and guidelines effective as of January 1, 2022, should be considered during the design for on-site management of foundation drainage or permanent drainage in future. As mentioned in the policy, on-site management options for foundation drains/permanent drainage may include but are not limited to, waterproofing the foundation, modifying building design to avoid intersection with the maximum anticipated groundwater level, and/or above-ground discharge and infiltration from sump pumps.

4.5 Permit Requirements

4.5.1 Environmental Activity and Sector Registry (EASR) /Permit to Take Water (PTTW) Application

An EASR is required to be submitted to the MECP if the taking of groundwater and stormwater for a temporary construction project is between 50,000 L/day and 400,000 L/day. The EASR application is an online registry and should be submitted to the MECP before any construction dewatering. A PTTW is only required to be submitted to the MECP if the taking of groundwater and stormwater for a temporary construction project is more than 400,000 L/day.

Since the expected design dewatering rate for the unsealed excavation for the proposed development is between the MECP water taking limit of 50,000 and 400,000 L/day, an EASR application is required to be submitted to the MECP for short-term dewatering prior to construction. Based on current groundwater conditions, permanent groundwater flow or permanent drainage is expected to be more than the water-taking limit of 50,000 L/day. Therefore, a PTTW is required on a permanent basis.

4.5.2 Discharge Permits (Construction Dewatering)

A discharge permit will be required from the City of Toronto if private water is to be sent to the sewer system for construction dewatering and permanent drainage.

5.0 POTENTIAL IMPACTS

The following are the predicted potential impacts due to construction dewatering:

5.1 Local Groundwater Use

The area is fully serviced by municipal water supply. Since it is not expected to have any use of groundwater as a source of drinking water within a 500 meters radius from the Site, it is not anticipated

that there will be short-term or long-term impacts on private water wells occurring from the proposed dewatering activities.

5.2 Point of Discharge and Groundwater Quality

The reported analytical results indicated that no parameters were in exceedance of the Toronto's Storm Sewer Discharge By-Law criteria except Total Suspended Solid (TSS), Manganese, Phosphorus, Biochemical Oxygen Demand (BOD5) and Zinc. All parameters met the City's Sanitary Sewer Discharge By-Law criteria except for TSS. Therefore, water cannot be discharged to the City's storm and sanitary sewers without treatment. Treatment is needed to comply with the water quality limits set in Table 1 for sanitary and combined sewers and Table 2 for storm sewers before any discharge. Treatment options include but are not limited to settlement and filtration of sediments.

5.3 Settlement Due to Dewatering Activities

There are structures and utilities within the maximum predicted zone of influence (ZOI) of about 77 meters considering the proposed development with P2 and 106 meters when considering an unsealed excavation including P5. Assuming the proposed development to be built with P5, since the construction is anticipated to be constructed within the water bearing silty sand till deposits, an effect of settlement due to dewatering would be expected within the predicted zone of influence. DS recommends consulting geotechnical consultants for settlement monitoring requirements to access potential settlement due to any dewatering activities at the site during construction.

5.4 Well Decommissioning

Following the completion of construction activities, all dewatering wells, well points, eductors and monitoring wells installed at various stages of this project must be decommissioned. The installation and eventual decommissioning of the wells and the dewatering system must be carried out by a licenced water well contractor in accordance with Regulation 903 of the Ontario Water Resources Act.

6.0 MONITORING AND MITIGATION

Based on the findings of this hydrogeological assessment and associated potential impacts due to development, the following monitoring and mitigation program is provided:

- A groundwater level monitoring program has been implemented at the Site on a bi-weekly basis for three (3) months to document the pre-construction groundwater conditions and assess seasonal groundwater fluctuations. The meet the City of Toronto's requirements, the monitoring program includes all monitoring wells and a total of six (6) water level measurements.

- Baseline groundwater quality has been assessed and established before construction. However, groundwater quality can change based on several factors (land-use change, spills, etc.) and should be monitored during construction dewatering and after construction to ensure that water quality meets the guideline or regulations associated with any permits from the MECP and the City of Toronto.

- Once a groundwater dewatering system is set up at the Site, daily and weekly monitoring should be implemented to assess the groundwater conditions such as water levels, measurement of discharge flow, discharge water quality and any adverse impacts as a result of dewatering include settlement.

- Based on the dewatering assessment, an EASR application is required for short-term dewatering and a PTTW is required on a permanent basis. Additional monitoring may be required by the MECP to be implemented during the design stage.

- A discharge permit is required to be submitted to the city for short-term dewatering if private water is sent to the sewer system.

- Following the completion of construction activities, all dewatering wells, well points, eductors and monitoring wells installed at various stages of this project must be decommissioned. The installation and eventual decommissioning of the wells and the dewatering system must be carried out by a licensed water well contractor in accordance with Regulation 903 of the Ontario Water Resources Act.

Should you have any questions regarding these findings, please contact the undersigned.

DS Consultants Ltd.

Prepared By:

Meysam Jafari, M.Sc., P.Geo.
Project Manager

Reviewed By:

Martin Gedeon, M.Sc., P.Geo.
Senior Hydrogeologist

7.0 CONSULTANT QUALIFICATIONS

Martin Gedeon, M.Sc., P.Geo., is a Professional Geoscientist (P.Geo.) with over 26 years of experience as an environmental/hydrogeological consultant in the areas of groundwater and soil monitoring, environmental site assessments, environmental due diligence, and remediation. Martin has significant experience in physical and contaminant hydrogeology across Canada and overseas and has provided hydrogeological/environmental technical support on various projects. Martin has prepared hundreds of hydrogeological reports in support of permit applications for a private sector development application, municipal dewatering operations, and provincial infrastructure projects across the province.

Meysam Jafari, M.Sc., P.Geo., is a Professional Geoscientist (P.Geo.) with DS Consultants Ltd. Meysam holds two master's degrees in Engineering Geology and Geology (Soil & Groundwater) and has several years of experience working in the geoscience industry. Meysam has experience with conducting Phase One and Phase Two Environmental Site Assessments, hydrogeological and geotechnical investigations in the Greater Toronto Area (GTA), and has been involved with project coordination, field assessments, data interpretation and reporting.

8.0 REFERENCES

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Chapman, L.J., and D.F. Putnam; The Physiography of Southern Ontario, Third Edition, Ontario Geological Survey Special Volume 2; 1984, & 2007.

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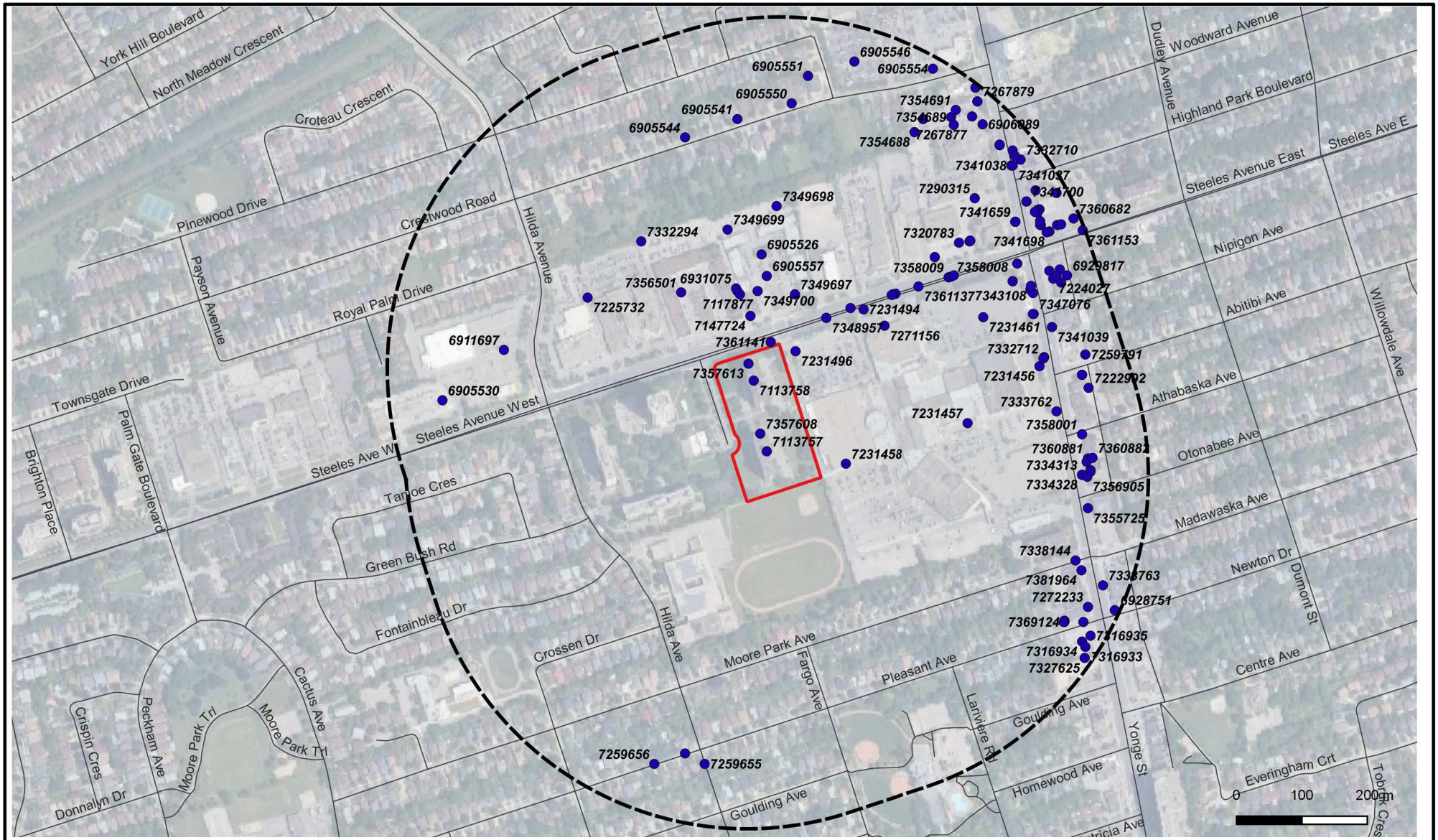
Pat M. Cashman and Martin Preene; Groundwater Lowering in Construction- Second Edition, CRC Press.

Figures

J:\-GIS\2023 PROJECTS\23-011-100 - 5 and 15 Tangreen Court, Toronto, ON\1-QGIS\HydroG\Figure 1 – Site Location and MECP Well Records.qgs Mar-05 14:27



Legend

- Property Boundary
- 500m Buffer
- Registered Water Well (MECP WWR)

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5 and 15 Tangreen Court, Toronto, ON

Title: **SITE LOCATION AND MECP WELL RECORDS**

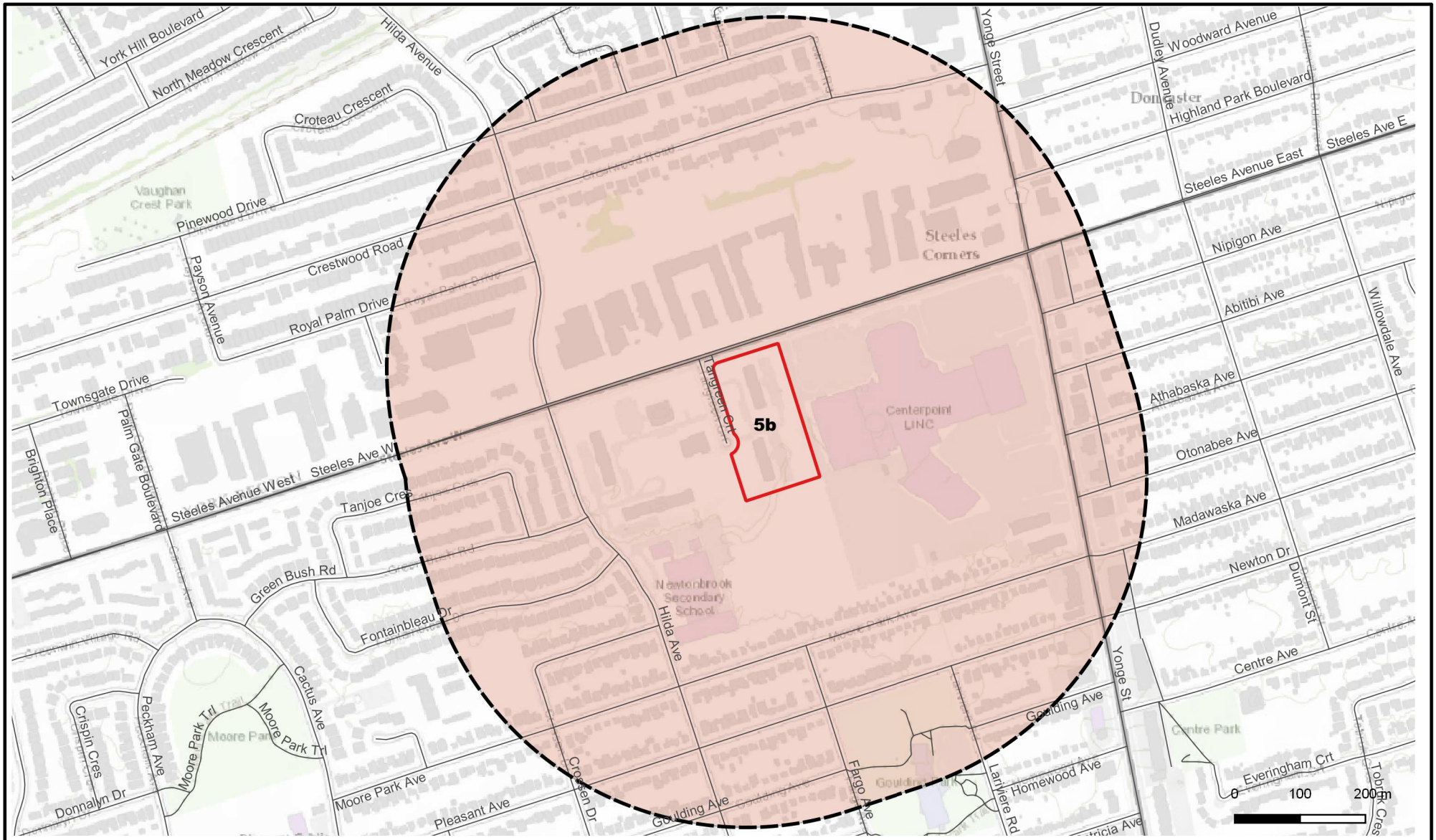
N

Client: CARPREIT 2 LIMITED PARTNERSHIP

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	March 2023
Rev: 0	Scale: As Shown	Project No.: 23-011-100	Figure No.: 1

Image/Map Source: *Google Satellite Image*

J:\-GIS\2023 PROJECTS\23-011-100 - 5 and 15 Tangreen Court, Toronto, ON\1-QGIS\HydroG\Figure 2 – Surficial Geology Map.qgs Mar-05 14:33



Legend

- Property Boundary
- 500m Buffer
- 5b - Till

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Project: HYDROGEOLOGICAL INVESTIGATION
5 and 15 Tangreen Court, Toronto, ON

