Preliminary Hydrogeological Investigation
Proposed Residential and Commercial Buildings
Rangeview Estates Precinct Development
Mississauga, Ontario

PREPARED FOR:
Rangeview Landowners Group Inc.

Project #: 22-200-100
Date: September 22, 2023
Updated on : May 27, 2024

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22-200-100 **September 22, 2023**
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Rangeview Estates Precinct Development
C/O Rangeview Landowners Group Inc.
Rangeview Road
Mississauga, ON

RE: Preliminary Hydrogeological Investigation-Rangeview Estates Precinct Development, Rangeview Road and Surrounding Area, Mississauga, ON

DS Consultants Limited (DS) was retained by Rangeview Landowners Group Inc. to complete a preliminary hydrogeological investigation of the proposed development on Rangeview Road and the surrounding area in Mississauga, Ontario (Site). The site is located nearby about 3.5 kilometers east of Port Credit. The site is currently occupied by commercial and industrial buildings. Based on the conceptual plan, the site will be developed with low to mid-rise residential and commercial buildings with 1 to 3 levels of underground parking/basement. Also, it is DS's understanding installation of local site servicing will be part of the larger development. The report includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area and provides a preliminary assessment of the hydrogeological constraints and impacts of the proposed development on the local groundwater.

Based on the results of our investigation, the following summary of conclusions and recommendations are presented:

1. Based on the MECP water wells records search, there are 244 water wells registered within 500 meters of the Site. One (1) water well is noted as a water supply for industrial use. All other well records as registered as test hole, monitoring well, not in use, dewatering well or unknown. DS conducted a door-to-door survey to confirm the water supply well. No wells were confirmed to have existed during the survey. The study area is fully serviced with municipal water and therefore, no groundwater users are expected in the area.

2. In total, 22 boreholes were drilled across the site by DS Consultants Ltd. (DS) as part of the preliminary hydrogeological investigation concurrently with the geotechnical investigation in August 2022. All boreholes were advanced to depths ranging from 2.5 to 8.2 meters below the ground surface (mbgs). A total of nine (9) drilled boreholes were converted into monitoring wells and screened in overburden and shale bedrock at depths ranging from 3.0 to 8.2 mbgs.

3. The study area (500 m radius) lies within the Iroquois Plain physiographic region of southern Ontario and is characterized by the Bevelled Till Plains physiographic landform. The surficial geology in the study area is dominated by clayey silt till deposits and coarse-textured glaciolacustrine deposits of sand, gravel, silt, and clay. The soils at the Site consist of asphalt and heterogeneous fill materials, followed by clayey silt till/ silty clay with interbedded sandy silt/silty sand seam and shale bedrock of the Georgian Bay Formation. Bedrock depth varies from about 2.2 m to 6.1 meters below the existing ground surface at the Site.

4. DS measured the groundwater levels in all wells on September 20, 2022. Groundwater levels in overburden monitoring wells were found between 1.57 mbgs and 1.64 mbgs and in bedrock wells at 2.29 mbgs. The groundwater levels at the Site can be subject to seasonal fluctuations. Groundwater flow direction is expected to be south towards Lake Ontario.

5. Single well response tests (SWRTs) were completed at three (3) monitoring wells with sufficient water to estimate hydraulic conductivity (k) for the representative geological units in which the wells are completed. The reported hydraulic conductivity values (k) for overburden range between 5.3 X 10^{-6} and 1.1 × 10^{-7} m/s and weathered shale/ shale bedrock is 2.5 X10^{-6} m/s.

6. Construction Dewatering: Short-term and Long-term Discharge

   - DS understands that the proposed development concept will have up to three (3) levels of underground parking (P3). It is estimated that a conventional pile/lag shoring system will be used up to weathered shale bedrock and the excavation within the shale bedrock will be open cut (unsealed) for the proposed underground construction.

   - Based on the k-values of soils or rock for the site and surrounding areas, the dewatering flow rates within the assumed excavation area are expected to be low to medium. However, flow rates can be affected by any recharge from near Lake Ontario. Also, a secondary permeability of bedrock can contribute higher flow rate.

   - It is DS's understanding that a parcel/block-wise detailed hydrogeological investigation will be carried out in the future as per the actual design to estimate dewatering requirements. The preliminary estimated short-term and long-term discharge rates are presented in the table below.

Parcel	Area m^2	UG Level	Short-term Discharge				Long-term Discharge	
			Flow Rate(Q) without a Safety factor L/day	Flow Rate with a Safety factor x 1.5 L/day	Stormwater (10 mm/24 hrs.) L/day	Total Flow Rate L/day	Flow Rate(Q) without a Safety factor L/day	Flow Rate with a Safety factor x 1.5 L/day
Parcel 1	5,200	3	30,000	45,000	52,000	97,000	23,000	34,500
Parcel 2	7,700	2	23,000	34,500	77,000	111,500	16,000	24,000
Parcel 3	3,800	3	27,000	40,500	38,000	78,500	20,000	30,000
Parcel 4	3,800	3	27,000	40,500	38,000	78,500	20,000	30,000
Parcel 5	4,700	3	29,000	43,500	47,000	90,500	22,000	33,000
Parcel 6	5,400	3	31,000	46,500	54,000	100,500	23,000	34,500
Parcel 7	9,300	2	25,000	37,500	93,000	130,500	17,000	25,500
Parcel 8-9	9,200	2	25,000	37,500	92,000	129,500	17,000	25,500

Parcel	Area m^2	UG Level	Short-term Discharge				Long-term Discharge	
			Flow Rate(Q) without a Safety factor L/day	Flow Rate with a Safety factor x 1.5 L/day	Stormwater (10 mm/24 hrs.) L/day	Total Flow Rate L/day	Flow Rate(Q) without a Safety factor L/day	Flow Rate with a Safety factor x 1.5 L/day
Parcel 10	5,900	3	32,000	48,000	59,000	107,000	24,000	36,000
Parcel 11	8,300	2	24,000	36,000	83,000	119,000	16,000	24,000
Parcel 12	8,600	2	25,000	37,500	86,000	123,500	16,000	24,000
Parcel 13	2,000	-	-	-	-	-	-	-
Parcel 14	4,000	1	9,000	13,500	40,000	53,500	4,000	6,000
Parcel 15	3,800	3	27,000	40,500	38,000	78,500	20,000	30,000
Parcels 16-17	8,200	2	24,000	36,000	82,000	118,000	16,000	24,000
Parcel 18	1,800	-	-	-	-	-	-	-
Parcel 19	3,600	3	26,000	39,000	36,000	75,000	20,000	30,000
Parcels 20-21	5,800	2	21,000	31,500	58,000	89,500	14,000	21,000
Parcel 22	5,700	2	20,000	30,000	57,000	87,000	14,000	21,000
Parcel 23	10,000	1	13,000	19,500	100,000	119,500	6,000	9,000
Parcel 24	12,900	2	30,000	45,000	129,000	174,000	20,000	30,000
Parcel 25	7,400	3	35,000	52,500	74,000	126,500	27,000	40,500
Parcels 26-27	8,300	2	24,000	36,000	83,000	119,000	16,000	24,000
Parcels 27-28	4,600	2	19,000	28,500	46,000	74,500	12,000	18,000
Parcels 29-30	3,700	3	27,000	40,500	37,000	77,500	20,000	30,000
Parcel 31	6,000	2	21,000	31,500	60,000	91,500	14,000	21,000
Parcel 32	3,300	1	8,000	12,000	33,000	45,000	3,000	4,500
Parcel 33	3,400	3	26,000	39,000	34,000	73,000	19,000	28,500

7. Construction Dewatering: Public ROW (Site Servicing):

- An assumed 100 m long and 2 m wide open cut section was considered for dewatering estimation during the installation of underground utilities such as water main, storm and sanitary sewer and utility access holes. Based on the site servicing drawings provided to DS, the proposed bottom of underground utilities varies between 5-6 mbgs. The highest shallow groundwater level for the site is 84 masl.

- The estimated dewatering rate (short-term) during the installation of underground utilities for the trench (30 m x 2 m) is 14,000 L/day without a safety factor and 21,000 L/day with a safety factor of x1.5. The additional flow rate that may be needed to be removed because of precipitation events (assuming 10 mm/24 hours) would be an additional 1,000 L/day.

The dewatering volume for the section can be change depending on the existing grade and the actual groundwater level encountered during the excavation of the section.

8. Permits Requirements:

In the absence of drawings/site plans and construction sequencing details, DS anticipates that the construction of the proposed construction will be phased. Therefore, permit requirements can be determined once the final design, revised dewatering rates, and construction sequences are available. Below are the regulatory dewatering permit requirements regarding estimated daily discharge volume.

- An EASR or a PTTW is not required for water taking less than 50,000 L/day.
- An Environmental Activity Sector Registration (EASR) is required to be submitted to the Ministry of the Environment, Conservation and Parks (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 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. The PTTW application is also an online registry and should be submitted to the MECP 90 days from the start of construction.
- A discharge permit may be required from the City of Mississauga if groundwater is to be sent to the sewer system for short-term (during construction)

9. One (1) unfiltered groundwater sample was collected from the monitoring well BH 22-9 on September 22, 2022, and another water sample was collected from monitoring well BH 22-14 between April 17 and May 3, 2023. The groundwater samples were analyzed and compared against the parameters listed in the Region of Peel Wastewater Bylaw (53-2010) and the City of Mississauga Storm Sewer Use Bylaw.