Title: **SURFICIAL GEOLOGY MAP**

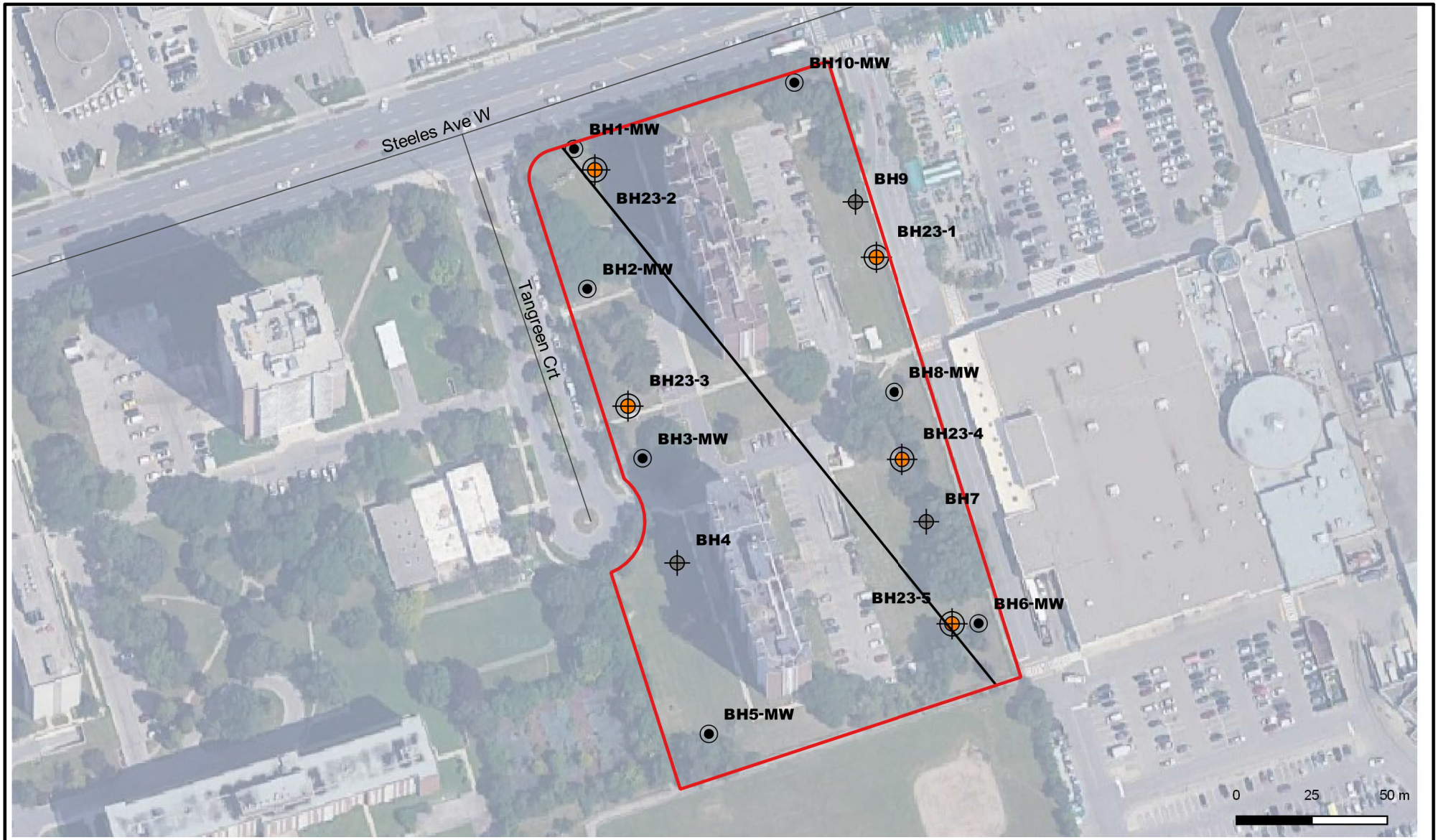
N

Client: CARPREIT 2 LIMITED PARTNERSHIP

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	March 2023
Rev: 0	Scale: As Shown	Project No.: 23-011-100	Figure No.: 2

Image/Map Source: *Esri Topo Map &https://www.mndm.gov.on.ca/*

J:\-GIS\2023 PROJECTS\23-011-100 - 5 and 15 Tangreen Court, Toronto, ON\1-QGIS\HydroG\Figure 3 – Borehole and Monitoring Well Locations.qgs Mar-05 14:40



Legend

- Property Boundary
- Monitoring Well-DS
- Monitoring Well - Englobe
- Borehole - Englobe

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Telephone: (905) 264-9393
www.dsconsultants.ca

Client: CARPREIT 2 LIMITED PARTNERSHIP

Project: HYDROGEOLOGICAL INVESTIGATION
5 and 15 Tangreen Court, Toronto, ON

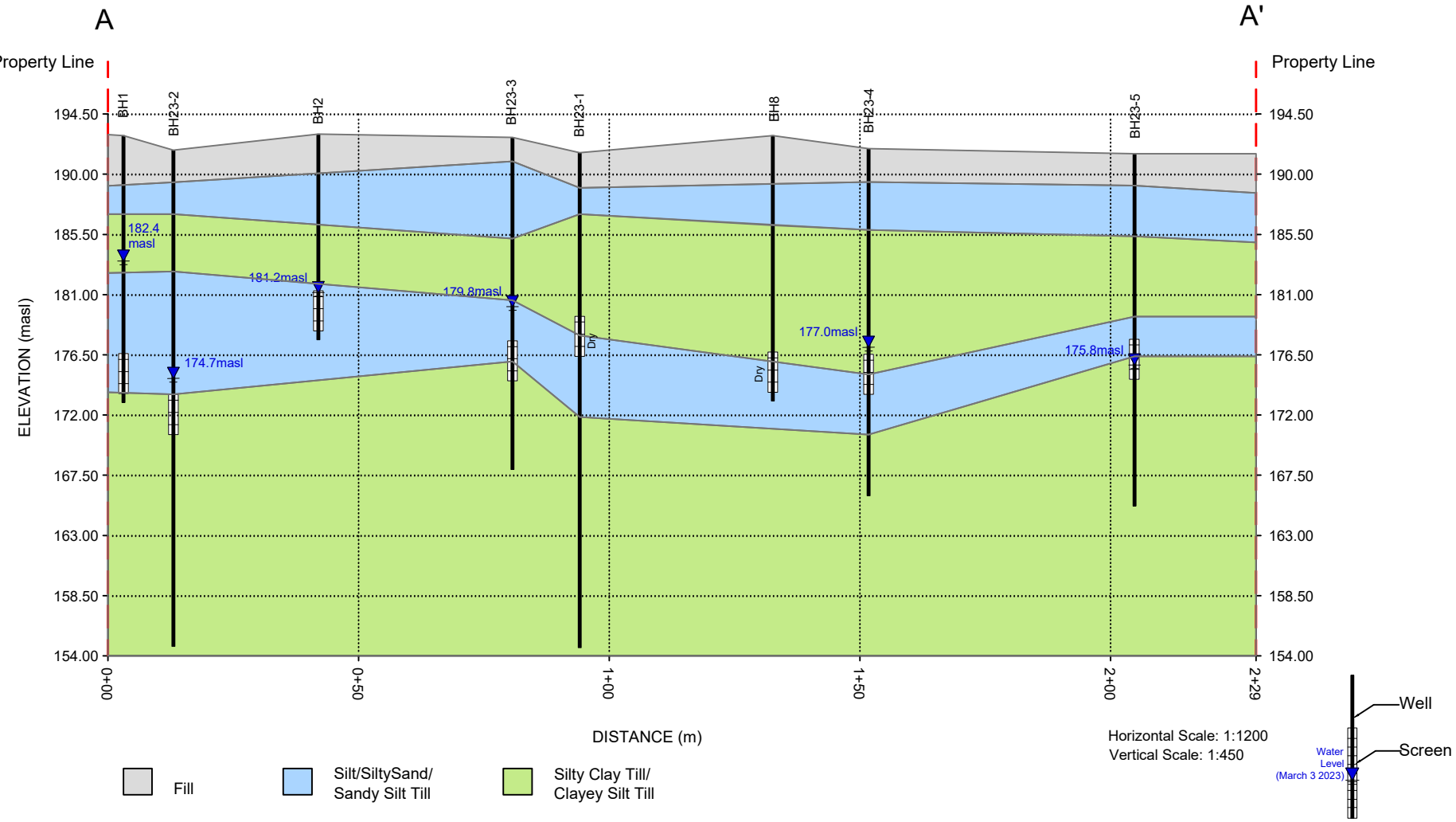
Title: **BOREHOLE AND MONITORING WELL LOCATIONS**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	March 2023
Rev: 0	Scale: As Shown	Project No.: 23-011-100	Figure No.: 3

Image/Map Source: *Google Satellite Image*

Path:j:\-gis\2023 projects\23-011-100 - 5 and 15 tangreen court, toronto, on\7-misc\cad\geological cross section 23-011.dwg



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Project: HYDROGEOLOGICAL INVESTIGATION
5 and 15 Tangreen Court, Toronto, ON

Title: **GEOLOGICAL CROSS SECTION A-A'**

Client:	Size:	Approved By:	Drawn By:	Date:
CARPREIT 2 LIMITED PARTNERSHIP	8.5 x 11	M.J	S.Y	March 2023
	Rev.	Scale: As Shown	Project No: 23-011-100	Figure No. 4

Appendices

Appendix A: Borehole Logs

LOG OF BOREHOLE BH23-1

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850447.11 E 626731.91

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-15-2023

REF. NO.: 23-011-100
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
191.6						
191.4 0.0	**TOPSOIL:** 200mm					
191.4 0.2	**FILL:** silty clay, trace rootlets, trace organics, trace gravel, brown, moist, firm to stiff	1	SS	11	191	
1		2	SS	8		
2		3	SS	5	190	
189.0		4	SS	7	189	
2.6	**SANDY SILT TILL:** trace to some clay, trace gravel, oxidized fissures, brown, moist, compact	5	SS	23	188	Switched to Mud Rotary at 3.1m
3						
4						
187.0					187	
4.6	**SILTY CLAY TILL:** sandy, trace gravel, brown, moist, very stiff to hard	6	SS	29		
5					186	
6	grey below 6.1m	7	SS	22	185	2 32 43 23
7						
		8	SS	18	184	
8						
9	trace to some gravel at 9.1m	9	SS	50/ 150mm	183	
10					182	
11	brown silty sand pockets at 10.7m	10	SS	50/ 130mm	181	
12		11	SS	50/ 130mm	180	
13					179	
177.9						
13.7	**SILTY SAND:** trace clay, greyish brown, wet, very dense	12	SS	50/ 130mm	178	0 66 30 4
14						
15		13	SS	50/ 130mm	177	
16					176	
174.8					175	
16.8	**SANDY SILT TILL:** clayey, trace gravel, grey, moist, very dense	14	SS	50/ 75mm		
17					174	
18						
173.3					173	
18.3	**SANDY SILT:** trace to some clay, trace gravel, grey, wet, very dense	15	SS	63		
19					172	
171.8						
20						

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH23-1

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850447.11 E 626731.91

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-15-2023

REF. NO.: 23-011-100
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
19.8	**SILTY CLAY TILL:** some sand, trace gravel, sand seams, grey, moist, hard(Continued)		16	SS	50/130mm		171					
21 170.3												
21.3	**SILTY CLAY:** sandy, trace gravel, grey, moist, hard		17	SS	50/130mm		170					
22												
			18	SS	50/130mm		169					
23												
24 167.2							168					
24.4	**CLAYEY SILT TO SILTY CLAY:** interbedded with silty sand, grey, moist, hard		19	SS	50/100mm		167					
25												
26							166					
27							165					
			20	SS	50/100mm		164					
28												
29							163					
30							162					
			21	SS	50/100mm		161					0 0 65 35
31												
32							160					
33							159					
	grey silt partings, very stiff to hard below 33.5m		22	SS	29		158					
34												
35							157					
36							156					
37 154.5			23	SS	50/75mm		155					
37.1	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Mar. 3, 2023 dry											

DS SOIL LOG-2021-FINAL 23-011-100 GEO COPY.GPJ DS.GDT 23-3-7

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-2

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850476.09 E 626638.53

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-13-2023

REF. NO.: 23-011-100
ENCL NO.: 3

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
191.8 / 0.0	**TOPSOIL:** 200mm				
191.6 / 0.2	**FILL:** silty clay, trace organics, dark brown to brown, moist, firm to stiff	1	SS	7	
		2	SS	12	
189.4 / 2.4	**SANDY SILT TILL:** some clay, trace gravel, brown, moist, compact to dense	3	SS	8	
		4	SS	20	Switched to Mud Rotary at 3.1m
		5	SS	30	6 37 43 14
187.0 / 4.8	**CLAYEY SILT TO SILTY CLAY TILL:** some sand to sandy, trace gravel, brown, moist, stiff to hard	6	SS	35	
	grey below 6.1m	7	SS	10	
		8	SS	16	
182.7 / 9.1	**SANDY SILT TILL:** trace to some clay, trace gravel, grey, moist, dense to very dense	9	SS	50/130mm	
		10	SS	74	
		11	SS	50/120mm	
	clayey at 13.7m	12	SS	49	
		13	SS	40	
		14	SS	44	W. L. 174.7 m Mar 03, 2023
173.5 / 18.3	**CLAYEY SILT TILL:** sandy, trace gravel, grey, moist, hard	15	SS	34	3 36 44 17
172.0 / 20					

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE
PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)
POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH23-2

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850476.09 E 626638.53

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-13-2023

REF. NO.: 23-011-100
ENCL NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
19.8	**SILTY SAND:** trace to some clay, trace gravel, grey, wet, very dense(Continued)	16	SS	67		
170.5						171
21.3	**SILTY CLAY TO CLAYEY SILT:** trace sand, grey, moist, hard	17	SS	50/ 130mm		170
	grey silt partings at 22.9m	18	SS	50/ 120mm		169
	very moist at 24.4m	19	SS	50/ 120mm		168
						167
						166
						165
		20	SS	50/ 130mm		164
						163
						162
		21	SS	50/ 150mm		161
						160
						159
		22	SS	50/ 130mm		158
						157
						156
	sand seams at 36.6m	23	SS	50		155
154.6						
37.2	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Mar. 3, 2023 17.11					

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)
SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)
REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-3

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850397.74 E 626649.53

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-10-2023

REF. NO.: 23-011-100
ENCL NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
192.7								
192.5 0.2	**TOPSOIL:** 200mm							
	FILL: silty clay, sandy, trace organics, brown, moist, firm to stiff		1	SS	7		192	
			2	SS	12			
190.9								
1.8	**SANDY SILT TILL:** trace clay, trace gravel, brown, moist, compact to very dense		3	SS	19		191	
			4	SS	15		190	
			5	SS	21		189	Switched to Mud Rotary at 3.1m
			6	SS	50		188	
	grey below 6.1m		7	SS	15		187	
185.1								
7.6	**SILTY CLAY TO CLAYEY SILT TILL:** sandy, trace gravel, grey, moist, stiff to very stiff		8	SS	15		186	
			9	SS	17		185	
			10	SS	10		184	
180.5							183	
12.2	**SILT:** some clay, some sand, trace gravel, grey, wet, loose		11	SS	6	▽	182	1 11 78 10
179.0						W. L. 180.0 m Mar 03, 2023	181	
13.7	**SILTY SAND:** trace clay, grey, moist to wet, very dense		12	SS	50/ 150mm		180	
			13	SS	50/ 130mm		179	
175.9							178	
16.8	**CLAYEY SILT TILL:** sandy, trace gravel, grey, moist, hard		14	SS	50/ 130mm		177	4 35 44 17
			15	SS	50/ 150mm		176	
							175	
							174	
							173	

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100
SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

LOG OF BOREHOLE BH23-3

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850397.74 E 626649.53

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-10-2023

REF. NO.: 23-011-100
ENCL NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS "N" 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
21 171.4	**CLAYEY SILT TILL:** sandy, trace gravel, grey, moist, hard(Continued)		16	SS	57		172					
21.3	**CLAYEY SILT:** trace sand, silt seams, grey, moist, hard		17	SS	50/ 130mm		171					
23			18	SS	51		170					
24							169					
167.8			19	SS	50/ 130mm		168					
24.9	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Mar. 3, 2023 12.69											

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

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LOG OF BOREHOLE BH23-4

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850380.08 E 626740.55

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-16-2023

REF. NO.: 23-011-100
ENCL NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
191.9						
191.8	**TOPSOIL:** 200mm					
0.2	**FILL:** silty clay, some organics, trace gravel, dark brown to brown, moist, stiff to very stiff	1	SS	9	191	
1		2	SS	17		
190.4						
1.5	**FILL:** sandy silt, trace gravel, brown, moist, compact	3	SS	12	190	
2						
189.4						
2.5	**SANDY SILT TILL:** some clay, trace gravel, brown, moist, compact to very dense	4	SS	23	189	Switched to Mud Rotary at 3.1m
3		5	SS	58		2 38 45 15
4					188	
5		6	SS	44	187	
6						
185.8					186	
6.1	**SILTY CLAY TILL:** some sand, trace gravel, grey, moist, firm to stiff	7	SS	10		
7					185	
8		8	SS	8	184	
9					183	
		9	SS	7		
10					182	
181.2						
10.7	**CLAYEY SILT:** trace sand, grey, moist, very stiff	10	SS	17	181	
11						
12					180	
179.7						
12.2	**CLAYEY SILT TILL:** sandy, trace gravel, grey, moist, hard	11	SS	50/100mm	179	
13						
14		12	SS	50/130mm	178	
15					177	W. L. 177.0 m Mar 03, 2023
		13	SS	50/50mm		
16					176	
175.1						
16.8	**SILTY SAND TILL:** some clay, trace gravel, grey, moist, very dense	14	SS	50/100mm	175	4 49 37 10
17						
18					174	
		15	SS	50/100mm		
19					173	
20						