10. Groundwater quality analysis indicates that TSS, various total metals and cis- 1,2-Dichloroethene exceeded the sanitary or storm criteria under the Region of Peel's Wastewater Bylaw (53-2010) and the City's Sewer Use Bylaw. Therefore, groundwater at the Site is not suitable for direct discharge to the Region's or the City's sewer system without pre-treatment. Treatment options include but are not limited to the settlement of suspended solids and specialized filtration to remove fines and associated metals.

11. The area is fully serviced by a municipal water supply. It is not expected to have any use of groundwater as a source of drinking water within a radius of 500 meters therefore, there will be no short-term impacts on private water wells occurring from dewatering activities.

12. Baseline groundwater quality has been assessed and established before construction. However, groundwater quality can change based on several factors (land-use change, spills, natural

variations, site remediation activities, 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/Region.

13. In conformance with Regulation 903 of the Ontario Water Resources Act, the decommissioning of any dewatering system and monitoring wells should be conducted 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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APPENDICES:

1.0 INTRODUCTION

DS Consultants Limited (DS) was retained by Rangeview Landowners Group Inc. to complete a preliminary hydrogeological investigation of the proposed development on Rangeview Road and the surrounding area in Mississauga, Ontario (Site). The site is located nearby about 3.5 kilometers east of Port Credit. The site is currently occupied by commercial and industrial buildings. Based on the conceptual plan, the site will be developed with low to mid-rise residential and commercial buildings with 1 to 3 levels of underground parking/basement. Also, it is DS's understanding that the installation of local site servicing will be part of the overall development.

The report includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area and provides an assessment of the hydrogeological constraints and impacts of the proposed development on the local groundwater. The preliminary hydrogeological investigation is based on boreholes and monitoring wells drilled and installed by DS on the Site concurrently with the geotechnical investigations.

1.1 Purpose

The purpose of this investigation was to review and determine the need for dewatering, estimate dewatering rates, assess groundwater quality, and determine the need for a Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) from the Ministry of Environment and Climate Change (MECP) in addition to requirements to obtain discharge permits from the Region of the Peel Region/the City of Mississauga. Potential impacts related to construction dewatering and associated monitoring/mitigation measures were also to be investigated.

1.2 Scope of Work

The scope of work for this investigation included:

(i) Site visits;

(ii) Collecting and interpreting available reports and data including the MECP Water Well Records (WWR), geotechnical, hydrogeological and environmental studies completed at the site and in the site's vicinity;

(iii) In-situ hydraulic conductivity testing of newly installed monitoring wells;

(iv) Assessing groundwater quantity and quality to evaluate discharge options;

(v) Assessing potential impacts due to dewatering activities; and,

(vi) Data analyses and report preparation.

2.0 FIELD INVESTIGATION

- In total, 22 boreholes were drilled across the site by DS Consultants Ltd. (DS) as part of the preliminary hydrogeological investigation concurrently with the geotechnical investigation in August 2022. All boreholes were advanced to depths ranging from 2.5 to 8.2 meters below the ground surface (mbgs).

- A total of nine (9) drilled boreholes were converted into monitoring wells and screened in overburden and shale bedrock at depths ranging from 3.0 to 8.2 mbgs. 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 into wells by performing a rising head test to estimate hydraulic conductivity values of formations/soils at the Site.

- Two unfiltered groundwater samples were collected and analyzed for the parameters listed under the Region of Peel and City of Mississauga Sewer Use By-law to assess groundwater quality before any discharge to the City's sewers system.

3.0 PHYSICAL SETTING

Available topographic maps and environmental, geotechnical, and hydrogeological reports were used to develop an understanding of the physical setting of the study area. The borehole logs from all investigations at the Site, as well as the Ministry of the Environment, Conservation and Parks Water Wells Records (MECP WWRs), were used to interpret the geological and hydrogeological conditions at the Site.

3.1 Physiography and Drainage

The general topography at the study area and the Site has a gentle slope south towards Lake Ontario, with elevations decreasing from 85 m to 77 m. Drainage at the site is follow the local topography controlled by artificial channels and underground utilities such as sewers. The nearest surface water body Lake Ontario is located at the southern boundary of the Site.

3.2 Geology

The following presents a brief description of regional and Site geological and hydrogeological conditions based on the review of available information and site-specific investigations.

3.2.1 Quaternary Geology

The study area (500 m radius) lies within the Iroquois Plain physiographic region of southern Ontario and is characterized by the Bevelled Till Plains physiographic landform. The surficial geology in the study area is

dominated by clayey to silt textured till (Halton till) and fined-textured glaciolacustrine deposits of silt, clay and minor sand and gravel. The surficial geology map is shown in **Figure 2.**

3.2.2 Bedrock Geology

Available published mapping shows that bedrock in the area is predominantly shales and limestones of the Georgian Bay Formation (MNDM Map 2544 Bedrock Geology of Ontario). Based on the review of local boreholes and well record information, the depth to bedrock in the study area is estimated to be at an elevation of 70 to 80 masl.

3.2.3 Site Geology/Subsurface Soils

Subsurface soils/Site geology on the site was interpreted from the existing boreholes/monitoring wells (BHs/MWs) drilled by DS. The locations of the BHs/MWs are shown in **Figure 3** and detailed subsurface conditions are presented on the borehole Logs in **Appendix A**. The subsurface conditions in the boreholes are summarized in the following paragraphs.

Fill Materials:

Fill material was found in all boreholes extending to depths ranging from 0.8 to 2.5 m below the ground surface. The fill material was heterogeneous and consisted of sandy silt and clayey silt to silty clay, with inclusions of topsoil/organics in varying proportions and trace limestone & shale fragments.

Clayey Silt to Silty Clay Till/ Clayey Silt to Silty Clay:

Below the fill materials, silty clay to clay silt till and interbedded clayey silt to silty clay deposits were encountered in all boreholes at varying depths and extended to the depth of 2.2- 8.2 mbgs.

Shale Bedrock:

Weathered shale/Shale bedrock belonging to Georgian Bay Formation was found at approximate depths varying from 2.2 to 6.1 m below the existing surface.

3.3 Hydrogeology

The hydrogeology at the Site was evaluated using the on-Site monitoring wells installed by DS as part of geotechnical, environmental, and hydrogeological investigations, local domestic wells, and existing hydrogeological reports for the area.

3.3.1 Hydrostratigraphy

The review of sub-surface soils indicates that there are three (3) major hydrostratigraphic units in the vicinity of the site: Glacial Till (Halton till), glaciolacustrine deposits and Shale bedrock of Georgian Bay Formation. These three (3) units are further described below.

- Glacial till is clayey to silty, textured till and known to be interbedded with minor sand deposits. This unit is considered as low permeable or an aquitard.

- The shale bedrock of the Georgian Bay Formation is not considered to be an aquifer and has limited groundwater movement. The upper weathered/fractured shale can have some local groundwater movement.

3.3.2 Local Groundwater Use

As part of the hydrogeological study, DS completed a search of the Ministry of the Environment, Conservation and Parks (MECP) Water Wells Records (WWRs) database. Based on the MECP water wells records search, there are 244 water wells registered within 500 meters of the Site (**Appendix B**). One (1) water well is noted as a water supply for industrial use. All other well records as registered as test hole, monitoring well, not in use, dewatering well or unknown. **Figure 1** shows the MECP water well location plan.

3.3.3 Groundwater Conditions

DS measured the groundwater level in all wells on September 15, 2022. Groundwater levels in overburden monitoring wells were found between 1.57 mbgs and 1.64 mbgs and in bedrock well at 2.29 mbgs. A summary of the measured groundwater levels in all monitoring wells is provided in **Table 3-1.**

Table 3-1: Groundwater Levels in Monitoring Wells

Well ID	Ground Elevation (masl)	Well Depth (mbgs)	Screened Interval (mbgs)	Screened Formation	Depth to Water (mbgs)	Groundwater Elevation (masl)
BH 22-3	81.80	3.1	1.5-3.1	Silty Clay to Clayey Silt till	Dry	-
BH 22-6	83.00	3.0	1.5-3.0	Silty Clay to Clayey Silt till	1.63	81.4
BH 22-9	85.80	6.0	3.0-6.0	Shale	2.29	83.5
BH 22-12	81.60	7.7	4.7-7.7	Silty Clay to Clayey Silt till	Dry	-
BH 22-13	85.40	3.7	2.5-3.7	Clay silty to Sandy Silt/Silty	1.57	83.8
BH 22-14	83.90	6.1	3.1-6.1	Silty Clay to Clayey Silt till	Dry	-
BH 22-17	85.50	3.0	1.5-3.0	Silty Clay to Clayey Silt till	1.64	83.9
BH 22-22	84.30	6.1	3.1-6.1	Silty Clay to Clayey Silt till	Dry	-

3.3.4 Hydraulic Conductivity

A single well response test (SWRT) was completed at three monitoring wells with sufficient water to estimate hydraulic conductivity (k) for the representative geological units in which the wells are completed. The reported hydraulic conductivity values (k) for overburden range between 5.3 X 10^{-6} and 1.1 × 10^{-7} m/s and weathered shale/ shale bedrock is 2.5 X10^{-6} m/s. The test results are summarised in Table 3-2 and the hydraulic testing analysis is provided in **Appendix C.**

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

Well ID	Screen Interval	Screened Formation	K- Value(m/s)
BH 22-6	1.5-3.0	Silty Clay to Clayey Silt till	5.3×10^{-9}
BH 22-9	9.2-12.2	Shale	2.5×10^{-6}
BH 22-13	9.2-12.2	Clay silty to Sandy Silt/Silty Sand(Till)	1.1×10^{-7}

3.3.5 Groundwater Quality

One unfiltered groundwater sample was collected from monitoring well BH 22-9 on September 22, 2022, and from monitoring well BH 22-14 between April 17 and May 3, 2023. The groundwater samples were analyzed and compared against the parameters listed in the Region of Peel Wastewater Bylaw (53-2010) and the City of Mississauga Storm Sewer Use Bylaw.

Groundwater quality analysis indicates that TSS, various total metals and cis- 1,2-Dichloroethene exceeded the sanitary or storm criteria under the Region of Peel's Wastewater Bylaw (53-2010) and the City's Sewer Use Bylaw. The selected certificates of analysis are provided in **Appendix D.**

Table 3-4: Parameters in Groundwater Exceeding the Sewer Use By-law

Parameter Exceeded	Unit	Peel Sanitary Sewer Use Criteria	Mississauga Storm Sewer Use Criteria	BH/MW 22-9 Concentration	BH/MW 22-14 Concentration
Total Suspended Solids	mg/L	350	15	**9560**	**42**
Aluminum	mg/L	50	1	**63.5**	0.1
Arsenic	mg/L	1	0.02	**0.038**	<0.01
Chromium	mg/L	5	0.08	**0.117**	<0.01
Copper	mg/L	3	0.04	**0.129**	<0.01
Manganese	mg/L	5	2	**5.44**	0.018
Nickel	mg/L	3	0.08	**0.135**	<0.005
Phosphorus	mg/L	10	0.4	**3.76**	<0.05
Zinc	mg/L	3	0.2	**0.37**	<0.005
cis-1,2-Dichloroethene	mg/L	4	-	**0.0115**	-

Note: **Bold** – Exceeded Peel Storm Sewer Use, * Exceeded Mississauga Storm Sewer Use, Underline- Exceeded Peel Sanitary Sewer Use

4.0 CONSTRUCTION DEWATERING

DS understands that the proposed development concept **(Appendix E)** will have up to three (3) levels of underground parking (P3). It is estimated that a conventional pile/lag shoring system will be used up to weathered shale bedrock and the excavation within the shale bedrock will be open cut (unsealed) for the proposed underground construction. Based on the k-values of soils or rock for the site and

surrounding areas, the dewatering flow rates within the assumed excavation area are expected to be low to medium. However, flow rates can be affected by any recharge from near Lake Ontario. Also, a secondary permeability of bedrock can contribute higher flow rate. It is DS's understanding that a parcel/block-wise detailed hydrogeological investigation will be carried out as per the actual design to estimate dewatering requirements.

4.1 Short-term Dewatering Requirements- Buildings

No detailed design drawings were available at the time of drafting this report. Following parameters are assumed for the preliminary dewatering assessment for the proposed buildings.

a. Underground Structure: One (1) – Three (3) Levels
b. Assumed Established Ground Elevation: 83.5 masl
c. Assumed Lowest Finished Floor Level (P1-P3): 3-9 m below the established grade
d. Considered Deepest Excavation (including foundation): 5- 11 m below the established grade
e. Considered Average Groundwater Elevation: 82 masl
f. Considered Geomean K- value: 5 x 10^{-7} m/s

The estimated dewatering volumes(Q) using steady-state equations are presented in **Table 4.1**.

$$Q = (pi * K (H^2 – h^2)) / ln (R/r_e)$$

Where,

K – Hydraulic conductivity

H – Distance from static water level to the bottom of an aquifer

h – Depth of water in the well while pumping

r_e – equivalent radius [m] = $((a*b) / \pi)^{0.5}$ where a and b are excavation dimensions

R – Radius of the cone of depression = $r_e + 3000 * (H – h) * K^{0.5}$

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

Parcel	Area m^2	Under-ground level No.	H (m)	Flow Rate(Q) without a Safety factor L/day	Flow Rate with a Safety factor x 1.5 L/day	Stormwater (10 mm/24 hrs.) L/day	Total Flow Rate L/day
Parcel 1	5,200	3	9.5	30,000	45,000	52,000	97,000
Parcel 2	7,700	2	6.5	23,000	34,500	77,000	111,500
Parcel 3	3,800	3	9.5	27,000	40,500	38,000	78,500
Parcel 4	3,800	3	9.5	27,000	40,500	38,000	78,500
Parcel 5	4,700	3	9.5	29,000	43,500	47,000	90,500
Parcel 6	5,400	3	9.5	31,000	46,500	54,000	100,500

Parcel	Area m^2	Under-ground level No.	H (m)	Flow Rate(Q) without a Safety factor L/day	Flow Rate with a Safety factor x 1.5 L/day	Stormwater (10 mm/24 hrs.) L/day	Total Flow Rate L/day
Parcel 7	9,300	2	6.5	25,000	37,500	93,000	130,500
Parcels 8-9	9,200	2	6.5	25,000	37,500	92,000	129,500
Parcel 10	5,900	3	9.5	32,000	48,000	59,000	107,000
Parcel 11	8,300	2	6.5	24,000	36,000	83,000	119,000
Parcel 12	8,600	2	6.5	25,000	37,500	86,000	123,500
Parcel 13	2,000	-	-	-	-	-	-
Parcel 14	4,000	1	3.5	9,000	13,500	40,000	53,500
Parcel 15	3,800	3	9.5	27,000	40,500	38,000	78,500
Parcels 16-17	8,200	2	6.5	24,000	36,000	82,000	118,000
Parcel 18	1,800	-	-	-	-	-	-
Parcel 19	3,600	3	9.5	26,000	39,000	36,000	75,000
Parcels 20-21	5,800	2	6.5	21,000	31,500	58,000	89,500
Parcel 22	5,700	2	6.5	20,000	30,000	57,000	87,000
Parcel 23	10,000	1	3.5	13,000	19,500	100,000	119,500
Parcel 24	12,900	2	6.5	30,000	45,000	129,000	174,000
Parcel 25	7,400	3	9.5	35,000	52,500	74,000	126,500
Parcels 26-27	8,300	2	6.5	24,000	36,000	83,000	119,000
Parcels 27-28	4,600	2	6.5	19,000	28,500	46,000	74,500
Parcels 29-30	3,700	3	9.5	27,000	40,500	37,000	77,500
Parcel 31	6,000	2	6.5	21,000	31,500	60,000	91,500
Parcel 32	3,300	1	3.5	8,000	12,000	33,000	45,000
Parcel 33	3,400	3	9.5	26,000	39,000	34,000	73,000

The estimated dewatering rate(short-term) for a parcel range between 8,000 L/day and 35,000 L/day without a safety factor and 12,000 L/day and 52,500 L/day with a safety factor of x1.5. Additional water that may be needed to be removed because of precipitation events (assuming 10 mm/24 hours) would be between 33,000 and 129,000 L/day. The dewatering volume for the section can be changed depending on the existing grade, hydraulic conductivity of soils or rock and the actual groundwater level encountered during the excavation of a parcel.

4.2 Short-term Dewatering Requirements- Public ROW (Site Servicing)

No design drawings were available at the time of drafting this report. For the dewatering purpose, a theoretical 30 m long and 2 m wide and 5-6 m deep open cut trench was considered at any given time during the installation of underground utilities such as water main, storm and sanitary sewer and utility access holes as part of the Public ROW. Based on the existing ground levels at the site, the assumed

bottom of underground utilities is about 5-6 mbgs. The groundwater level for the site is between 1.57 and 2.29 mbgs. The requirements of dewatering for the sections will depend on the existing grade and the actual groundwater level encountered during the excavation of sections. The estimated dewatering volume for the assumed trench/section is as below.

$Q = (pi * K (H^2 – h^2)) / ln (R/r_e)$ = 6,000 L/day without a safety factor

Where,

K – Hydraulic conductivity= 2.5×10^{-6} m/s (highest k-value)

H – Distance from static water level to the bottom of an aquifer= 4.5

h – Depth of water in the well while pumping-0.0

r_e – equivalent radius [m] = $((a*b) / \pi)^{0.5}$ where a and b are excavation dimensions=

R – Radius of the cone of depression = $r_e + 3000 * (H – h) * K^{0.5}$

The estimated dewatering rate(short-term) during the installation of underground utilities for the assumed trench (30 m x 2 m) is 14,000 L/day without a safety factor and 21,000 L/day with a safety factor of x1.5. The additional flow rate that may be needed to be removed because of precipitation events (assuming 10 mm/24 hours) would be 1,000 L/day. The dewatering volume for a parcel can be changed depending on the existing grade and the actual groundwater level encountered during the excavation of a parcel.