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)
NATURAL UNIT WT (kN/m³)

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ε=3% Strain at Failure

LOG OF BOREHOLE BH23-4

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850380.08 E 626740.55

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-16-2023

REF. NO.: 23-011-100
ENCL NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
21 170.6	**SILTY SAND TILL:** some clay, trace gravel, grey, moist, very dense(Continued)		16	SS	50/ 130mm		171
21.3	**SILTY CLAY:** trace sand, grey, moist, hard		17	SS	61		170
22 169.0							
23 22.9	**SILTY CLAY TILL:** sandy, trace gravel, grey, moist, hard		18	SS	50/ 130mm		169
24							168
			19	SS	50/ 130mm		
25							167
26 165.9							166
26.0	**END OF BOREHOLE:**		20	SS	50/ 130mm		

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date: Water level(mbgl):
Mar. 3, 2023 14.9

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

SHEAR STRENGTH (kPa)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE
20 40 60 80 100

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%)
10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH23-5

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850325.55 E 626757.23

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-17-2023

REF. NO.: 23-011-100
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
191.6					
191.4 0.2	**TOPSOIL:** 200mm **FILL:** silty clay, trace organics, dark brown to brown, moist, stiff	1	SS	8	191
1		2	SS	9	
2		3	SS	10	190
189.2 2.4	**SANDY SILT TILL:** some clay, trace gravel, brown, moist, compact to dense trace oxidation at 3.1m	4	SS	14	189
3		5	SS	17	188
4					
5		6	SS	35	187
6 185.4					186
6.2	**SILTY CLAY TILL:** sandy, trace gravel, grey, moist, firm to very stiff	7	SS	15	185
7					
8		8	SS	13	184
9					183
		9	SS	10	182
10					
11		10	SS	5	181
12 179.4					180
12.2	**SILTY SAND:** trace clay, grey, wet, dense to very dense	11	SS	30	179
13					
14		12	SS	50/ 130mm	178
15 176.4					177
15.2	**CLAYEY SILT TILL:** sandy, trace gravel, grey, moist, hard	13	SS	54	176
16					
		14	SS	50/ 150mm	175
17					
18					174
		15	SS	50/ 150mm	173
19					
20					172

GROUND WATER CONDITIONS: W. L. 175.8 m, Mar 03, 2023

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE

PLASTIC LIMIT w_P | NATURAL MOISTURE CONTENT w | LIQUID LIMIT w_L
WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

	GR	SA	SI	CL
15	2	31	48	19

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG-2021-FINAL 23-011-100 GEO COPY.GPJ DS.GDT 23-3-7

LOG OF BOREHOLE BH23-5

PROJECT: Geotechnical Investigation
CLIENT: CARPEIT 2 Limited Partnership
PROJECT LOCATION: 5 and 15 Tangreen Court, Toronto, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4850325.55 E 626757.23

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Feb-17-2023

REF. NO.: 23-011-100
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE 20 40 60 80 100	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
	CLAYEY SILT TILL: sandy, trace gravel, grey, moist, hard(Continued)		16	SS	50/130mm		171					
21												
			17	SS	50/100mm		170					
22												
							169					
23			18	SS	50/130mm							
							168					
24												
167.2												
24.4	**SILTY CLAY:** trace sand, silt seams, grey, moist, hard		19	SS	50/130mm		167					
25												
							166					
26												
165.2			20	SS	74							0 2 45 53
26.4	**END OF BOREHOLE:**											

Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
Mar. 3, 2023	15.84

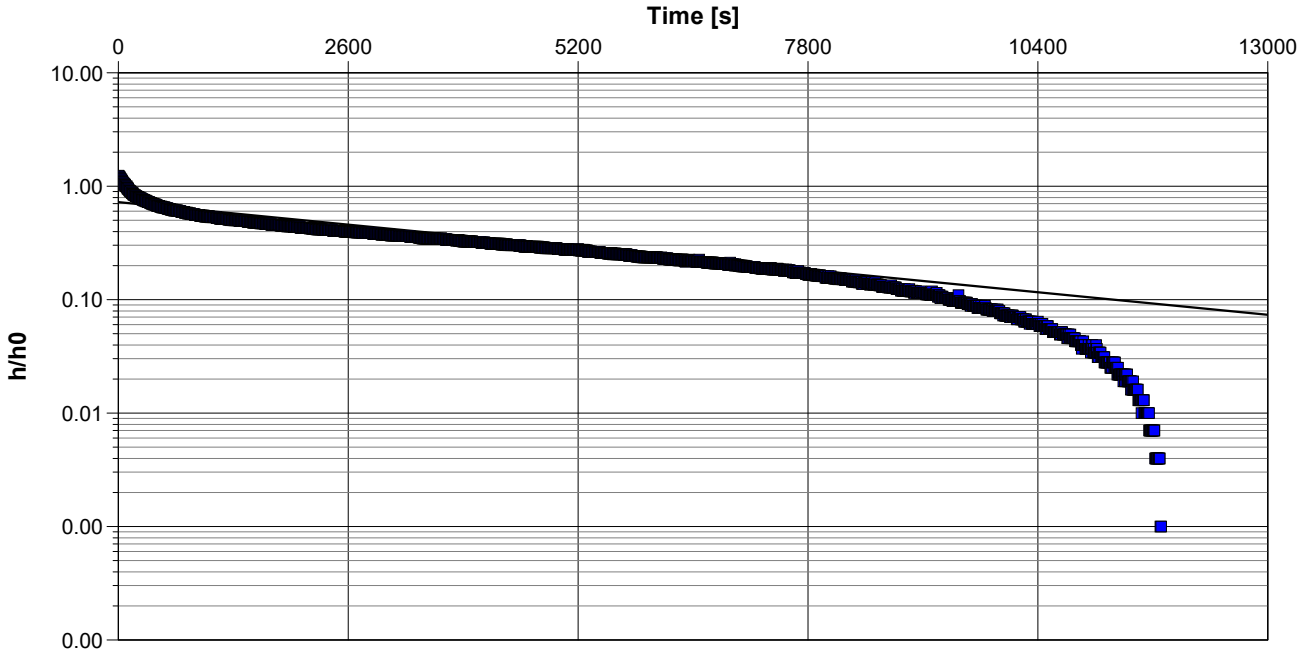
GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ○ ε=3% Strain at Failure

Appendix B: Hydraulic Conductivity Analysis

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH1	Test Well: BH1
Test Conducted by: CL		Test Date: 2/27/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

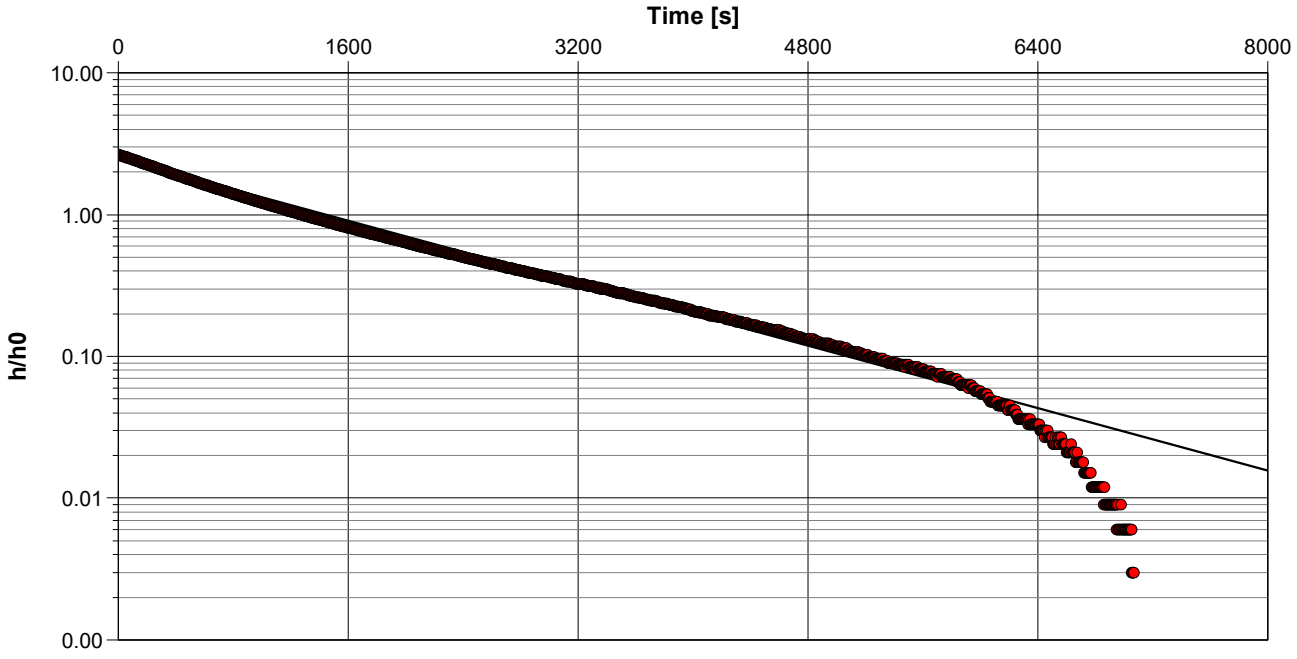


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH1	6.70×10^{-8}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH2	Test Well: BH2
Test Conducted by: CL		Test Date: 2/27/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

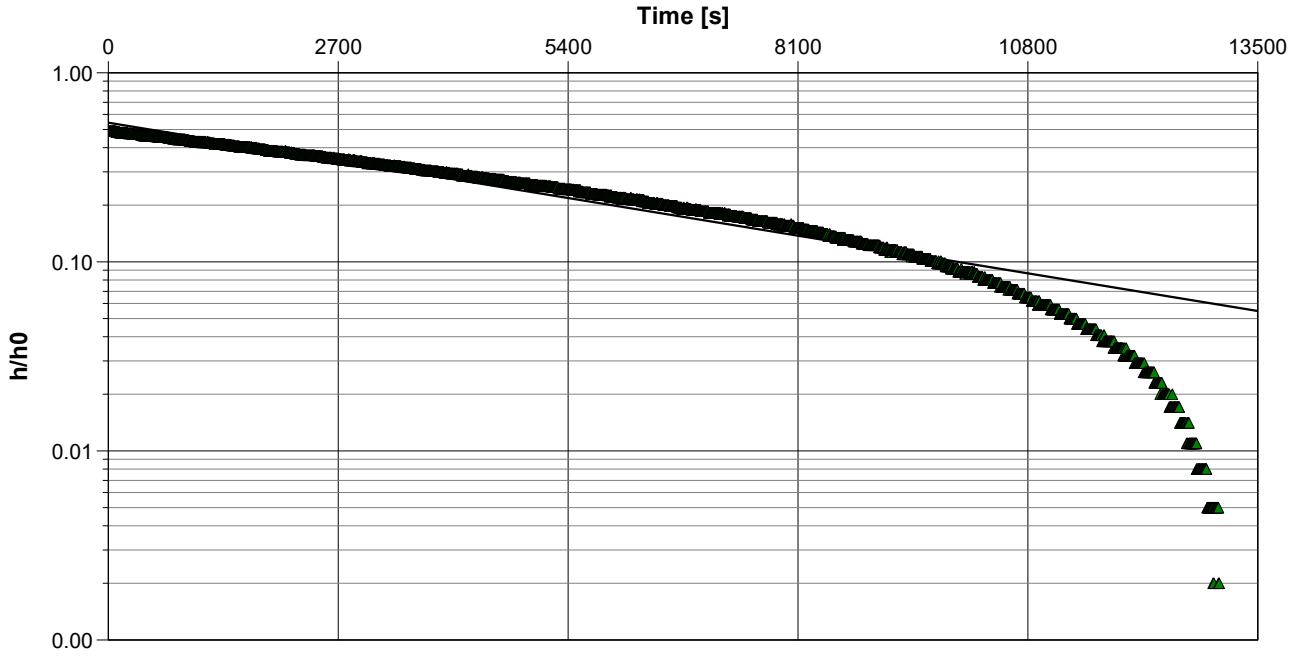


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH2	2.42×10^{-7}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 22-28-100
	Client: CAPREIT 2 Limited Partnership

Location: 5 & 15 Tangreen Court	Slug Test: BH3	Test Well: BH3
Test Conducted by: CL		Test Date: 2/27/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

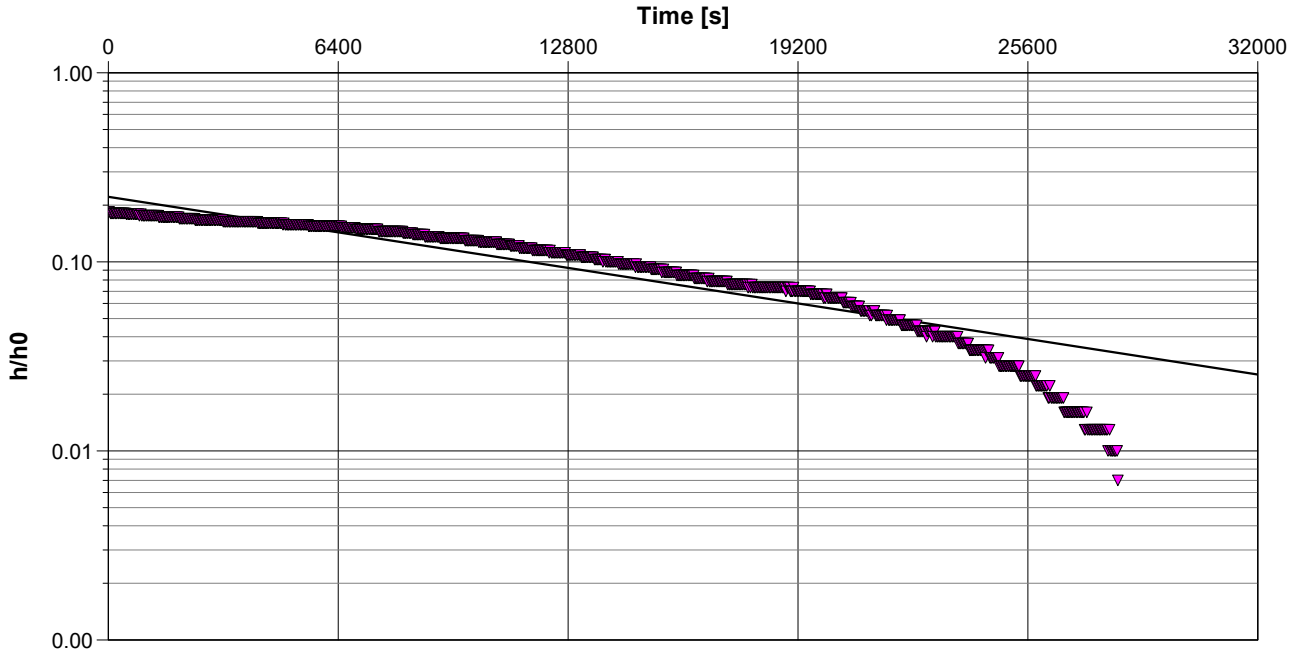


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH3	6.49×10^{-8}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH6	Test Well: BH6
Test Conducted by: CL		Test Date: 2/27/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