4.3 Long-term Dewatering Requirements- Buildings

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. The estimated long-term drainage flow rate for a parcel with P1-P3 levels using a steady-state flow equation is summarised in **Table 4-2.**

Table 4-2: Estimation of Flow Rate (Long-term Discharge)

Parcel	Area m^2	Under-ground level- No.	H (m)	Flow Rate without a Safety Factor L/day	Flow Rate with a Safety factor x 1.5 L/day
Parcel 1	5,200	3	7.5	23,000	34,500
Parcel 2	7,700	2	4.5	16,000	24,000
Parcel 3	3,800	3	7.5	20,000	30,000
Parcel 4	3,800	3	7.5	20,000	30,000
Parcel 5	4,700	3	7.5	22,000	33,000
Parcel 6	5,400	3	7.5	23,000	34,500
Parcel 7	9,300	2	4.5	17,000	25,500
Parcel 8-9	9,200	2	4.5	17,000	25,500

Parcel	Area m^2	Under-ground level- No.	H (m)	Flow Rate without a Safety Factor L/day	Flow Rate with a Safety factor x 1.5 L/day
Parcel 10	5,900	3	7.5	24,000	36,000
Parcel 11	8,300	2	4.5	16,000	24,000
Parcel 12	8,600	2	4.5	16,000	24,000
Parcel 13	2,000	-	-	-	-
Parcel 14	4,000	1	1.5	4,000	6,000
Parcel 15	3,800	3	7.5	20,000	30,000
Parcels 16-17	8,200	2	4.5	16,000	24,000
Parcel 18	1,800	-	-	-	-
Parcel 19	3,600	3	7.5	20,000	30,000
Parcels 20-21	5,800	2	4.5	14,000	21,000
Parcel 22	5,700	2	4.5	14,000	21,000
Parcel 23	10,000	1	1.5	6,000	9,000
Parcel 24	12,900	2	4.5	20,000	30,000
Parcel 25	7,400	3	7.5	27,000	40,500
Parcels 26-27	8,300	2	4.5	16,000	24,000
Parcels 27-28	4,600	2	4.5	12,000	18,000
Parcels 29-30	3,700	3	7.5	20,000	30,000
Parcel 31	6,000	2	4.5	14,000	21,000
Parcel 32	3,300	1	1.5	3,000	4,500
Parcel 33	3,400	3	7.5	19,000	28,500

The estimated long-term discharge for a parcel range between 3,000 L/day and 27,000 L/day without a safety factor and 4,500 L/day and 40,500 L/day with a safety factor of x1.5. The dewatering volume for a parcel can be changed depending on the existing grade, sub-drainage depth, hydraulic conductivity of soils or rock and the actual groundwater level encountered during the excavation of a parcel.

4.4 Water-taking Permit Requirements

In the absence of drawings/site plans and construction sequences, DS anticipates that the construction of the proposed construction will be phased. Therefore, permit requirements can be determined once the final design, revised dewatering rates, and construction sequences are available. Below are the regulatory dewatering permit requirements concerning daily discharge volume.

- An EASR or a PTTW is not required for water taking less than 50,000 L/day.
- An Environmental Activity Sector Registration (EASR) is required to be submitted to the Ministry of the Environment, Conservation and Parks (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 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. The PTTW application is also an online registry and should be submitted to the MECP 90 days from the start of construction dewatering. Dewatering of up to 400,000 L/day is acceptable under an EASR registry.

5.0 POTENTIAL IMPACTS

The following are the predicted potential impacts because of construction dewatering:

5.1 Current PTTW Search

The MECP PTTW Open Data Catalogue was searched within a 1 km radius of the Site. The search indicated that there is one active PTTW within 1 km of the Site. The PTTW details are summarised below. The groundwater interferences from surrounding pumping activities are possible to occur depending on the radius of influence.

Permit Number	Permit Holder Name	Purpose	Specific Purpose	Max Litres per Day	Source Type	Distance (KM)
2216-BPJSE5	The Regional Municipality of Peel	Dewatering Construction	Construction	2590000	Ground Water	0.40

5.2 Source Protection Area

The site is located within the Credit Valley Source Protection Area (SPA). The Credit Valley Source Protection Plan contains policies aimed at protecting drinking water sources by reducing or eliminating significant threats to the source of municipal drinking water. The study area is serviced by municipal water. Therefore, no impacts are anticipated on the drinking water supply within the zone of influence.

5.3 Surface Water

Lake Ontario is not within the zone of influence during construction dewatering. Therefore, surface water impacts due to the short-term dewatering are not expected.

5.4 Local Groundwater Use

The area is fully serviced by a municipal water supply. It is not expected to have any use of groundwater as a source of drinking water within a radius of 500 meters and therefore, there will be no short-term or long-term predicted impacts on private water wells occurring from the proposed dewatering activities.

5.5 Point of Discharge and Groundwater Quality

Groundwater quality analysis indicates that TSS, various total metals and cis- 1,2-Dichloroethene exceeded the sanitary or storm criteria under the Region of Peel's Wastewater Bylaw (53-2010) and the City's Sewer Use Bylaw. Therefore, groundwater at the Site is not suitable for discharge to the Region's or the City's sewer system without treatment. Treatment options include but are not limited to the settlement of suspended solids and filtration to remove fines and associated metals. Discharge permits and agreements are required from the Region of the Peel/City of Mississauga to discharge groundwater into the sewer system.

6.0 MONITORING AND MITIGATION

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

- 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 Mississauga.

- if 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 because of dewatering.

- 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 conducted by a licenced water well contractor in accordance with Regulation 903 of the Ontario Water Resources Act.

7.0 LIMITATIONS

This report was prepared for the sole use of the addressee to provide an assessment of the hydrogeological conditions on the property. The information presented in this report is based on information collected during the completion of the hydrogeological investigation by DS Consultants Ltd. DS Consultants Ltd. was required to use and rely upon various information sources produced by other parties. The information provided in this report reflects DS's judgment considering the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or findings, conclusions, and recommendations represented herein, is at the

sole risk of said users. The conclusions drawn from the Hydrogeological report were based on information at selected observation and sampling locations. Different conditions between and beyond these locations may become apparent during future investigations or on-Site work, which could not be detected or anticipated at the time of this investigation. DS Consultants Ltd. cannot be held responsible for hydrogeological conditions at the Site that was not apparent from the available information.

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

DS Consultants Ltd.

Prepared By:

P.A. Patel

Pradeep Patel, M.Sc. P.Geo.
Hydrogeologist

Reviewed By:

Martin Gedeon

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

8.0 CONSULTANTS 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.

Pradeep Patel, M.Sc., P.Geo. is a hydrogeologist at DS Consultants Ltd. and has more than 9 years of experience working in the environmental industry. He participates in numerous Hydrogeological and Geotechnical investigation projects. His experience includes the preparation of construction dewatering activities and hydrogeological investigations in support of Environmental Activity and Sector Registry (EASR) and Permit to Take Water (PTTW) applications.

9.0 REFERENCES

Appendix F-Hydrogeology Final Report- Lake Ontario Integrated Shoreline Strategy Background Review and Data Gap Analysis by Credit Valley Conservation, September 12, 2011

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

Freeze, R.A., and J.A. Cherry. "Groundwater". Prentice-Hall, Inc. Englewood Cliffs, NJ. 1979.

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Ontario Regulation 245/11- Environmental Activity and Sector Registry.