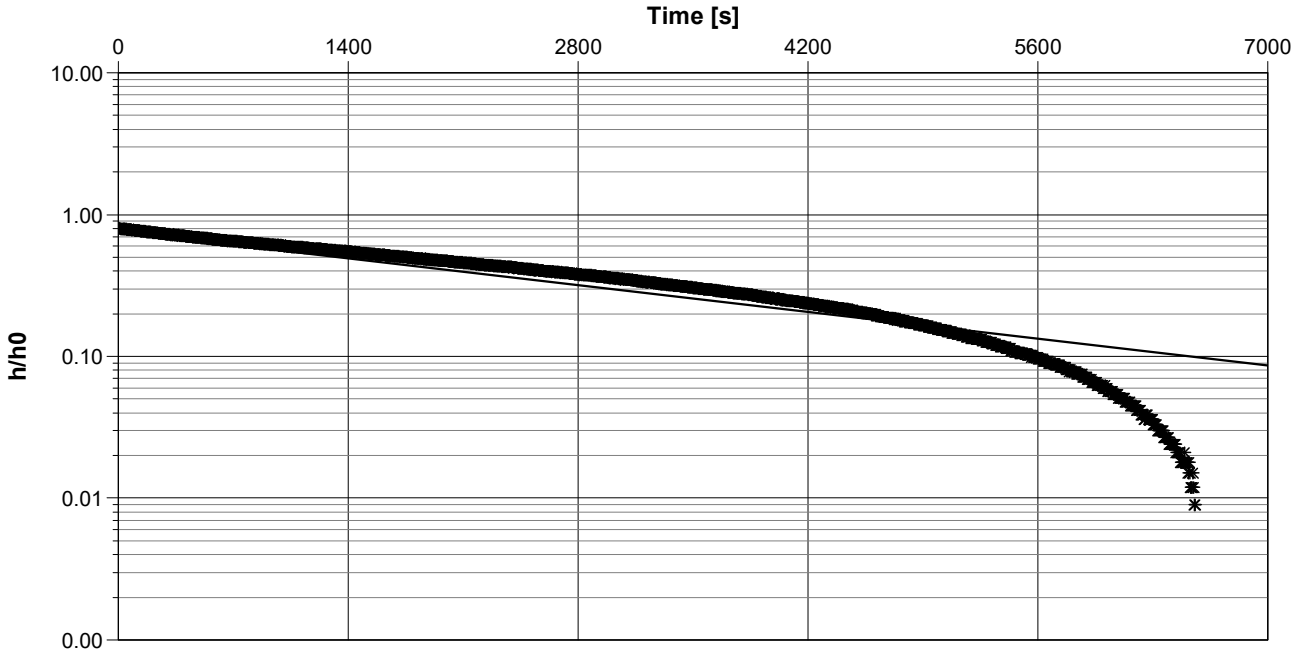


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH6	2.59×10^{-8}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH10	Test Well: BH10
Test Conducted by: CL		Test Date: 2/27/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

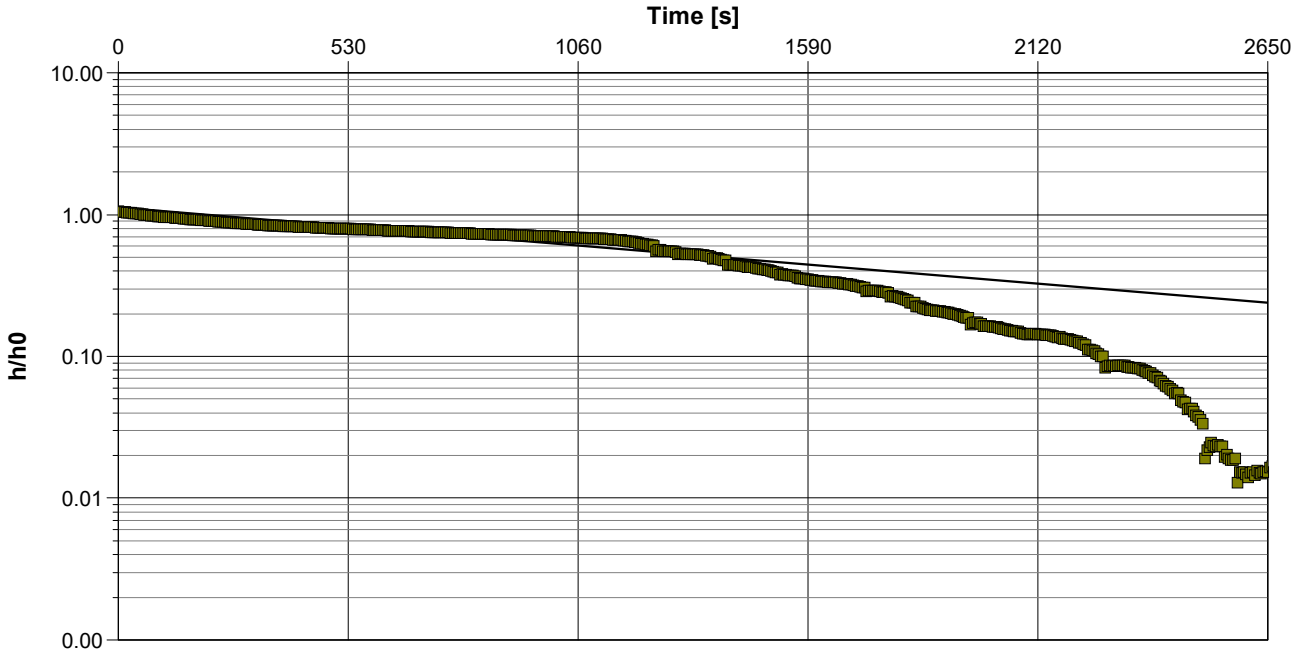


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10	1.19×10^{-7}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH23-2	Test Well: BH23-2
Test Conducted by: CL		Test Date: 2/28/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

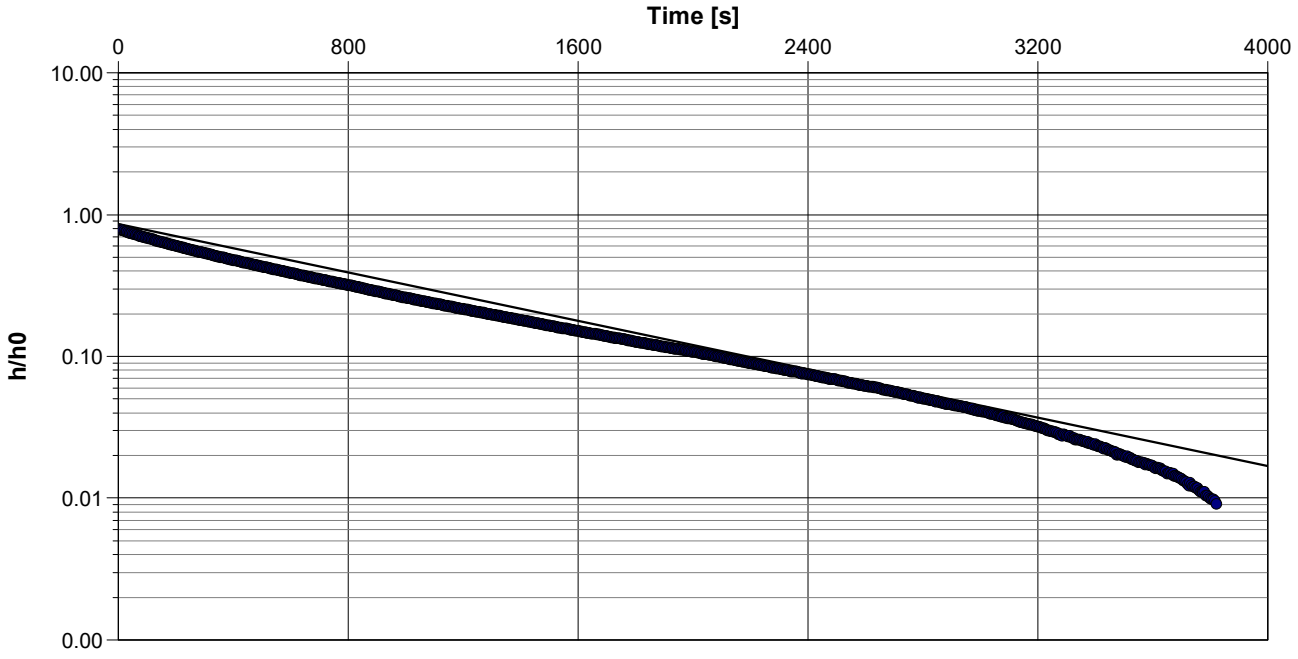


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-2	2.23×10^{-7}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH23-3	Test Well: BH23-3
Test Conducted by: CL		Test Date: 2/28/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

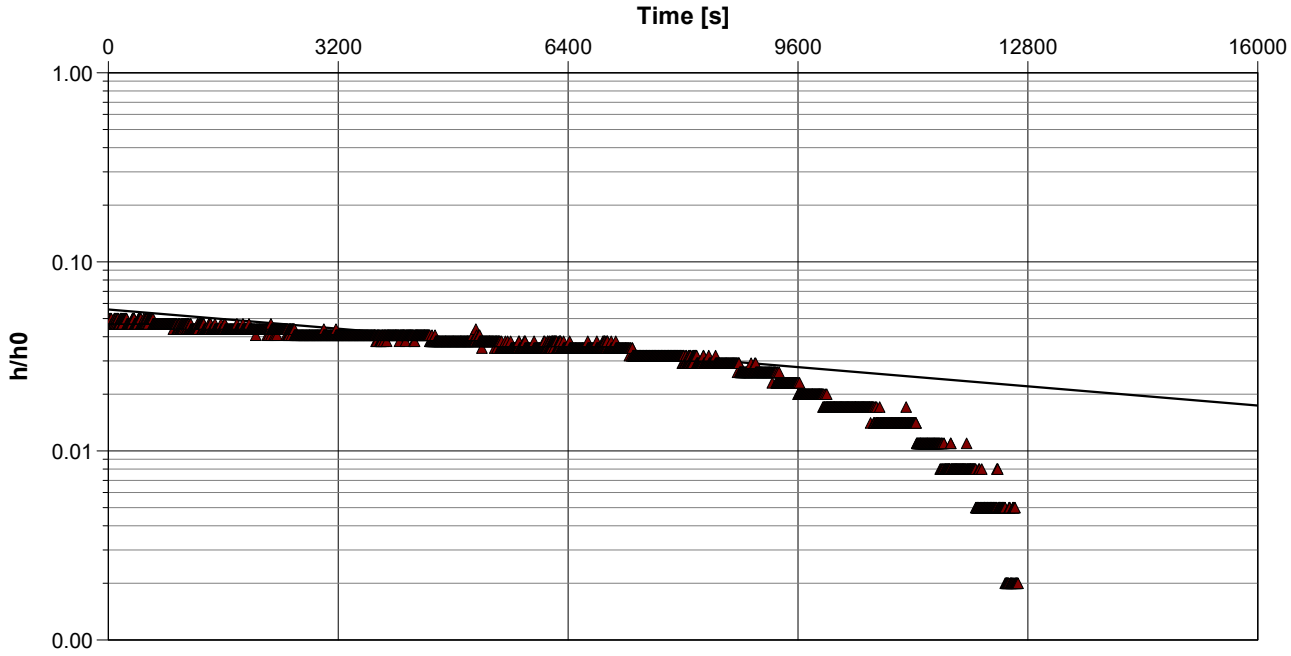


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-3	3.75×10^{-7}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH23-5	Test Well: BH23-5
Test Conducted by: CL		Test Date: 2/28/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		

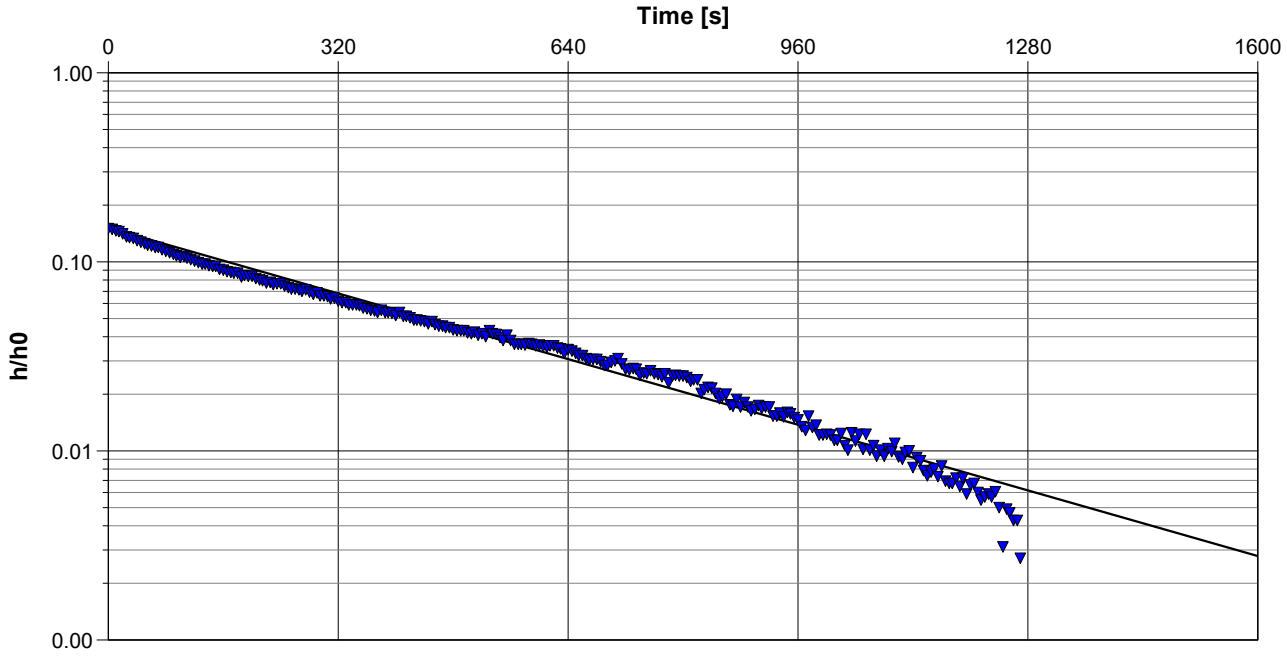


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH23-5	2.79×10^{-8}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 22-28-100	
Client: CAPREIT 2 Limited Partnership	

Location: 5 & 15 Tangreen Court	Slug Test: BH5	Test Well: BH5
Test Conducted by: CL		Test Date: 2/27/2023
Analysis Performed by: MJ	Hvorslev	Analysis Date: 3/1/2023
Aquifer Thickness:		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH5	9.54×10^{-7}	

Appendix C: Groundwater Quality Certificate of Analysis

FINAL REPORT

CA40269-FEB23 R1

23-011-100, 5 Tangreen, North York

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Unit 16 Vaughan, Ontario L4H 0K8. Canada
Contact	Meysam Jafari
Telephone	905-264-9393
Facsimile	905-264-2685
Email	meysam.jafari@dsconsultants.ca
Project	23-011-100, 5 Tangreen, North York
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA40269-FEB23
Received	02/28/2023
Approved	03/07/2023
Report Number	CA40269-FEB23 R1
Date Reported	03/07/2023

COMMENTS

RL - SGS Reporting Limit

Nonylphenol Ethoxylates is the sum of nonylphenol monoethoxylate and nonylphenol diethoxylate.

Temperature of Sample upon Receipt: 7 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 029014

Note: Elevated Ecoli reporting limit due to excessive growth of bacteria at higher volumes.

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

TABLE OF CONTENTS

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Sample Number	8
Sample Name	BH 23-3
Sample Matrix	Ground Water
Sample Date	28/02/2023

Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	42
Total Kjeldahl Nitrogen	as N mg/L	0.5	100		1.6
Total Suspended Solids	mg/L	2	350	15	187
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.21
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Aluminum (total)	mg/L	0.001	50		3.41
Antimony (total)	mg/L	0.0009	5		0.0022
Arsenic (total)	mg/L	0.0002	1	0.02	0.0022
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000035
Chromium (total)	mg/L	0.00008	4	0.08	0.00625
Cobalt (total)	mg/L	0.000004	5		0.00141
Copper (total)	mg/L	0.0002	2	0.04	0.0100
Lead (total)	mg/L	0.00009	1	0.12	0.00300
Manganese (total)	mg/L	0.00001	5	0.05	0.154
Molybdenum (total)	mg/L	0.00004	5		0.00494
Nickel (total)	mg/L	0.0001	2	0.08	0.0037
Phosphorus (total)	mg/L	0.003	10	0.4	0.187
Selenium (total)	mg/L	0.00004	1	0.02	0.00061
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
Tin (total)	mg/L	0.00006	5		0.0167

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Sample Number	8
Sample Name	BH 23-3
Sample Matrix	Ground Water
Sample Date	28/02/2023

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Titanium (total)	mg/L	0.00005	5		0.0519
Zinc (total)	mg/L	0.002	2	0.04	0.030
Microbiology					
E. Coli	cfu/100mL	0		200	< 20↑
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02	0.001	< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2	0.01	< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Sample Number	8
Sample Name	BH 23-3
Sample Matrix	Ground Water
Sample Date	28/02/2023

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	11.5	9.5	7.63
Chromium VI	mg/L	0.0002	2	0.04	< 0.0002
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PAHs					
Benzo(b+j)fluoranthene	mg/L	0.0001			< 0.0001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
3,3-Dichlorobenzidine	mg/L	0.0005	0.002	0.0008	< 0.0005
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
Pentachlorophenol	mg/L	0.0005	0.005	0.002	< 0.0005
PAHs (Total)	mg/L		0.005	0.002	< 0.001
Perylene	mg/L	0.0005			< 0.0005

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

Sample Number 8
Sample Name BH 23-3
Sample Matrix Ground Water
Sample Date 28/02/2023

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Parameter	Units	RL	L1	L2	Result
SVOCs - PAHs					
7Hdibenzo(c,g)carbazole	mg/L	0.0001			< 0.0001
Anthracene	mg/L	0.0001			< 0.0001
Benzo(a)anthracene	mg/L	0.0001			< 0.0001
Benzo(a)pyrene	mg/L	0.0001			< 0.0001
Benzo[e]pyrene	mg/L	0.0001			< 0.0001
Benzo(ghi)perylene	mg/L	0.0002			< 0.0002
Benzo(k)fluoranthene	mg/L	0.0001			< 0.0001
Chrysene	mg/L	0.0001			< 0.0001
Dibenzo(a,h)anthracene	mg/L	0.0001			< 0.0001
Dibenzo(a,i)pyrene	mg/L	0.0001			< 0.0001
Dibenzo(a,j)acridine	mg/L	0.0001			< 0.0001
Fluoranthene	mg/L	0.0001			< 0.0001
Indeno(1,2,3-cd)pyrene	mg/L	0.0002			< 0.0002
Phenanthrene	mg/L	0.0001			< 0.0001
Pyrene	mg/L	0.0001			< 0.0001

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

Sample Number 8
Sample Name BH 23-3
Sample Matrix Ground Water
Sample Date 28/02/2023

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Parameter	Units	RL	L1	L2	Result
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.0076	< 0.0005
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.016	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016 L1	SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016 L2
BH 23-3					
Total Suspended Solids	SM 2540D	mg/L	187		15
Manganese	SM 3030/EPA 200.8	mg/L	0.154		0.05
Biochemical Oxygen Demand (BOD5)	SM 5210	mg/L	42		15

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0005-MAR23	mg/L	2	< 2	22	30	114	70	130	73	70	130

Cyanide by SFA

Method: SM 4500 I Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0013-MAR23	mg/L	0.01	<0.01	ND	10	92	90	110	99	75	125

Fluoride by Specific Ion Electrode

Method: SM 4500 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0007-MAR23	mg/L	0.06	<0.06	0	10	102	90	110	87	75	125

QC SUMMARY

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-[ENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA0016-MAR23	mg/L	0.0002	<0.0002	0	20	97	80	120	NV	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0001-MAR23	mg/L	0.00001	< 0.00001	ND	20	90	80	120	112	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0008-MAR23	mg/L	0.00005	<0.00005	ND	20	102	90	110	100	70	130
Aluminum (total)	EMS0008-MAR23	mg/L	0.001	<0.001	4	20	106	90	110	121	70	130
Arsenic (total)	EMS0008-MAR23	mg/L	0.0002	<0.0002	ND	20	98	90	110	102	70	130
Cadmium (total)	EMS0008-MAR23	mg/L	0.000003	<0.000003	ND	20	100	90	110	113	70	130
Cobalt (total)	EMS0008-MAR23	mg/L	0.000004	<0.000004	18	20	102	90	110	109	70	130
Chromium (total)	EMS0008-MAR23	mg/L	0.00008	<0.00008	ND	20	103	90	110	100	70	130
Copper (total)	EMS0008-MAR23	mg/L	0.0002	<0.0002	ND	20	106	90	110	117	70	130
Manganese (total)	EMS0008-MAR23	mg/L	0.00001	<0.00001	9	20	107	90	110	107	70	130
Molybdenum (total)	EMS0008-MAR23	mg/L	0.00004	<0.00004	ND	20	105	90	110	109	70	130
Nickel (total)	EMS0008-MAR23	mg/L	0.0001	<0.0001	ND	20	104	90	110	101	70	130
Lead (total)	EMS0008-MAR23	mg/L	0.00009	<0.00001	ND	20	102	90	110	108	70	130
Phosphorus (total)	EMS0008-MAR23	mg/L	0.003	<0.003	ND	20	108	90	110	NV	70	130
Antimony (total)	EMS0008-MAR23	mg/L	0.0009	<0.0009	ND	20	104	90	110	117	70	130
Selenium (total)	EMS0008-MAR23	mg/L	0.00004	<0.00004	5	20	101	90	110	125	70	130
Tin (total)	EMS0008-MAR23	mg/L	0.00006	<0.00006	ND	20	98	90	110	NV	70	130
Titanium (total)	EMS0008-MAR23	mg/L	0.00005	<0.00005	ND	20	104	90	110	NV	70	130
Zinc (total)	EMS0008-MAR23	mg/L	0.002	<0.002	ND	20	102	90	110	112	70	130

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9002-MAR23	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0077-MAR23	mg/L	0.01	<0.01			66	55	120			
Nonylphenol Ethoxylates	GCM0077-MAR23	mg/L	0.01	0								
Nonylphenol monoethoxylate	GCM0077-MAR23	mg/L	0.01	<0.01			76	55	120			
Nonylphenol	GCM0077-MAR23	mg/L	0.001	<0.001			74	55	120			

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0048-MAR23	mg/L	2	<2	NSS	20	100	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0048-MAR23	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0048-MAR23	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0009-MAR23	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0008-MAR23	mg/L	0.002	<0.002	ND	10	106	80	120	94	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENV]GC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0008-MAR23	mg/L	0.0001	<0.0001	NSS	30	99	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
3,3-Dichlorobenzidine	GCM0007-MAR23	mg/L	0.0005	< 0.0005	NSS	30	97	30	130	NSS	30	130
7Hdibenzo(c,g)carbazole	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Anthracene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Benzo(a)anthracene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Benzo(a)pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	94	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	92	50	140	NSS	50	140
Benzo[e]pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0028-MAR23	mg/L	0.0002	< 0.0002	NSS	30	91	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	112	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0028-MAR23	mg/L	0.002	< 0.002	NSS	30	97	50	140	NSS	50	140
Chrysene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	90	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0028-MAR23	mg/L	0.002	< 0.002	NSS	30	100	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	81	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Fluoranthene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0028-MAR23	mg/L	0.0002	< 0.0002	NSS	30	89	50	140	NSS	50	140
Pentachlorophenol	GCM0028-MAR23	mg/L	0.0005	< 0.0005	NSS	30	72	50	140	NSS	50	140
Perylene	GCM0028-MAR23	mg/L	0.0005	< 0.0005	NSS	30	98	50	140	NSS	50	140
Phenanthrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140

QC SUMMARY

Semi-Volatile Organics (continued)

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0011-MAR23	mg/L	2	< 2	1	10	101	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0017-MAR23	as N mg/L	0.5	<0.5	7	10	91	90	110	NV	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	103	60	130	100	50	140
1,2-Dichlorobenzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	108	60	130	106	50	140
1,4-Dichlorobenzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	108	60	130	105	50	140
Benzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	118	60	130	115	50	140
Chloroform	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	112	60	130	109	50	140
cis-1,2-Dichloroethene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	114	60	130	114	50	140
Ethylbenzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	116	60	130	112	50	140
m-p-xylene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	114	60	130	110	50	140
Methylene Chloride	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	117	60	130	114	50	140
o-xylene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	114	60	130	111	50	140
Tetrachloroethylene (perchloroethylene)	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	113	60	130	110	50	140
Toluene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	115	60	130	113	50	140
trans-1,3-Dichloropropene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	107	60	130	104	50	140
Trichloroethylene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	115	60	130	114	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

METHOD SUMMARY

Parameter	Method	Reference Method	Methodology Summary
ASTM D7065-06			
Nonylphenol diethoxylate	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
Nonylphenol Ethoxylates	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
Nonylphenol monoethoxylate	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
Nonylphenol	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
EPA 3510C/8270D			
3,3-Dichlorobenzidine	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - 3,3-DCB - basic (mg/L)
7Hdibenzo(c,g)carbazole	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
Anthracene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(a)anthracene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(a)pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(b+j)fluoranthene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo[e]pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
Benzo(ghi)perylene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(k)fluoranthene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Bis(2-ethylhexyl)phthalate	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - phthalate (mg/L)
Chrysene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Dibenzo(a,h)anthracene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Dibenzo(a,i)pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
Dibenzo(a,j)acridine	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
di-n-Butyl Phthalate	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - phthalate (mg/L)
Fluoranthene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Indeno(1,2,3-cd)pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
PAHs (Total)	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr (mg/L)
Pentachlorophenol	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr (mg/L)
Perylene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - custom (mg/L)
Phenanthrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
EPA 5030B/8260C			
1,1,2,2-Tetrachloroethane	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
1,2-Dichlorobenzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
1,4-Dichlorobenzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Benzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
Chloroform	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - THM (mg/L)
cis-1,2-Dichloroethene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Ethylbenzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
Methylene Chloride	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
m-p-xylene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
o-xylene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
Tetrachloroethylene (perchloroethylene)	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Toluene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
trans-1,3-Dichloropropene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - 1,3-dichloropropene (mg/L)
Trichloroethylene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Xylene (total)	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
EPA 7471A/SM 3112B			

METHOD SUMMARY

Parameter	Method	Reference Method	Methodology Summary
Mercury (total)	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Hg solutions by CVAAS (mg/L)
EPA218.6/EPA3060A			
Chromium VI	ME-CA-[ENV]SKA-LAK-AN-012	EPA218.6/EPA3060A	Hexavalent Chromium by SFA (mg/L)
MOE E3400/EPA 8082A			
Polychlorinated Biphenyls (PCBs) - Total	ME-CA-[ENV]GC-LAK-AN-001	MOE E3400/EPA 8082A	PCB wtr (mg/L)
MOE E3401			
Oil & Grease (total)	ME-CA-[ENV]GC-LAK-AN-019	MOE E3401	O&G (mg/L)
MOE E3401/SM 5520F			
Oil & Grease (animal/vegetable)	ME-CA-[ENV]GC-LAK-AN-019	MOE E3401/SM 5520F	O&Gavms (mg/L)
Oil & Grease (mineral/synthetic)	ME-CA-[ENV]GC-LAK-AN-019	MOE E3401/SM 5520F	O&Gavms (mg/L)
SM 2540D			
Total Suspended Solids	ME-CA-[ENV]EWL-LAK-AN-004	SM 2540D	Total Suspended Solids (mg/L)
SM 3030/EPA 200.8			
Silver (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Ag by ICP-MS solution (mg/L)
Aluminum (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Al by ICP-MS solution (mg/L)
Arsenic (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Asby ICP-MS solution (mg/L)
Cadmium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Cd by ICP-MS solution (mg/L)
Cobalt (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Co by ICP-MS solution (mg/L)
Chromium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Cr by ICP-MS solution (mg/L)
Copper (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Cu by ICP-MS solution (mg/L)
Manganese (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Mn by ICP-MS solution (mg/L)
Molybdenum (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Mo by ICP-MS solution (mg/L)
Nickel (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Ni by ICP-MS solution (mg/L)
Lead (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Pb by ICP-MS solution (mg/L)
Phosphorus (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	P by ICP-MS solution (mg/L)
Antimony (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Sb by ICP-MS solution (mg/L)
Selenium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Se by ICP-MS solution (mg/L)
Tin (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Sn by ICP-MS solution (mg/L)
Titanium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Ti by ICP-MS solution (mg/L)
Zinc (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Zn by ICP-MS solution (mg/L)
SM 4500			
pH	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	pH - solution (No unit)
Fluoride	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Fluoride by specific ion electrode (mg/L)
Cyanide (total)	ME-CA-[ENV]SFA-LAK-AN-005	SM 4500	Cyanide Total by Skalar - solution (mg/L)
SM 4500-N C/4500-NO3- F			
Total Kjeldahl Nitrogen	ME-CA-[ENV]SFA-LAK-AN-002	SM 4500-N C/4500-NO3- F	Tot. kjeldahl Nitrogen by Skalar (as N mg/L)
SM 5210			

METHOD SUMMARY

Parameter	Method	Reference Method	Methodology Summary
Biochemical Oxygen Demand (BOD5)	ME-CA-[ENV]EWL-LAK-AN-007	SM 5210	Biochemical Oxygen Demand (BOD5) (mg/L)
SM 5530B-D			
4AAP-Phenolics	ME-CA-[ENV]SFA-LAK-AN-006	SM 5530B-D	phenol by Skalar -solution (mg/L)
SM 9222D			
E. Coli	ME-CA-[ENV]MIC-LAK-AN-006	SM 9222D	E.coli using mFC Basal-BCIG (cfu/100mL)

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 029014 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Brigant
Received Date: Feb / 28 / 23 (mm/dd/yy)
Received Time: 17 : 30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice
Temperature Upon Receipt (°C) 2.2.2
LAB LIMS #: CAM0269 - Feb23

REPORT INFORMATION	INVOICE INFORMATION
Company: DS Consultants	☐ (same as Report Information)
Contact: Meysam Jafari	Company:
Address: 6221 Hwy 7, Unit 16 Vaughan	Contact: Accounting
Phone: 647-831-5596	Address:
Fax:	Phone:
Email: MJafari@dsconsultants.ca	Email:

Quotation #: P.O. #:
Project #: 23-011-100 Site Location/ID: 5 Tangreen, North York

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days) — TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:

*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table _____ Appx. _____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☑ Sanitary
☑ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M&I: Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN,Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water))	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other: Toronto Sanitary Sewer use by-law	Other	Other	Other	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP: Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	COMMENTS:
1	BH 23-3	2/28/23	AM	18	GW	N												✓								non filtered
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): Chaitanya Signature: Chaitanya Date: 2 / 28 / 23 (mm/dd/yy)
Relinquished by (NAME): Chaitanya Signature: Chaitanya Date: 2 / 28 / 23 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

FINAL REPORT

CA40270-FEB23 R1

23-011-100, 5 Tangreen, North York

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Unit 16 Vaughan, Ontario L4H 0K8. Canada
Contact	Meysam Jafari
Telephone	905-264-9393
Facsimile	905-264-2685
Email	meysam.jafari@dsconsultants.ca
Project	23-011-100, 5 Tangreen, North York
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA40270-FEB23
Received	02/28/2023
Approved	03/07/2023
Report Number	CA40270-FEB23 R1
Date Reported	03/07/2023

COMMENTS

RL - SGS Reporting Limit

Nonylphenol Ethoxylates is the sum of nonylphenol monoethoxylate and nonylphenol diethoxylate.

Temperature of Sample upon Receipt: 8 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 029138

Elevated Ecoli reporting limit due to excessive growth of bacteria at higher volumes.