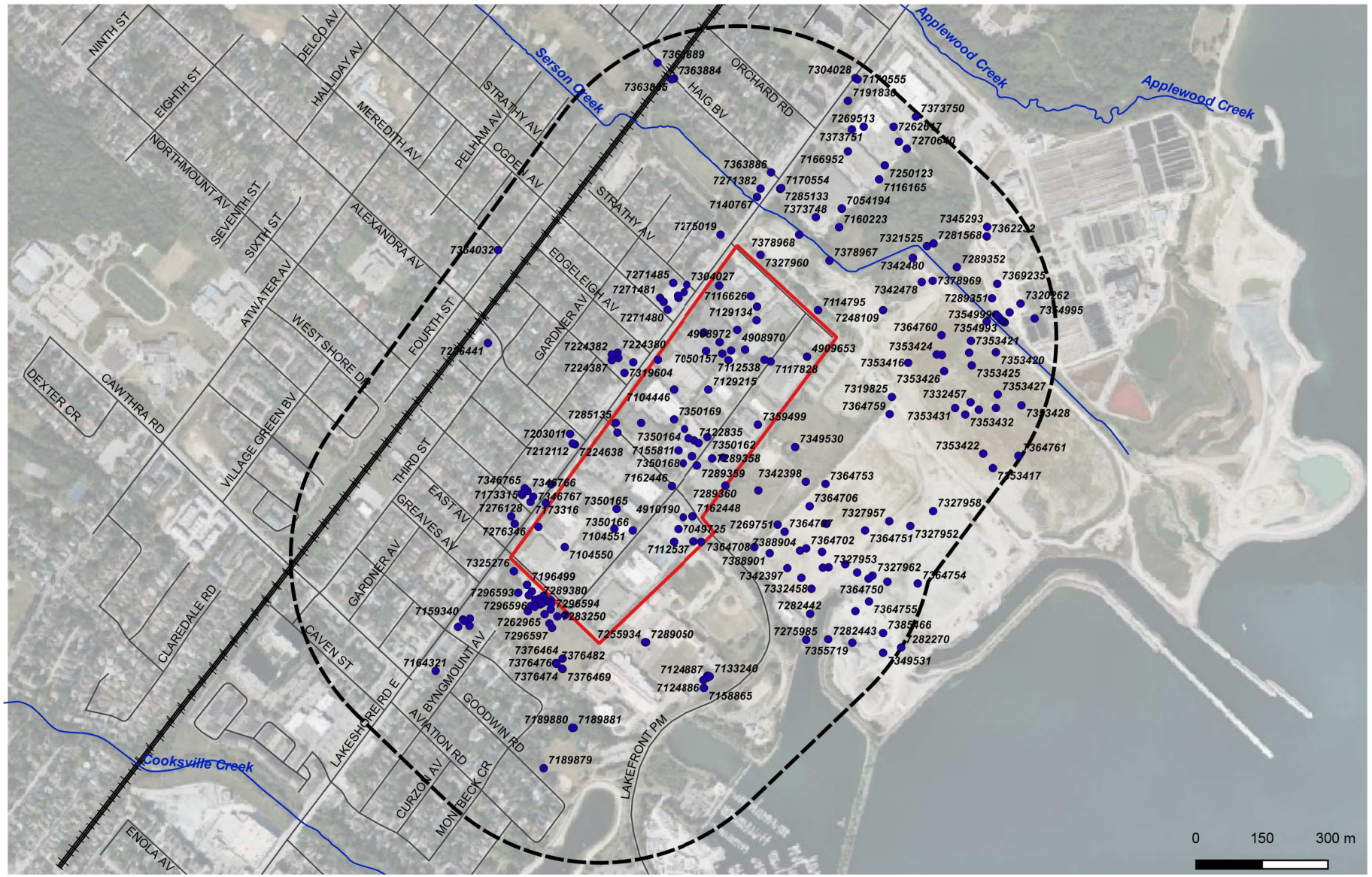
Powers, J. Patrick, P.E. (1992); Construction Dewatering: New Methods and Applications - Second Edition, New York: John Wiley & Sons.

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

The Region of Peel Wastewater Bylaw (53-2010).

FIGURES

C:\0Sharon\22-200-100 Rangeview Estate Precinct Development\1-QGIS\HydroG\Figure 1 – Site Location and MECP Well Records.qgs Oct-05 15:47



Legend

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

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Client: RANGEVIEW LANDOWNERS GROUP INC.

Project: HYDROGEOLOGICAL INVESTIGATION
Rangeview Estate Precinct Development, City of Mississauga, ON

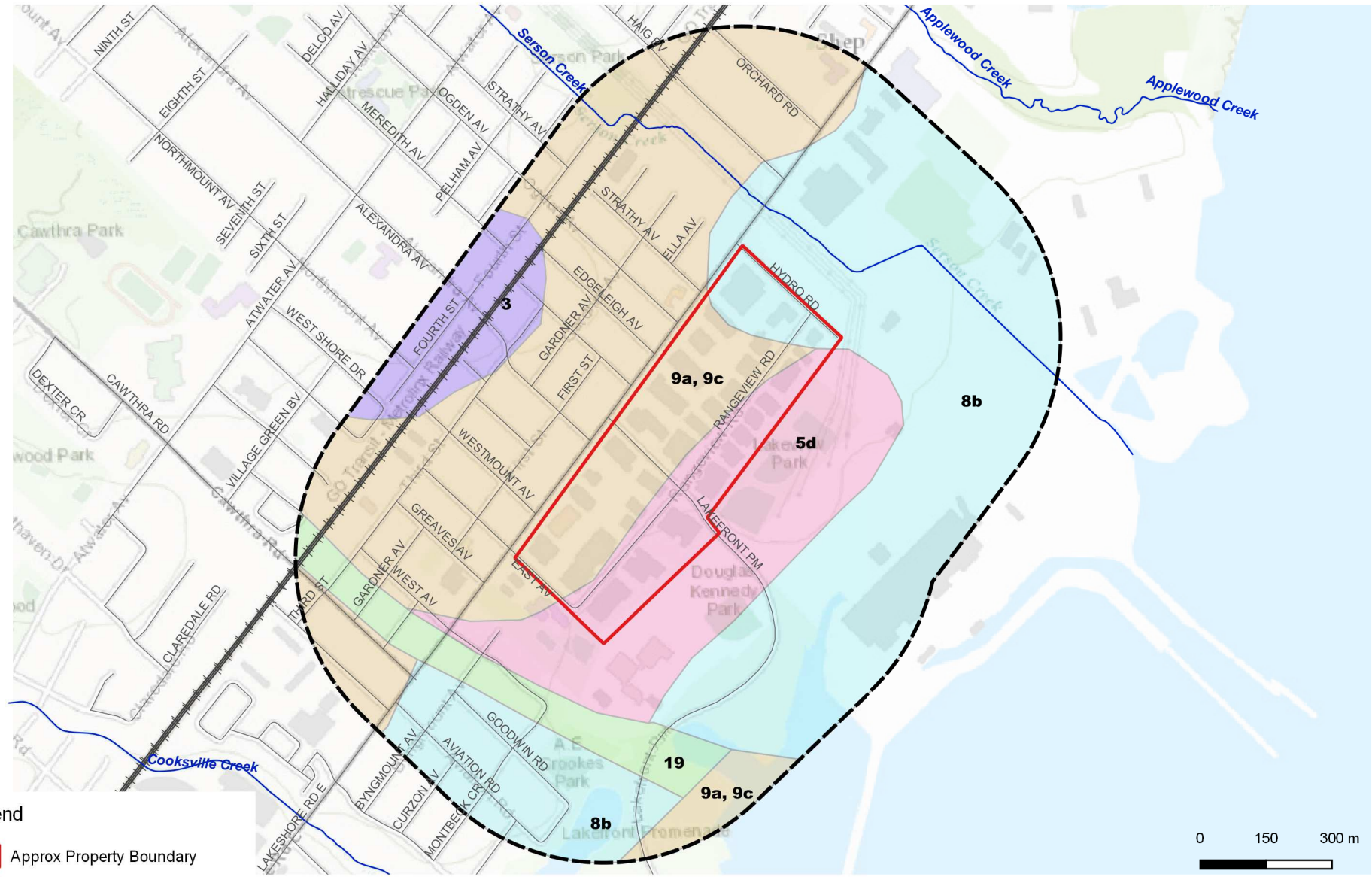
Title: **SITE LOCATION AND MECP WELL RECORDS**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	P.P	S.Y	October 2022
Rev: 0	Scale: As Shown	Project No.: 22-200-100	Figure No.: 1

Image/Map Source: *Bing Satellite Image*

C:\0Sharon\22-200-100 Rangeview Estate Precinct Development\1-QGIS\HydroG\Figure 2 – Surficial Geology Map.qgs Oct-05 16:06



Legend

- Approx Property Boundary
- 500m Buffer
- 19 - Modern Alluvium
- 3 - Bedrock
- 5d - Till
- 8b - Glaciolacustrine Deposits
- 9a & 9c - Coarse-textured Glacial Lake Deposits

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Rangeview Estate Precinct Development, City of Mississauga, ON