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

TABLE OF CONTENTS

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Sample Number	8
Sample Name	BH 23-2
Sample Matrix	Ground Water
Sample Date	28/02/2023

Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 ↑
Total Kjeldahl Nitrogen	as N mg/L	0.5	100		1.0
Total Suspended Solids	mg/L	2	350	15	1000
Metals and Inorganics					
Fluoride	mg/L	0.06	10		0.18
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Aluminum (total)	mg/L	0.001	50		15.6
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0072
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000140
Chromium (total)	mg/L	0.00008	4	0.08	0.0234
Cobalt (total)	mg/L	0.000004	5		0.00975
Copper (total)	mg/L	0.0002	2	0.04	0.0205
Lead (total)	mg/L	0.00009	1	0.12	0.0124
Manganese (total)	mg/L	0.00001	5	0.05	1.11
Molybdenum (total)	mg/L	0.00004	5		0.00229
Nickel (total)	mg/L	0.0001	2	0.08	0.0276
Phosphorus (total)	mg/L	0.003	10	0.4	2.34
Selenium (total)	mg/L	0.00004	1	0.02	0.00075
Silver (total)	mg/L	0.00005	5	0.12	0.00007
Tin (total)	mg/L	0.00006	5		0.00072

Client: DS Consultants
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MATRIX: WATER

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Sample Number	8
Sample Name	BH 23-2
Sample Matrix	Ground Water
Sample Date	28/02/2023

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Titanium (total)	mg/L	0.00005	5		0.893
Zinc (total)	mg/L	0.002	2	0.04	0.049
Microbiology					
E. Coli	cfu/100mL	0		200	< 20↑
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02	0.001	< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2	0.01	< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			8
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		5

Client: DS Consultants
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MATRIX: WATER

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Sample Number	8
Sample Name	BH 23-2
Sample Matrix	Ground Water
Sample Date	28/02/2023

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	11.5	9.5	7.48
Chromium VI	mg/L	0.0002	2	0.04	< 0.0002
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PAHs					
Benzo(b+j)fluoranthene	mg/L	0.0001			< 0.0001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
3,3-Dichlorobenzidine	mg/L	0.0005	0.002	0.0008	< 0.0005
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
Pentachlorophenol	mg/L	0.0005	0.005	0.002	< 0.0005
PAHs (Total)	mg/L		0.005	0.002	< 0.001
Perylene	mg/L	0.0005			< 0.0005

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

Sample Number 8
Sample Name BH 23-2
Sample Matrix Ground Water
Sample Date 28/02/2023

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Parameter	Units	RL	L1	L2	Result
SVOCs - PAHs					
7Hdibenzo(c,g)carbazole	mg/L	0.0001			< 0.0001
Anthracene	mg/L	0.0001			< 0.0001
Benzo(a)anthracene	mg/L	0.0001			< 0.0001
Benzo(a)pyrene	mg/L	0.0001			< 0.0001
Benzo[e]pyrene	mg/L	0.0001			< 0.0001
Benzo(ghi)perylene	mg/L	0.0002			< 0.0002
Benzo(k)fluoranthene	mg/L	0.0001			< 0.0001
Chrysene	mg/L	0.0001			< 0.0001
Dibenzo(a,h)anthracene	mg/L	0.0001			< 0.0001
Dibenzo(a,i)pyrene	mg/L	0.0001			< 0.0001
Dibenzo(a,j)acridine	mg/L	0.0001			< 0.0001
Fluoranthene	mg/L	0.0001			< 0.0001
Indeno(1,2,3-cd)pyrene	mg/L	0.0002			< 0.0002
Phenanthrene	mg/L	0.0001			< 0.0001
Pyrene	mg/L	0.0001			< 0.0001

Client: DS Consultants
Project: 23-011-100, 5 Tangreen, North York
Project Manager: Meysam Jafari
Samplers: Chaitanya

MATRIX: WATER

Sample Number 8
Sample Name BH 23-2
Sample Matrix Ground Water
Sample Date 28/02/2023

L1 = SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016

L2 = SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016

Parameter	Units	RL	L1	L2	Result
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.0076	< 0.0005
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.016	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER / - - Toronto Sewer Use By Law - Sanitary and Combined Sewer Discharge - BL_100_2016 L1	SANSEW / WATER / - - Toronto Sewer Use By Law - Storm Sewer Discharge - BL_100_2016 L2
BH 23-2					
Total Suspended Solids	SM 2540D	mg/L	1000	350	15
Manganese	SM 3030/EPA 200.8	mg/L	1.11		0.05
Phosphorus	SM 3030/EPA 200.8	mg/L	2.34		0.4
Zinc	SM 3030/EPA 200.8	mg/L	0.049		0.04

QC SUMMARY

Biochemical Oxygen Demand

Method: SM 5210 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0005-MAR23	mg/L	2	< 2	22	30	114	70	130	73	70	130

Cyanide by SFA

Method: SM 4500 I Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0013-MAR23	mg/L	0.01	<0.01	ND	10	92	90	110	99	75	125

Fluoride by Specific Ion Electrode

Method: SM 4500 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0007-MAR23	mg/L	0.06	<0.06	0	10	102	90	110	87	75	125

QC SUMMARY

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-[ENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA0016-MAR23	mg/L	0.0002	<0.0002	0	20	97	80	120	NV	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-[ENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0001-MAR23	mg/L	0.00001	< 0.00001	ND	20	90	80	120	112	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0008-MAR23	mg/L	0.00005	<0.00005	ND	20	102	90	110	100	70	130
Aluminum (total)	EMS0008-MAR23	mg/L	0.001	<0.001	4	20	106	90	110	121	70	130
Arsenic (total)	EMS0008-MAR23	mg/L	0.0002	<0.0002	ND	20	98	90	110	102	70	130
Cadmium (total)	EMS0008-MAR23	mg/L	0.000003	<0.000003	ND	20	100	90	110	113	70	130
Cobalt (total)	EMS0008-MAR23	mg/L	0.000004	<0.000004	18	20	102	90	110	109	70	130
Chromium (total)	EMS0008-MAR23	mg/L	0.00008	<0.00008	ND	20	103	90	110	100	70	130
Copper (total)	EMS0008-MAR23	mg/L	0.0002	<0.0002	ND	20	106	90	110	117	70	130
Manganese (total)	EMS0008-MAR23	mg/L	0.00001	<0.00001	9	20	107	90	110	107	70	130
Molybdenum (total)	EMS0008-MAR23	mg/L	0.00004	<0.00004	ND	20	105	90	110	109	70	130
Nickel (total)	EMS0008-MAR23	mg/L	0.0001	<0.0001	ND	20	104	90	110	101	70	130
Lead (total)	EMS0008-MAR23	mg/L	0.00009	<0.00001	ND	20	102	90	110	108	70	130
Phosphorus (total)	EMS0008-MAR23	mg/L	0.003	<0.003	ND	20	108	90	110	NV	70	130
Antimony (total)	EMS0008-MAR23	mg/L	0.0009	<0.0009	ND	20	104	90	110	117	70	130
Selenium (total)	EMS0008-MAR23	mg/L	0.00004	<0.00004	5	20	101	90	110	125	70	130
Tin (total)	EMS0008-MAR23	mg/L	0.00006	<0.00006	ND	20	98	90	110	NV	70	130
Titanium (total)	EMS0008-MAR23	mg/L	0.00005	<0.00005	ND	20	104	90	110	NV	70	130
Zinc (total)	EMS0008-MAR23	mg/L	0.002	<0.002	ND	20	102	90	110	112	70	130

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9002-MAR23	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0077-MAR23	mg/L	0.01	<0.01			66	55	120			
Nonylphenol Ethoxylates	GCM0077-MAR23	mg/L	0.01	0								
Nonylphenol monoethoxylate	GCM0077-MAR23	mg/L	0.01	<0.01			76	55	120			
Nonylphenol	GCM0077-MAR23	mg/L	0.001	<0.001			74	55	120			

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0048-MAR23	mg/L	2	<2	NSS	20	100	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-[ENV]GC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0070-MAR23	mg/L	4	< 4	NSS	20	82	70	130			
Oil & Grease (mineral/synthetic)	GCM0070-MAR23	mg/L	4	< 4	NSS	20	118	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0009-MAR23	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0008-MAR23	mg/L	0.002	<0.002	ND	10	106	80	120	94	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-[ENV]GC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0008-MAR23	mg/L	0.0001	<0.0001	NSS	30	99	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
3,3-Dichlorobenzidine	GCM0007-MAR23	mg/L	0.0005	< 0.0005	NSS	30	97	30	130	NSS	30	130
7Hdibenzo(c,g)carbazole	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Anthracene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Benzo(a)anthracene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Benzo(a)pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	94	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	92	50	140	NSS	50	140
Benzo[e]pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0028-MAR23	mg/L	0.0002	< 0.0002	NSS	30	91	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	112	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0028-MAR23	mg/L	0.002	< 0.002	NSS	30	97	50	140	NSS	50	140
Chrysene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	90	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0028-MAR23	mg/L	0.002	< 0.002	NSS	30	100	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	81	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Fluoranthene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0028-MAR23	mg/L	0.0002	< 0.0002	NSS	30	89	50	140	NSS	50	140
Pentachlorophenol	GCM0028-MAR23	mg/L	0.0005	< 0.0005	NSS	30	72	50	140	NSS	50	140
Perylene	GCM0028-MAR23	mg/L	0.0005	< 0.0005	NSS	30	98	50	140	NSS	50	140
Phenanthrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140

QC SUMMARY

Semi-Volatile Organics (continued)

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Pyrene	GCM0028-MAR23	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0011-MAR23	mg/L	2	< 2	1	10	101	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0017-MAR23	as N mg/L	0.5	<0.5	7	10	91	90	110	NV	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-[ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	103	60	130	100	50	140
1,2-Dichlorobenzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	108	60	130	106	50	140
1,4-Dichlorobenzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	108	60	130	105	50	140
Benzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	118	60	130	115	50	140
Chloroform	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	112	60	130	109	50	140
cis-1,2-Dichloroethene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	114	60	130	114	50	140
Ethylbenzene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	116	60	130	112	50	140
m-p-xylene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	114	60	130	110	50	140
Methylene Chloride	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	117	60	130	114	50	140
o-xylene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	114	60	130	111	50	140
Tetrachloroethylene (perchloroethylene)	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	113	60	130	110	50	140
Toluene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	115	60	130	113	50	140
trans-1,3-Dichloropropene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	107	60	130	104	50	140
Trichloroethylene	GCM0041-MAR23	mg/L	0.0005	<0.0005	ND	30	115	60	130	114	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

METHOD SUMMARY

Parameter	Method	Reference Method	Methodology Summary
ASTM D7065-06			
Nonylphenol diethoxylate	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
Nonylphenol Ethoxylates	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
Nonylphenol monoethoxylate	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
Nonylphenol	ME-CA-[ENV]GC-LAK-AN-015	ASTM D7065-06	NPE wtr (mg/L)
EPA 3510C/8270D			
3,3-Dichlorobenzidine	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - 3,3-DCB - basic (mg/L)
7Hdibenzo(c,g)carbazole	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
Anthracene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(a)anthracene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(a)pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(b+j)fluoranthene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo[e]pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
Benzo(ghi)perylene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Benzo(k)fluoranthene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Bis(2-ethylhexyl)phthalate	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - phthalate (mg/L)
Chrysene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Dibenzo(a,h)anthracene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Dibenzo(a,i)pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
Dibenzo(a,j)acridine	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - sansew extra PAH (mg/L)
di-n-Butyl Phthalate	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - phthalate (mg/L)
Fluoranthene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Indeno(1,2,3-cd)pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
PAHs (Total)	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr (mg/L)
Pentachlorophenol	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr (mg/L)
Perylene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - custom (mg/L)
Phenanthrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
Pyrene	ME-CA-[ENV]GC-LAK-AN-005	EPA 3510C/8270D	SVOC wtr - PAH (mg/L)
EPA 5030B/8260C			
1,1,2,2-Tetrachloroethane	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
1,2-Dichlorobenzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
1,4-Dichlorobenzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Benzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
Chloroform	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - THM (mg/L)
cis-1,2-Dichloroethene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Ethylbenzene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
Methylene Chloride	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
m-p-xylene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
o-xylene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
Tetrachloroethylene (perchloroethylene)	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Toluene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
trans-1,3-Dichloropropene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - 1,3-dichloropropene (mg/L)
Trichloroethylene	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr (mg/L)
Xylene (total)	ME-CA-[ENV]GC-LAK-AN-004	EPA 5030B/8260C	VOC wtr - BTEX (mg/L)
EPA 7471A/SM 3112B			

METHOD SUMMARY

Parameter	Method	Reference Method	Methodology Summary
Mercury (total)	ME-CA-[ENV]SPE-LAK-AN-004	EPA 7471A/SM 3112B	Hg solutions by CVAAS (mg/L)
EPA218.6/EPA3060A			
Chromium VI	ME-CA-[ENV]SKA-LAK-AN-012	EPA218.6/EPA3060A	Hexavalent Chromium by SFA (mg/L)
MOE E3400/EPA 8082A			
Polychlorinated Biphenyls (PCBs) - Total	ME-CA-[ENV]GC-LAK-AN-001	MOE E3400/EPA 8082A	PCB wtr (mg/L)
MOE E3401			
Oil & Grease (total)	ME-CA-[ENV]GC-LAK-AN-019	MOE E3401	O&G (mg/L)
MOE E3401/SM 5520F			
Oil & Grease (animal/vegetable)	ME-CA-[ENV]GC-LAK-AN-019	MOE E3401/SM 5520F	O&Gavms (mg/L)
Oil & Grease (mineral/synthetic)	ME-CA-[ENV]GC-LAK-AN-019	MOE E3401/SM 5520F	O&Gavms (mg/L)
SM 2540D			
Total Suspended Solids	ME-CA-[ENV]EWL-LAK-AN-004	SM 2540D	Total Suspended Solids (mg/L)
SM 3030/EPA 200.8			
Silver (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Ag by ICP-MS solution (mg/L)
Aluminum (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Al by ICP-MS solution (mg/L)
Arsenic (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Asby ICP-MS solution (mg/L)
Cadmium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Cd by ICP-MS solution (mg/L)
Cobalt (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Co by ICP-MS solution (mg/L)
Chromium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Cr by ICP-MS solution (mg/L)
Copper (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Cu by ICP-MS solution (mg/L)
Manganese (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Mn by ICP-MS solution (mg/L)
Molybdenum (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Mo by ICP-MS solution (mg/L)
Nickel (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Ni by ICP-MS solution (mg/L)
Lead (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Pb by ICP-MS solution (mg/L)
Phosphorus (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	P by ICP-MS solution (mg/L)
Antimony (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Sb by ICP-MS solution (mg/L)
Selenium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Se by ICP-MS solution (mg/L)
Tin (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Sn by ICP-MS solution (mg/L)
Titanium (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Ti by ICP-MS solution (mg/L)
Zinc (total)	ME-CA-[ENV]SPE-LAK-AN-006	SM 3030/EPA 200.8	Zn by ICP-MS solution (mg/L)
SM 4500			
pH	ME-CA-[ENV]EWL-LAK-AN-006	SM 4500	pH - solution (No unit)
Fluoride	ME-CA-[ENV]EWL-LAK-AN-014	SM 4500	Fluoride by specific ion electrode (mg/L)
Cyanide (total)	ME-CA-[ENV]SFA-LAK-AN-005	SM 4500	Cyanide Total by Skalar - solution (mg/L)
SM 4500-N C/4500-NO3- F			
Total Kjeldahl Nitrogen	ME-CA-[ENV]SFA-LAK-AN-002	SM 4500-N C/4500-NO3- F	Tot. kjeldahl Nitrogen by Skalar (as N mg/L)
SM 5210			

METHOD SUMMARY

Parameter	Method	Reference Method	Methodology Summary
Biochemical Oxygen Demand (BOD5)	ME-CA-[ENV]EWL-LAK-AN-007	SM 5210	Biochemical Oxygen Demand (BOD5) (mg/L)
SM 5530B-D			
4AAP-Phenolics	ME-CA-[ENV]SFA-LAK-AN-006	SM 5530B-D	phenol by Skalar -solution (mg/L)
SM 9222D			
E. Coli	ME-CA-[ENV]MIC-LAK-AN-006	SM 9222D	E.coli using mFC Basal-BCIG (cfu/100mL)

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 029138
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Brigant
Received Date: Feb / 28 / 23 (mm/dd/yy)
Received Time: 17 : 30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice
Temperature Upon Receipt (°C): 6 . 9 . 8
LAB LIMS #: CA-40270-Feb23

SR.