Title: **SURFICIAL GEOLOGY MAP**

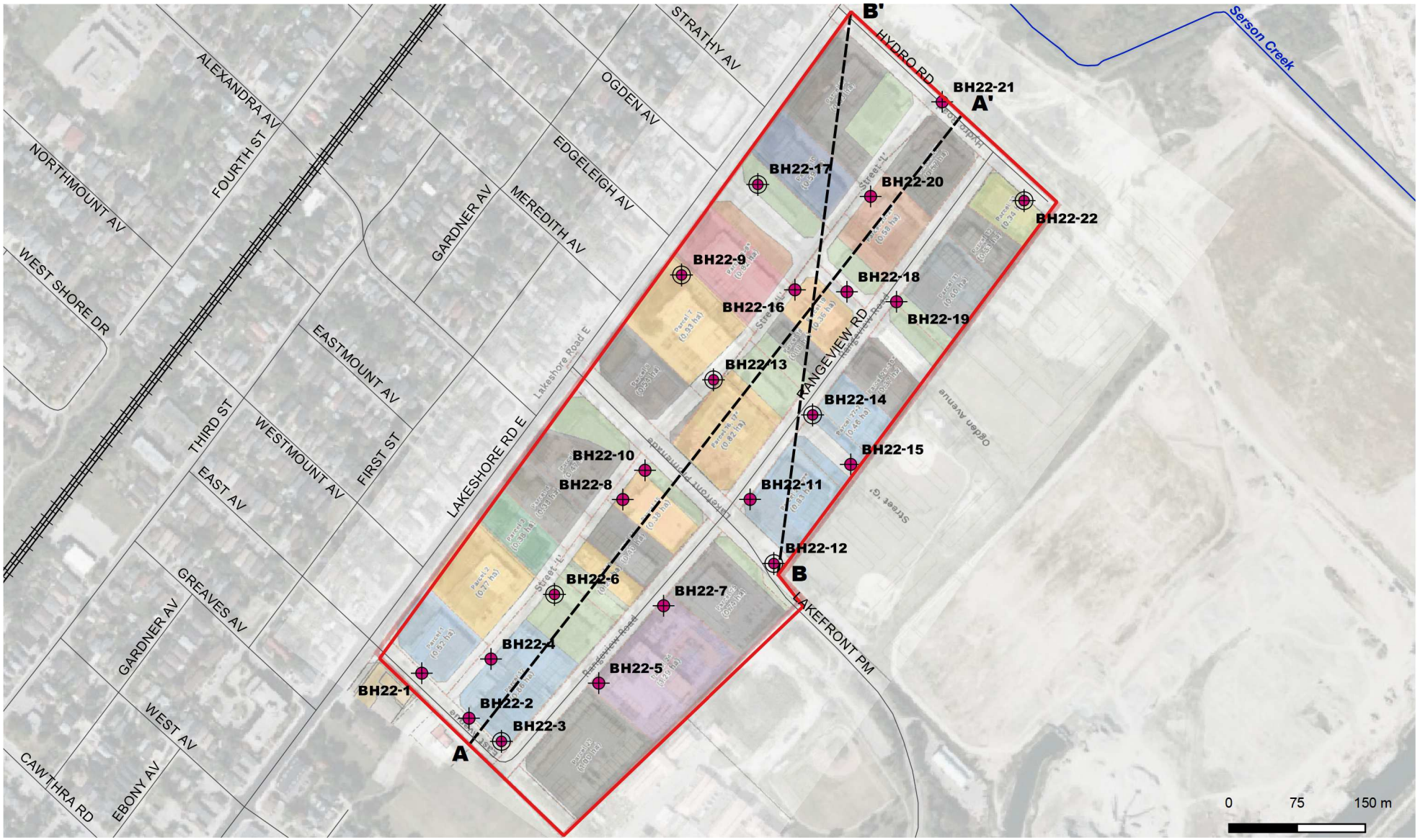
N

Client: RANGEVIEW LANDOWNERS GROUP INC.

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	P.P	S.Y	October 2022
Rev: 0	Scale: As Shown	Project No.: 22-200-100	Figure No.: 2

Image/Map Source: *Bing Satellite Image*

J:\-GIS\2022 PROJECTS\22-200-100 Rangeview Estate Precinct Development\1-QGIS\HydroG\Figure 3 – Borehole and Monitoring Well Locations.qgs May-16 22:18



Legend

- Approx Property Boundary
- Borehole
- Monitoring Well
- Cross Section

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Client: RANGEVIEW LANDOWNERS GROUP INC.

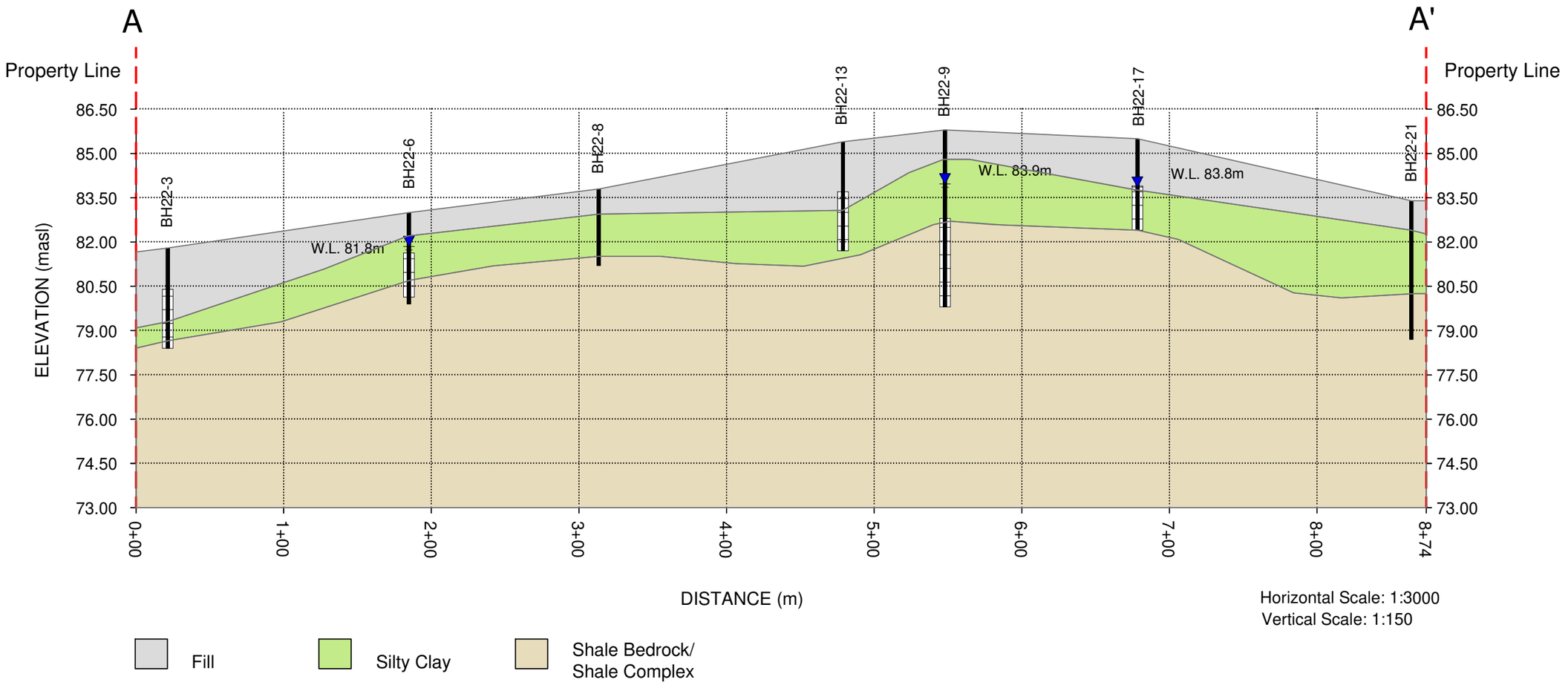
Project: HYDROGEOLOGICAL INVESTIGATION
Rangeview Estate Precinct Development, City of Mississauga, ON

Title: **BOREHOLE AND MONITORING WELL LOCATIONS**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	P.P	S.Y	May 2023
Rev: 0	Scale: As Shown	Project No.: 22-200-100	Figure No.: 3

Image/Map Source: *Bing Satellite Image*



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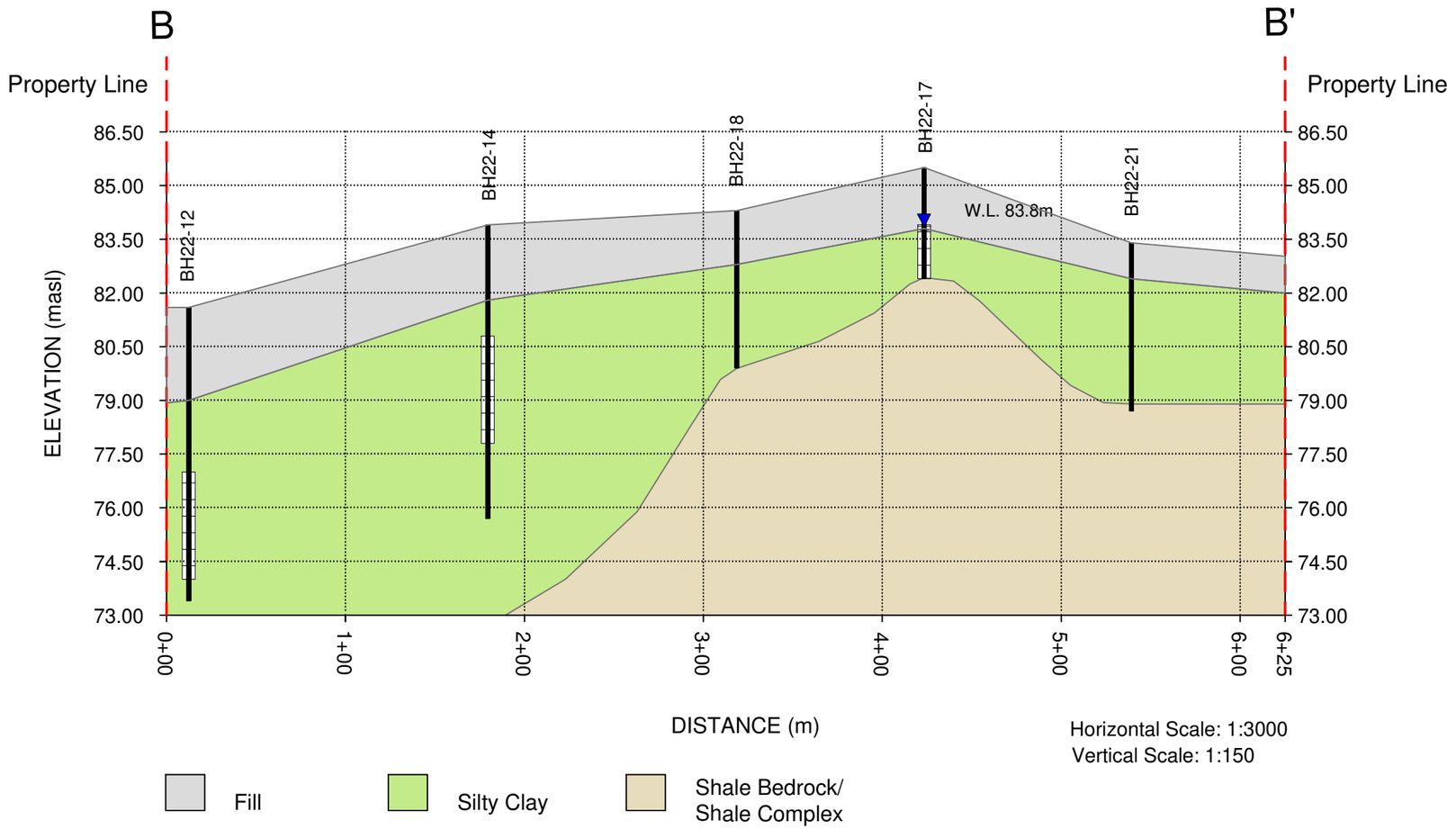
Client: RANGEVIEW LANDOWNERS GROUP INC.

Project: HYDROGEOLOGICAL INVESTIGATION
Rangeview Estate Precinct Development City of Mississauga, ON

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

Size:	Approved By:	Drawn By:	Date:
11 X 17	P.P	S.Y	October 2022
Rev.	Scale:	Project No:	Figure No.
	A Shown	22-200-100	**4A**

Path:c:\0sharon\22-200-100 rangeview estate precinct development\7-misc\cad\geological cross section 22-200.dwg



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Client: RANGEVIEW LANDOWNERS GROUP INC.

Project: HYDROGEOLOGICAL INVESTIGATION
Rangeview Estate Precinct Development City of Mississauga, ON

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

Size:	Approved By:	Drawn By:	Date:
11 X 17	P.P	S.Y	October 2022
Rev.	Scale: A Shown	Project No: 22-200-100	Figure No. **4B**

Path:c:\0sharon\22-200-100 rangeview estate precinct development\7-misc\cad\geological cross section 22-200.dwg

APPENDICES

Appendix A: Borehole Logs

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LOG OF BOREHOLE BH22-1

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825344.14 E 616049.35

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-19-2022

REF. NO.: 22-200-100
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS "N" 0.3 m	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
82.6												
82.6	**ASPHALT:** 150mm											
0.2	**GRANULAR BASE:** sand and gravel, 500mm		1	SS	13							
82.0												
0.8	**FILL:** sand, trace brick pieces, some clay, trace organics, trace gravel, brown, moist, compact						82					
1	**FILL:** silty clay, trace sand, trace organics, trace gravel, brown, moist, stiff to very stiff		2	SS	8							
			3	SS	17		81					4 7 62 27
2 80.3												
2.3	**SILTY CLAY:** trace sand, trace gravel, greyish brown, moist, hard		4	SS	50/ 75mm		80					
3 79.5												
3.1	**SHALE BEDROCK:** grey, weathered		5	SS	50/ 100mm							
79.3 3.3	**END OF BOREHOLE:**											

Notes:
1) Borehole dry upon completion.

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 BH22-2

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825294.58 E 616101.31

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-19-2022

REF. NO.: 22-200-100
ENCL NO.: 3

(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
81.7 / 0.0	**ASPHALT:** 130mm											
81.6 / 0.1	**GRANULAR BASE:** sand and gravel, 460mm		1	SS	8				○			
81.1 / 0.6	**FILL:** sand and gravel, trace silt, trace clay, trace asphalt pieces, grey, moist, loose						81					
80.9 / 0.8	**FILL:** silty clay, some organics, trace gravel, grey, moist, firm to hard		2	SS	7				○			
80.0 / 1.7	**SILTY CLAY:** trace sand, trace gravel, occasional cobble, brown, moist, hard		3	SS	50/ 100mm		80		○			
			4	SS	50/ 100mm		79		○			
78.5 / 3.2	**SHALE BEDROCK:** grey, weathered		5	SS	50/ 100mm							
78.1 / 3.6	**END OF BOREHOLE:** Notes: 1) Borehole dry upon completion.											

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 BH22-3

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825269.07 E 616136.98

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-22-2022

REF. NO.: 22-200-100
ENCL NO.: 4

(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
81.8												
81.7	**ASPHALT:** 100mm											
0.1	**GRANULAR BASE:** sand and gravel, 450mm		1	SS	7							
81.3												
0.6	**FILL:** silty clay, trace to some organics, trace concrete pieces, trace gravel, trace asphalt, grey, moist, firm to stiff		2	SS	5		81					
1												
			3	SS	11		80					
2												
79.3												
2.5	**SILTY CLAY TILL:** some sand, trace gravel, occasional cobble, brown, moist, hard		4	SS	57		79					8 18 48 26
3												
78.7												
3.1	**SHALE BEDROCK:** grey, weathered		5	SS	50/ 130mm							
78.4												
3.4	**END OF BOREHOLE:**											

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

Date:	Water Level(mbgl):
Aug 25, 2022	dry

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 22-200-100 GEO COPY.GPJ DS.GDT 22-9-12

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH22-4

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825359.79 E 616125.51

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-15-2022

REF. NO.: 22-200-100
ENCL NO.: 5

(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
82.3												
0.0 / 82.1	**ASPHALT:** 180mm											
0.2 / 81.5	**GRANULAR BASE/SUB BASE:** sand and gravel, 460mm, crusher run limestone (160mm)		1	SS	4		82					
0.8	**SILTY CLAY:** trace sand, trace gravel, brown, moist, very stiff to hard		2	SS	17							2 8 62 28
			3	SS	30		81					
80.0												
79.9 / 2.4	**SILTY CLAY TILL:** sandy, trace gravel, brown, moist, hard		4	SS	50/ 25mm		80					
	SHALE BEDROCK: Georgian Bay Formation, grey, weathered TCR=75%, SCR=14%, RQD=0		R1	RC	50/ 75mm							
78.9							79					
3.4	TCR=96%, SCR=98%, RQD=28% Hard layer=18%, Maximum hard layer thickness=50mm		R2	RC			78					
77.4												
4.9	TCR=93%, SCR=90%, RQD=63% Hard layer=5%, Maximum hard layer thickness=25mm		R3	RC			77					
75.9							76					
6.4	TCR=100%, SCR=98%, RQD=70% Hard layer=9%, Maximum hard layer thickness=25mm		R4	RC								
74.5							75					
7.8	**END OF BOREHOLE:**											

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH22-5

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825333.22 E 616244.07

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-19-2022

REF. NO.: 22-200-100
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS 0.3 m	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
81.7												
81.6 / 0.1	**ASPHALT:** 76mm											
81.2 / 0.5	**GRANULAR BASE:** sand and gravel, 400mm		1	SS	4							
	FILL: silty clay, trace asphalt pieces, sandy, trace concrete pieces, greyish brown, moist, firm to very stiff		2	SS	18		81					
80.3 / 1.4	**FILL:** sand and gravel, cobbles and boulders, grey, moist, very dense		3	SS	50/ 75mm		80					Auger grinding
79.4 / 2.3	**SILTY CLAY TILL:** trace sand, some gravel, greyish brown, moist, hard		4	SS	50/ 25mm		79					14 9 57 20
78.6 / 3.2	**SHALE BEDROCK:** grey, weathered		5	SS	50/ 50mm							
	END OF BOREHOLE:											

Notes:
1) Borehole dry at bottom upon completion.

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 BH22-6

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825430.9 E 616195.37

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-15-2022

REF. NO.: 22-200-100
ENCL NO.: 7

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOWS/0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT / SHEAR STRENGTH (kPa)	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT / WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
83.0												
0.0 / 82.8	**ASPHALT:** 200mm											
0.2 / 82.4	**GRANULAR BASE:** sand and gravel, 380mm		1	SS	8							
0.6 / 82.2	**FILL:** silty clay, trace sand, trace gravel, some organics, brown, moist, stiff											
0.8	**SILTY CLAY TILL:** some sand, trace gravel, brown, moist, stiff to hard		2	SS	11		82					
	trace shale fragments below 1.5m		3	SS	50	W. L. 81.8 m Aug 25, 2022	81					
80.7												
2.3	**SHALE BEDROCK:** grey, weathered		4	SS	50/ 50mm							
79.9							80					
3.1	**END OF BOREHOLE:**											

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

Date:	Water Level(mbgl):
Aug 25, 2022	1.15

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH22-7

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825418.42 E 616315.42

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-19-2022

REF. NO.: 22-200-100
ENCL NO.: 8

(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
82.0												
80.0	**ASPHALT:** 130mm											
0.1 / 81.6	**GRANULAR BASE:** sand and gravel, 400mm		1	SS	7							
0.4	**FILL:** silty clay, trace to some organics, trace concrete pieces, trace metal piece, cobbles, trace sand, grey, moist, firm to stiff		2	SS	8		81					Auger grinding @1.5m
80.5												
1.5	**SILT CLAY TILL:** some sand, some gravel, greyish brown, moist, hard		3	SS	73							19 17 43 21
			4	SS	43		80					
79.2												
2.8	**SHALE BEDROCK:** grey, weathered											
78.8			5	SS	50/ 130mm		79					
3.2	**END OF BOREHOLE:**											

Notes:
1) Borehole is dry at bottom upon completion after drilling.