REPORT INFORMATION	INVOICE INFORMATION
Company: DS Consultants Ltd	☐ (same as Report Information)
Contact: Meysaam Jafari	Company:
Address: 6221 Hwy 7, Unit 16 Vaughan	Contact: Accounting
Phone: 647-831-5596	Address:
Fax:	Phone:
Email: MJafari@dsconsultants.ca	Email:

Quotation #:
P.O. #:
Project #: 23-011-100
Site Location/ID: 5 Tangreen, North York

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table _____ Appx. _____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☑ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN,Hg pH,(BI(HWS),EC,SAR–soil) (Cl, Na–water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify): Toronto Storm; Sanitary Sewer Bylaw	Other	Other	Other	Other	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg Extended ☐ General	SPLP: Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP: Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	COMMENTS:
1	BH 23-2	2128/23	Afternoon	18	GW	N																				Non-filtered
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): Chaitanya Signature: Date: 2 / 28 / 23 (mm/dd/yy)
Relinquished by (NAME): Chaitanya Signature: Date: 2 / 28 / 23 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

Appendix D: MECP Water Wells Records

Hydrogeological Investigation- Proposed Residential Buildings, 5 & 15 Tangreen Court, Toronto, ON												
TOWNSHIP C	**UTM**	**E**	**N**	**DATE CNTR**	**CASING**	**WATER**	**PUMP TES**	**WELL USE**	**SCREEN**	**WELL**	**1**	**FORMATION**
MARKHAM TOWN	17 W	627095	4850730	2019-07 7238	2		///:	MO	0050 10	7341700	(Z315849) A252494	FILL 0007 SAND STNS CLAY 0040 MSND FSND SLTY 0060
MARKHAM TOWN	17 W	627095	4850730	2019-07 7238	2	UT 0150	///:			7341701	(Z315842) A266346	OBDN 0150 FSND SLTY ---- 0182
MARKHAM TOWN	17 W	627074	4850808	2014-10 7241	2			MT	0008 10	7231460	(Z196681) A174714	BLCK 0004 BRWN SAND SILT 0014 BRWN SILT SAND 0018
MARKHAM TOWN	17 W	627117	4850694	2019-08 7241	0.79		///:	MT	0066 33	7344920	(Z316629) A274078	BRWN LOAM 0003 BRWN FILL CLAY DNSE 0010 BRWN SILT CLAY DNSE 0066 GREY SILT CLAY DNSE 0098
MARKHAM TOWN	17 W	627109	4850747	2019-08 7241	0.79		///:	MT	0056 33	7344967	(Z316630) A257279	BRWN FILL SAND GRVL 0010 BRWN SILT CLAY DNSE 0056 GREY SILT CLAY DNSE 0089
MARKHAM TOWN	17 W	627072	4850785	2019-07 7238	2		///:	MO	0065 10	7341038	(Z315821) A252496	GRVL SILT 0025 CLAY 0035 SAND 0075
MARKHAM TOWN	17 W	627095	4850730	2019-07 7238	2	UT 0065	///:		0095 10	7341699	(Z315850) A268596	FILL 0007 SAND STNS CLAY 0040 SAND MSND FSND 0095 CLAY SLTY DNSE 0105
MARKHAM TOWN	17 W	627130	4850684	2019-07 7238	2		///:	MO	0025 10	7341698	(Z315853) A266341	FILL 0010 TILL 0035
MARKHAM TOWN	17 W	627126	4850683	2019-07 7238	2		///:	MO	0065 10	7341697	(Z315854) A266340	FILL 0010 TILL 0050 SAND 0085
MARKHAM TOWN	17 W	627086	4850794	2019-03 7238	2		///:	MO	0008 14	7332710	(Z308834) A252492	FILL 0010 CLAY TILL 0022
MARKHAM TOWN	17 W	627074	4850785	2019-07 7238	2		///:		0095 10	7341037	(Z315820) A268714	SILT GRVL 0025 CLAY 0035 SAND 0110
MARKHAM TOWN	17 W	627115	4850718	2017-06 7383	2			TH	0015 10	7291689	(Z257874) A226379	BRWN SAND 0025 BRWN SAND TILL
MARKHAM TOWN	17 W	627077	4850800	2019-03 7238	2	UT 0090	///:	MO	0090 10	7332709	(Z308833) A252493	FILL 0010 CLAY TILL 0070 SILT SAND 0100
MARKHAM TOWN	17 W	627142	4850694	2017-06 7383	2			TH	0015 10	7291688	(Z257873) A226380	BRWN SAND 0025 BRWN SAND TILL
MARKHAM TOWN	17 W	627181	4850686	2020-05 7675						7361153	(Z338756) A289825 P	
MARKHAM TOWN	17 W	627148	4850695	2020-06 6607	2	UT 0030	///:	MO	0045 5	7360635	(66JSQZYX) A293197	BRWN CLAY SILT DNSE 0010 GREY SAND SILT DNSE 0030 GREY CLAY SILT DNSE 0050
MARKHAM TOWN	17 W	627112	4850717	2020-06 6607	2		///:	MO	0018 10	7360706	(RAVWT3PE) A293334	BRWN SAND SILT PCKD 0005 BRWN CLAY SILT DNSE 0010 GREY SAND SILT DNSE 0028

MARKHAM TOWN	17 W	627141	4850743	2020-06 6607	2		///:	MO	0025 10	7360624	(2LZIVZD8) A293388	BRWN CLAY SILT DNSE 0005 BRWN SAND DNSE 0008 GREY SAND SILT DNSE 0030 GREY SILT CLAY DNSE 0035
MARKHAM TOWN	17 W	627116	4850694	2020-06 6607	2	UT 0030	///:	MO	0045 5	7360676	(H2TO7GNT) A293191	BRWN CLAY SILT DNSE 0010 GREY SAND SILT DNSE 0030 GREY CLAY SILT DNSE 0050
MARKHAM TOWN	17 W	627112	4850713	2020-06 6607	2		///:	MO	0065 5	7360724	(E4VBNT2A) A293376	BRWN CLAY SILT DNSE 0005 BRWN SAND DNSE 0010 GREY SAND SILT DNSE 0028 GREY SILT CLAY DNSE 0045 GREY CLAY SILT DNSE 0055 GREY SAND LOOS 0070
MARKHAM TOWN	17 W	627116	4850700	2020-06 6607	2		///:	MO	0065 5	7360716	(W48296SC) A293328	BRWN SAND SILT FILL 0005 GREY SAND SILT DNSE 0025 GREY CLAY SILT DNSE 0065 GREY SAND LOOS 0070
MARKHAM TOWN	17 W	627108	4850714	2020-06 6607	2	UT 0030	///:	MO	0045 5	7360725	(MW3D8ABD) A293193	BRWN CLAY SILT DNSE 0010 GREY SAND SILT DNSE 0030 GREY CLAY SILT DNSE 0050
MARKHAM TOWN	17 W	627167	4850704	2020-05 6607	2		///:	MO	0030 10	7360682	(IFGXDV9D) A293392	BRWN CLAY SILT DNSE 0015 BRWN SAND SILT DKCL 0035 GREY SILT DNSE 0040
NORTH YORK BOR	17 W	627184	4850032	2019-01 7360	2	UT 0025		MO	0025 10	7327625	(Z301058) A260808	BRWN FILL 0020 BRWN SAND TILL 0040 GREY TILL 0060
NORTH YORK BOR	17 W	627179	4850166	7654						7381964	(C43263) A280726 P	
NORTH YORK BOR	17 W	627180	4850312	2019-05 7238	2	UT 0030	///:	MO	0041 10	7334328	(Z308929) A252478	FILL 0010 TILL SNDY 0030 CLAY SLTY 0052
NORTH YORK BOR	17 W	627122	4850492	2019-03 7238	2	UT 0020	///:	MO	0020 10	7332711	(Z308831) A252490	FILL 0010 CLAY 0020 CLAY WBRG 0030
NORTH YORK BOR	17 W	627141	4850409	2019-04 7238	2	UT 0015	///:	MO	0080 10	7333762	(Z308879) A252472	FILL 0010 CLAY WBRG 0020 TILL SNDY 0090
NORTH YORK BOR	17 W	627212	4850143	2019-04 7238	2		///:	MO	0052 10	7333763	(Z308880) A252482	FILL 0010 TILL SNDY 0062
NORTH YORK BOR	17 W	627180	4850312	2019-04 7238	2	UT 0025	///:		0020 10	7334313	(Z308928) A252477	FILL 0010 TILL SNDY 0030
NORTH YORK BOR	17 W	627074	4850608	2014-10 7241	2			MT	0005 10	7231495	(Z196677) A174711	BLCK 0004 BRWN SAND SILT 0015
NORTH YORK BOR	17 W	627193	4850066	2018-06 7241	2			TH MO	0020 8	7316935	(Z290290) A246542	BLCK ---- 0000 BRWN SAND GRVL 0008 BRWN SILT SAND 0028
NORTH YORK BOR	17 W	627121	4850490	2019-03 7238	2	UT 0025	///:	MO	0090 10	7332712	(Z308832) A252489	FILL 0010 0020 0040 0070 0100
NORTH YORK BOR	17 W	627074	4850608	2014-10 7241	1.5			MT	0004 10	7231462	(Z196675) A174710	BLCK 0004 BRWN SAND SILT 0014

NORTH YORK BOR	17 W	627230	4850105	2005-02 7215	0.38			NU	0016 26	6928751	(Z26023) A019789	
NORTH YORK BOR	17 W	627157	4850617	2005-12 7215	1.25				9	6929817	(Z38609) A019795	
NORTH YORK BOR	17 W	627193	4850319	2010-03 7215	2			TH	0034 10	7222930	(Z104647) A093097	BRWN FILL DRY 0008 GREY SILT CLAY DRY 0024 GREY CLAY SILT WBRG
NORTH YORK BOR	17 W	627190	4850445	2014-01 7247	2	UT 0025		MT	0025 5	7222992	(Z179638) A155996	BRWN 0001 GREY SILT LOAM LOOS 0002 GREY SAND GRVL DNSE 0015 GREY SILT GRVL 0025 GREY SAND MGVL DNSE 0030
NORTH YORK BOR	17 W	627148	4850606	2014-06 7241	1.25			MT	0013 10	7224025	(Z190957) A166978	BLCK 0000 GREY GRVL 0001 BRWN CLAY SILT SAND 0020 GREY CLAY SILT SAND 0023
NORTH YORK BOR	17 W	627130	4850624	2014-06 7241	1.25			MT	0003 3	7224026	(Z190952) A166977	GREY 0000 BRWN FILL 0002 BRWN CLAY SILT SAND 0006
NORTH YORK BOR	17 W	627136	4850612	2014-06 7241	1.25			MT	0007 10	7224027	(Z190953) A166976	GREY 0000 BRWN FILL 0002 BRWN CLAY SILT SAND 0013 GREY CLAY SILT SAND 0017
NORTH YORK BOR	17 W	627146	4850626	2014-06 7241	1.25			MT	0013 10	7224028	(Z190954) A166975	BLCK 0000 GREY GRVL 0001 BRWN CLAY SILT SAND 0020 GREY CLAY SILT SAND 0023
NORTH YORK BOR	17 W	627141	4850616	2014-06 7241	1.25			MT	0014 10	7224029	(Z190955) A166974	BLCK 0000 GREY GRVL 0001 BRWN CLAY SILT 0020 GREY CLAY SILT 0024
NORTH YORK BOR	17 W	627115	4850478	2010-10 7241	2			MT	0008 10	7231456	(Z197592) A172005	BLCK 0004 BRWN SAND SILT 0014 BRWN SILT SAND 0018
NORTH YORK BOR	17 W	627005	4850391	2010-10 7241	2			MT	0008 10	7231457	(Z197591) A174662	BLCK 0004 BRWN SAND SILT 0014 BRWN SILT SAND 0018
NORTH YORK BOR	17 W	626818	4850329	2014-10 7241	1.25			MT	0004 10	7231458	(Z195908) A174707	GREY 0000 BRWN SAND 0007 BRWN SILT SAND 0014
NORTH YORK BOR	17 W	626602	4849870	2015-07 7360	2			MO	0010 5	7259655	(Z221252) A182067	FILL 0005 SILT 0010 SILT WBRG 0015
NORTH YORK BOR	17 W	627029	4850553	2014-10 7241	2			MT	0008 10	7231461	(Z196679) A174716	BLCK 0004 BRWN SAND SILT 0014 BRWN SILT SAND 0018
NORTH YORK BOR	17 W	627180	4850057	2018-06 7241	2			TH MO	0004 10	7316934	(Z286725) A246540	BLCK ---- 0000 BRWN SAND SILT GRVL 0014
NORTH YORK BOR	17 W	627074	4850608	2014-10 7241	2			MT	0005 10	7231463	(Z196676) A174709	BLCK 0004 BRWN SAND SILT 0015
NORTH YORK BOR	17 W	627074	4850608	2014-10 7241	2			MT	0005 10	7231493	(Z196683) A174713	BLCK 0004 BRWN SAND SILT 0015
NORTH YORK BOR	17 W	626845	4850565	2014-10 7241	2			MT	0008 10	7231494	(Z196682) A174708	BLCK 0004 BRWN SAND 0015 BRWN SILT SAND 0018

NORTH YORK BOR	17 W	627170	4850181	2019-06 7238	2	UT 0110	///:	MO	0055 10	7338144	(Z308988) A252466	GRVL SAND 0050 SAND SLTY 0100 CLAY SLTY 0180
NORTH YORK BOR	17 W	626741	4850501	2014-10 7241	2			MT	0000 20	7231496	(Z196684) A174717	BLCK 0004 BRWN SAND SILT 0014 GREY SILT SAND 0017 GREY SILT SAND 0020
NORTH YORK BOR	17 W	626525	4849870	2015-08 7360	2			MO	0005 8	7259656	(Z221254) A177416	
NORTH YORK BOR	17 W	627185	4850496	2015-06 7230						7259791	(C29808) A184754 P	
NORTH YORK BOR	17 W	626877	4850540	2016-08 7148						7271156	(Z218577) A	
NORTH YORK BOR	17 W	627189	4850110	2015-11 7437						7272233	(C28361) A192700 P	
NORTH YORK BOR	17 W	627185	4850049	2018-06 7241	2			TH MO	0005 10	7316933	(Z286723) A246541	BLCK ---- 0000 BRWN SAND SILT 0015
NORTH YORK BOR	17 W	627193	4850317	7241	2			MT	0008 10	7231459	(Z196680) A174712	BLCK 0004 BRWN SAND SILT 0014 BRWN SILT SAND 0018
NORTH YORK BOR	17 W	627189	4850337	6946	2			MO	0020 10	7360881	(Z335742) A294855	GREY CLAY 0030
NORTH YORK BOR	17 W	627188	4850309	2020-03 7437						7356905	(C43889) A255750 P	
NORTH YORK BOR	17 W	626687	4850375	2020-04 6607	2		///:	MO	0010 10	7357608	(M8SMZO8K) A293208	BRWN GRVL SAND SOFT 0005 BRWN CLAY SILT SOFT 0015 BRWN CLAY SILT SOFT 0020
NORTH YORK BOR	17 W	626669	4850482	2020-04 6607	2		///:	MO	0015 10	7357613	(WKIPIOON) A293258	BRWN SAND GRVL LOOS 0005 BRWN SILT CLAY SOFT 0010 GREY CLAY SILT SOFT 0012 GREY SILT SAND DNSE 0019 GREY SILT CLAY SOFT 0025
NORTH YORK BOR	17 W	627134	4850538	2019-07 7238	2		///:		0070 10	7341039	(Z308989) A266334	FILL 0010 SAND SLTY 0040 SAND 0090 SAND SLTY 0150 CLAY 0160 SAND SLTY 0180
NORTH YORK BOR	17 W	627180	4850465	2020-03 7675	2			MO	0150 10	7357850	(Z336608) A127072	GRVL SAND FILL 0002 BRWN CLAY SAND SILT 0027 GREY SILT CLAY TILL 0057 GREY SILT FSND 0087 GREY SILT CLAY 0180
NORTH YORK BOR	17 W	626572	4849886	2019-05 7360						7334337	(C37617) P	
NORTH YORK BOR	17 W	627180	4850374	2020-04 7675	2	UT 0120		MO	0120 10	7358001	(Z336619) A273320	CLAY 0110 SAND 0130
NORTH YORK BOR	17 W	627189	4850261	2020-02 7238	2	UT 0140	///:	MO	0140 10	7355725	(Z323932) A282009	TILL HARD 0005 CLAY 0035 CGVL SAND 0110 SILT CLAY 0130 FSND 0150
NORTH YORK BOR	17 W	627187	4850332	6946	2			MO	0020 10	7360880	(Z335743) A294856	GREY CLAY 0030

NORTH YORK BOR	17 W	627180	4850465	2020-03 7675	2			MO	0070 10	7357849	(Z336607) A127078	SAND GRVL FILL 0002 BRWN SAND CLAY SILT 0027 GREY SILT CLAY TILL 0057 GREY SILT SAND 0080
NORTH YORK BOR	17 W	627196	4850338	6946	2			MO	0020 10	7360882	(Z335741) A294854	GREY CLAY 0030
NORTH YORK BOR	17 W	626703	4850515	2020-05 7675						7361141	(Z338759) A289766 P	
NORTH YORK BOR	17 W	627081	4850635	2020-05 7675						7361150	(Z338753) A289820 P	
NORTH YORK BOR	17 W	627153	4850089	2020-06 7360	2	UT 0022	///:	MO	0015 10	7369121	(CAOHYUMW) A292379	SAND SNDY 0002 FILL 0008 BRWN TILL SILT SNDY 0025
NORTH YORK BOR	17 W	627153	4850087	2020-06 7360	2	UT 0022	///:	MO	0015 10	7369124	(8QJ6SAD8) A295467	SAND SNDY 0002 FILL 0008 BRWN TILL SILT SNDY 0025
NORTH YORK BOR	17 W	627152	4850087	2020-06 7360	2	UT 0022	///:	MO	0015 10	7369125	(K2GX9RUA) A295501	SAND SNDY 0002 FILL 0008 BRWN TILL SILT SNDY 0025
NORTH YORK BOR	17 W	627182	4850087	2020-04 7675	2			MO	0110 10	7358002	(Z336616) A273147	0001 FILL 0010 SAND GRVL 0070 SILT SAND 0100 SAND 0150 CLAY 0180
NORTH YORK BOR	17 W	627106	4850558	2019-09 7675	2		///:	MO	0125 10	7347076	(Z315922) A268723	FILL 0010 SAND 0130 CLAY 0160 SAND 0175
NORTH YORK BOR	17 W	626788	4850552	2019-09 7675	2		///:	MO	0040 10	7348957	(Z315924) A268627	FILL 0010 SAND GRVL 0050
NORTH YORK BOR	17 W	627101	4850595	2019-08 7238	2		///:	MO	0095 10	7341657	(Z315846) A266339	FILL 0010 SAND GRVL 0060 CLAY 0065 SAND 0110 CLAY 0115
NORTH YORK BOR	17 W	627105	4850558	2019-09 7675	2	UT 0040	///:	MO	0070 10	7347072	(Z315921) A273235	---- ---- FILL 0005 BRWN CLAY SILT 0040 GREY FSND SILT 0080
NORTH YORK BOR	17 W	627105	4850590	2019-08 7238	2		///:		0030 10	7343109	(Z315898) A268628	0010 SAND GRVL 0040
NORTH YORK BOR	17 W	627102	4850601	2019-08 7238	2		///:		0070 10	7343108	(Z315899) A268631	FILL 0010 SAND GRVL 0040 SAND 0080
TORONTO CITY	17 W	626697	4850348	2008-09 7241	1.59			MT	0008 10	7113757	(Z88813) A072953	BRWN SAND GRVL WBRG 0018
TORONTO CITY	17 W	626677	4850456	2008-09 7241	1.59			MT	0004 10	7113758	(Z88799) A077938	BRWN SAND GRVL SOFT 0014
VAUGHAN TOWN (	17 W	626423	4850583	2014-07 7314		10				7225732	(Z103026) A087715	BRWN SAND GRVL FILL 0007 BRWN SILT TILL GRVL 0015 GREY SILT TILL CLYY 0030
VAUGHAN TOWN (	17 W	626980	4850859	2019-10 7472	2		///:	MO	0050 10	7354689	(Z321836) A280504	BRWN FILL LOOS 0005 BRWN SILT SAND PCKD 0010 GREY SAND SILT PCKD 0030 GREY SAND SILT PCKD 0060
VAUGHAN TOWN (	17 W	626788	4850552	2019-08 7238	2		///:	MO	0105 10	7343107	(Z315857) A268626	FILL 0010 SAND GRVL 0070 CLAY 0115

VAUGHAN TOWN (	17 W	627009	4850670	2020-03 7675	2	UT 0030		MO	0025 10	7357848	(Z336606) A127036	SAND GRVL FILL 0002 BRWN CLAY SNDY SILT 0012 BRWN CLAY SILT TILL 0023 GREY SILT CLAY 0035
VAUGHAN TOWN (	17 W	626895	4850589	2020-05 7675						7361138	(Z338750) A289823 P	
VAUGHAN TOWN (	17 W	626976	4850614	2020-04 7675	2			MO	0105 10	7358009	(Z336623) A273149	0001 FILL 0010 SILT SAND 0035 SAND GRVL 0055 SAND 0070 CLAY 0115
VAUGHAN TOWN (	17 W	626890	4850588	2020-05 7675						7361140	(Z338752) A289765 P	
VAUGHAN TOWN (	17 W	626825	4850567	2020-04 7675						7361168	(Z338748) A289822 P	
VAUGHAN TOWN (	17 W	626672	4850555	2010-06 7215				TH	0014 10	7147724	(Z114455) A100046	BRWN FILL ---- 0005 BRWN CLAY SILT ---- 0024
VAUGHAN TOWN (	17 W	626652	4850593	2009-04 7215						7123955	(Z096290) A075249 A	
VAUGHAN TOWN (	17 W	626656	4850588	2008-12 7215	1.25			TH	0015 5	7117877	(Z93465) A075249	BRWN TILL DRY 0016 GREY CLAY WBRG 0020
VAUGHAN TOWN (	17 W	626650	4850597	2006-10 7215	1.25				0007 10	6931075	(Z56012) A051171	
VAUGHAN TOWN (	17 W	627008	4850669	2020-05 7464						7370696	(Z321433) A282663 P	
VAUGHAN TOWN (	17 W	626888	4850587	2020-05 7675						7361139	(Z338751) A289769 P	
VAUGHAN TOWN (	17 W	627020	4850883	2016-04 7472	2			MO	0038 10	7267880	(Z235474) A204202	---- ---- 0002 SAND SILT 0020 BRWN SILT SAND GRVL 0048
VAUGHAN TOWN (	17 W	626955	4850645	2017-04 7383	2			TH	0078 10	7290316	(Z257687) A226539	
VAUGHAN TOWN (	17 W	627016	4850735	2017-04 7383	2			TH	0084 10	7290315	(Z257685) A222759	
VAUGHAN TOWN (	17 W	627012	4850860	2019-10 7472	2		///:	MO	0050 10	7354690	(Z321835) A280505	BRWN FILL LOOS 0005 BRWN SILT SAND PCKD 0015 GREY SAND SILT STNS 0020 GREY SAND SILT PCKD 0060
VAUGHAN TOWN (	17 W	626987	4850870	2019-10 7472	2		///:	MO	0080 10	7354691	(Z321833) A280506	BRWN FILL LOOS 0005 BRWN SILT SAND PCKD 0015 GREY SAND SILT STNS 0020 GREY SAND SILT PCKD 0090
VAUGHAN TOWN (	17 W	626930	4850600	2020-05 7675						7361137	(Z338749) A289821 P	
VAUGHAN TOWN (	17 W	626566	4850591	2020-03 7464						7356501	(C47467) A277366 P	
VAUGHAN TOWN (	17 W	626980	4850615	2020-04 7675	2			MO	0060 10	7358008	(Z336622) A273151	0001 FILL 0010 SILT SAND 0035 SAND GRVL 0055 SAND 0070

VAUGHAN TOWN (	17 W	627020	4850883	2016-04 7472	2			MO	0105 10	7267879	(Z235475) A204203	---- ---- 0002 SAND SILT 0020 SAND SILT GRVL 0100 GREY SAND 0115
VAUGHAN TOWN (	17 W	626937	4850856	2016-04 7472	2			MO	0092 10	7267878	(Z235476) A204204	---- ---- 0002 GREY SILT SAND 0090 GREY SAND 0102
VAUGHAN TOWN (	17 W	626984	4850847	2016-04 7472	2			MO	0090 10	7267877	(Z235477) A204205	---- 0002 GREY SILT SAND 0060 GREY SAND 0100
VAUGHAN TOWN (	17 W	626924	4850836	2019-10 7472	2		///:	MO	0050 10	7354688	(Z321837) A280503	BRWN FILL LOOS 0010 BRWN SILT SAND PCKD 0030 GREY SAND SILT PCKD 0060
VAUGHAN TOWN (	17 W	627009	4850670	2020-03 7675	2	UT 0030		MO	0070 10	7357847	(Z336605) A127037	SAND GRVL FILL 0002 BRWN CLAY SNDY SILT 0012 BRWN CLAY SILT TILL 0023 GREY SILT CLAY 0055 SAND SILT 0080
VAUGHAN TOWN (	17 W	627054	4850816	2020-01 7675	2		///:	MO	0070 10	7353855	(Z323926) A273315	---- 0001 SAND 0006 BRWN CLAY 0015 SILT TILL SNDY 0045 SAND 0080
VAUGHAN TOWN (	17 W	626505	4850669	6946						7332294	(C45220) A267295 P	
VAUGHAN TOWN (	17 W	626984	4850617	2020-04 7675	2			MO	0025 10	7358007	(Z336621) A273150	0001 FILL 0010 SILT SAND 0035
VAUGHAN TOWN (	17 W	627009	4850670	2020-03 7675	2	UT 0030		MO	0120 10	7357846	(Z336604) A127080	SAND GRVL FILL 0002 BRWN CLAY SNDY TILL 0012 BRWN CLAY SILT TILL 0023 GREY SILT CLAY 0055 SAND SILT 0090 CLAY SLTY 0130
VAUGHAN TOWN (	17 W	626992	4850667	2018-07 7238						7320783	(C39602) A243507 P	
VAUGHAN TOWN (	17 W	627054	4850817	2020-01 7675	2	UT 0090	///:		0160 10	7353854	(Z315923) A273142	---- 0001 SAND 0006 BRWN CLAY 0015 SILT TILL SNDY 0045 SAND 0090 SILT GRVL 0110 CLAY SLTY 0180
VAUGHAN TOWN (	17 W	626652	4850856	1954-07 4529	4	FR 0095	40/90/2/1	DO		6905541	()	LOAM MSND 0015 BRWN CLAY STNS 0050 BLDR 0060 GRVL CLAY 0090 MSND 0095
VAUGHAN TOWN (	17 W	626572	4850828	1955-01 4623	4	FR 0094	61/66/15/	DO	0094 4	6905544	()	BRWN CLAY 0018 BLUE CLAY 0055 HPAN BLDR 0070 WHIT MSND 0094 CSND GRVL 0098
VAUGHAN TOWN (	17 W	627017	4850904	1955-09 2909	5 5	FR 0202	86/195/5/	CO	0202 4	6905553	()	FILL 0001 BRWN CLAY STNS 0028 BRWN CLAY BLDR 0030 BRWN FSND 0108 GREY CLAY 0171 MSND 0199 MSND GRVL 0206 SHLE 0207

VAUGHAN TOWN (	17 W	626831	4850944	1955-04 2801	6					6905546	()	LOAM 0003 BRWN CLAY MSND 0008 BRWN CLAY GRVL 0027 BLDR 0028 CLAY GRVL BLDR 0055 CLAY MSND GRVL 0074 CLAY MSND GRVL 0086 HPAN 0088 CLAY GRVL 0116 GREY CLAY 0127 GREY CLAY GRVL 0146 GREY CLAY 0160 GREY CLAY GRVL 0190 CLAY MSND 0235 SHLE 0238
VAUGHAN TOWN (	17 W	626201	4850426	1948-10 2210	2					6905530	() A	YLLW CLAY 0010 BLUE CLAY 0035 GRVL 0040 MSND 0070 GRVL 0072 MSND 0107 GRVL 0112
VAUGHAN TOWN (	17 W	626735	4850880	1955-05 2801	6					6905550	()	LOAM 0003 BRWN CLAY 0006 BRWN CLAY MSND GRVL 0021 HPAN 0022 MSND GRVL 0041 GRVL CLAY BLDR 0054 GRVL CLAY 0098 CLAY 0120 CLAY GRVL 0185 CLAY MSND GRVL 0204 CLAY SHLE 0237 SHLE 0240
VAUGHAN TOWN (	17 W	626760	4850922	1955-06 2801	6					6905551	()	LOAM 0002 CLAY MSND 0007 MSND GRVL BLDR 0042 CLAY GRVL BLDR 0048 CLAY MSND GRVL 0085 CLAY GRVL MSND 0131 GREY CLAY GRVL MSND 0193 CLAY 0206
VAUGHAN TOWN (	17 W	627028	4850848	1949-12 2210	2	FR 0035	//4/:	DO	0071 4	6906089	()	YLLW CLAY 0015 MSND 0020 BLUE CLAY 0065 MSND 0075
VAUGHAN TOWN (	17 W	626697	4850616	1965-01 3108	4	FR 0155	80/140/3/	DO	0169 3	6905557	()	PRDG 0004 BLUE CLAY STNS 0040 BLUE CLAY MSND 0065 BLUE CLAY STNS 0095 FSND 0118 BLUE CLAY 0127 FSND 0150 BLUE CLAY 0155 FSND 0172
VAUGHAN TOWN (	17 W	626952	4850933	1954-02 3414	5	FR 0172	73/77/13/	CO	0164 8	6905554	()	CLAY BLDR 0041 BRWN MSND 0135 FSND SILT 0140 BLUE CLAY 0164 MSND 0168 FSND CLAY 0172
VAUGHAN TOWN (	17 W	626689	4850649	1938-06 1913	2	FR 0072	57//3/5:0	DO	0068 4	6905526	()	CLAY MSND 0072
VAUGHAN TOWN (	17 W	627078	4850699	2019-07 7238	2	UT 0060	///:	MO	0065 10	7341658	(Z315844) A245307	---- 0002 SAND GRVL 0008 SILT SNDY CLAY 0035 SAND SLTY 0075
VAUGHAN TOWN (	17 W	626740	4850588	2019-10 7644	2		///:	MO	0065 10	7349697	(Z318230) A278073	FILL 0002 BRWN TILL 0020 CSND 0030 GREY CLAY SLTY 0075
VAUGHAN TOWN (	17 W	626712	4850723	2019-10 7644	2		///:	MO	0035 10	7349698	(Z322768) A272110	FILL 0005 BRWN CLAY SAND SLTY 0020 GREY SAND CLAY SLTY 0045
VAUGHAN TOWN (	17 W	626637	4850687	2019-10 7644	2		///:	MO	0055 10	7349699	(Z322769) A278075	FILL 0005 BRWN CLAY SAND SLTY 0020 GREY SAND CLAY SLTY 0065
VAUGHAN TOWN (	17 W	626683	4850593	2017-10 7644	2		///:	MO	0035 5	7349700	(Z322770) A278072	FILL 0005 BRWN CLAY SAND SLTY 0020 GREY SAND CLAY SLTY 0035

VAUGHAN TOWN (	17 W	627078	4850699	2019-07 7238	2	UT 0060	///:	MO	0095 10	7341659	(Z315843) A268711	---- 0002 SAND GRVL 0008 SILT CLAY STNS 0035 SAND SLTY 0103 CLAY SLTY 0115
VAUGHAN TOWN (	17 W	627078	4850699	2019-08 7238	2		///:	MO	0020 10	7341660	(Z315845) A268727	---- 0002 SAND GRVL 0008 SILT CLAY STNS 0030
VAUGHAN TOWN (	17 W	626295	4850503	1973-04 1663		FR 0113	78/115/2(	CO	0119 4	6911697	()	BRWN CLAY FILL 0005 YLLW CLAY 0014 YLLW CLAY SAND STNS 0031 BRWN CLAY GRVL 0044 BLUE CLAY SAND 0101 BLUE CLAY 0113 GREY CSND GRVL 0126