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 BH22-8

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825535.37 E 616270.56

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-15-2022

REF. NO.: 22-200-100
ENCL NO.: 9

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS "N" 0.3 m	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
83.8 / 0.0	**ASPHALT:** 130mm										
0.1 / 83.3	**GRANULAR BASE:** sand and gravel, 330mm		1	SS	12						
0.5 / 83.0	**FILL:** silty clay, trace organics, trace gravel, brown, moist, stiff						83				no recovery
0.8 / 1	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace gravel, brown to grey, moist, stiff to hard		2	SS	14						
2			3	SS	53		82				
81.5											
2.3 / 81.2	**SHALE BEDROCK:** weathered, grey		4	SS	50/ 150mm						
2.6	**END OF BOREHOLE:** Notes: 1) Borehole is dry at bottom upon completion after drilling.										

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 BH22-9

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825782.63 E 616335.18

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-23-2022

REF. NO.: 22-200-100
ENCL NO.: 10

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
85.8 / 0.0	**ASPHALT:** 150mm						
85.6 / 0.2	**GRANULAR BASE:** sand and gravel, 330mm		1	SS	8		
85.3 / 0.5	**FILL:** silty clay, trace to some organics, trace gravel, grey, moist, stiff						
1 84.8 / 1.0	**SILTY CLAY TILL:** trace to some sand, trace gravel, brown, moist, very stiff to hard		2	SS	18		
			3	SS	50/ 130mm	▽	
2						W. L. 83.9 m Aug 25, 2022	
	trace shale fragments@2.3m		4	SS	50/ 130mm		
3 82.8 / 3.0							
82.7 / 3.1	**SHALE BEDROCK:** weathered, grey		5	SS	50/ 130mm		
82.5 / 3.3	TCR=100%, SCR=1%, RQD=0% Hard layer=0%, Maximum hard layer thickness=0mm		R1	RC			
4	TCR=100%, SCR=86%, RQD=56% Hard layer=25%, Maximum hard layer thickness=100mm		R2	RC			
81.0 / 4.8	TCR=96%, SCR=86%, RQD=72% Hard layer=20%, Maximum hard layer thickness=100mm		R3	RC			
5							
6 79.8 / 6.0	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Aug 25, 2022 1.83						

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

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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 BH22-10

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825567.54 E 616294.99

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-19-2022

REF. NO.: 22-200-100
ENCL NO.: 11

(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 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
83.9												
83.8	**ASPHALT:** 100mm											
0.1	**GRANULAR BASE:** sand and gravel, 480mm		1	SS	8				○			
83.4												
0.6	**FILL:** silty clay, trace organics, trace gravel, trace sand, grey, moist, stiff to very stiff											
1 82.9			2	SS	18		83		○			
1.0	**SILTY CLAY TILL:** sandy, trace gravel, grey, moist, very stiff to hard											
			3	SS	40				○			
2 81.7							82					
2.2	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace gravel, trace cobbles, grey, moist, hard		4	SS	50/ 75mm				○			Water at 2.4m
3 80.8							81					
80.7	**SHALE BEDROCK:** grey,		5	SS	50/				○			
3.2	weathered				50mm							
	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion adter drilling.											

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 BH22-11

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825535.51 E 616410.91

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-23-2022

REF. NO.: 22-200-100
ENCL NO.: 12

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS / 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
83.1							
0.0 / 82.9	**TOPSOIL:** 250mm						83
0.3	**FILL:** silty clay, trace organics, trace tospoil, trace rootlets, trace sand, brown, moist, firm to stiff		1	SS	9		
1			2	SS	7		82
81.6							
1.5	**SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard		3	SS	50/ 75mm		
2	grey below 2.3m		4	SS	30		81
3			5	SS	22		80
4							79
5			6	SS	17		78
6							
77.0							
76.9	**SHALE BEDROCK:** grey, weathered		7	SS	50/ 25mm		77
6.2	**END OF BOREHOLE:**						

Notes:
1) Borehole is wet at bottom upon completion after drilling.

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

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LOG OF BOREHOLE BH22-12

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825464.89 E 616436.99

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-22-2022

REF. NO.: 22-200-100
ENCL NO.: 13

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
81.6 / 0.0	**ASPHALT:** 130mm				
0.1 / 81.2	**GRANULAR BASE:** sand and gravel, 400mm	1	SS	10	
0.4 / 80.8	**FILL:** sand mixed with black organics, some silt, trace gravel, trace asphalt, black, moist, compact				
0.8 / 1	**FILL:** silty clay, some organics, trace sand, trace gravel, grey, moist, firm	2	SS	5	81
		3	SS	6	80
2 / 79.2					
2.4	**SILTY CLAY TILL:** some sand to sandy, trace gravel, brown, moist, hard	4	SS	43	79
3	grey below 3.1m	5	SS	42	78
4		6	SS	35	77
5		7	SS	47	76
6		8	SS	39	75
7					
8 / 73.4		9	SS	45	74
8.2	**END OF BOREHOLE:**				

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

Date:	Water Level(mbgl):
Aug 25, 2022	dry

GROUND WATER CONDITIONS

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

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LOG OF BOREHOLE BH22-13

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825667.17 E 616370.55

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-19-2022

REF. NO.: 22-200-100
ENCL NO.: 14

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	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
85.4												
85.2 0.0	**ASPHALT:** 180mm											
0.2	**GRANULAR BASE/SUB BASE:** sand and gravel, 380mm, crusher run limestone (200mm)		1	SS	23		85					
84.6												
1 0.8	**FILL:** silty clay, some organics, some sand, trace gravel, grey, moist, stiff to very stiff		2	SS	10							
			3	SS	22	▽ W. L. 83.8 m Aug 25, 2022	84					
2 83.1												
2.3	**SILTY CLAY TILL:** some sand, some gravel, brown, moist, hard		4	SS	50		83					13 18 47 22
3	trace shale fragments below 3.0m		5	SS	75		82					
81.7												
3.7	**END OF BOREHOLE:** Notes: 1) Augar refusal @3.7m on possible boulder or bedrock. 2) 50mm dia. monitoring well installed upon completion. 3) Water Level Readings: Date: Water Level(mbgl): Aug 25, 2022 1.57											

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 BH22-14

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825628.56 E 616479.7

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-23-2022

REF. NO.: 22-200-100
ENCL NO.: 15

(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
83.9												
83.7	**ASPHALT:** 150mm											
0.2 / 83.5	**GRANULAR BASE:** sand and gravel, 430mm		1	SS	13							
0.4	**FILL:** silty clay, some organics, trace gravel, trace sand, trace asphalt, grey, moist, firm to very stiff		2	SS	4		83					
1			3	SS	26		82					
2 / 81.8												
2.1	**SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard		4	SS	42		81					
3			5	SS	66							
4	grey below 3.9m						80					
5			6	SS	46		79					
6							78					
7			7	SS	46		77					
8 / 75.7			8	SS	36		76					
8.2	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water level(mbgl): Aug 25, 2022 dry											

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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 BH22-15

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825574.05 E 616521.61

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-15-2022

REF. NO.: 22-200-100
ENCL NO.: 16

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
83.3							
0.0 / 83.0	**GRANULAR FILL:** sand and gravel, 280mm		1	SS	21		83
0.3 / 82.5	**FILL:** sand & gravel, trace brick pieces, grey, moist, compact						
0.8 / 81.8	**FILL:** silty clay, trace to some organics, grey, moist, firm		2	SS	5		82
1.5 / 81.0	**SILTY CLAY:** trace sand, trace gravel, brown, moist, stiff		3	SS	11		
2.3	**SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, hard		4	SS	44		81
			5	SS	86		80
			6	SS	47		79
	grey below 6.1m		7	SS	50		78
			8	SS	46		77
75.1							76
8.2	**END OF BOREHOLE:** Notes: 1) Borehole is wet at bottom upon completion after drilling.						

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

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LOG OF BOREHOLE BH22-16

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825766.27 E 616460.23

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-18-2022

REF. NO.: 22-200-100
ENCL NO.: 17

(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
84.6												
84.4 0.0	**ASPHALT:** 150mm											
84.2 0.2	**GRANULAR BASE:** sand and gravel, 250mm		1	SS	9		84					
0.4	**FILL:** silty clay, some organics, some sand, trace gravel, grey, moist, stiff											
1 83.4			2	SS	11							
1.2	**CLAYEY SILT TO SILT:** trace sand, brown, moist, stiff to hard						83					
2 82.3			3	SS	30							0 7 76 17
2.3	**CLAYEY SILT:**, trace sand, trace gravel, brown, moist, hard		4	SS	77		82					
3 81.5												
81.4 3.2	**SHALE BEDROCK:** grey, weathered		5	SS	50/ 130mm							
	END OF BOREHOLE:											
	Notes: 1) Borehole is dry at bottom upon completion after drilling.											

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 BH22-17

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825882.25 E 616419.37

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-18-2022

REF. NO.: 22-200-100
ENCL NO.: 18

(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
85.5 / 0.0	**ASPHALT:** 150mm											
0.2 / 84.7	**GRANULAR BASE/SUB BASE:** sand and gravel, 380mm, crusher run limestone (300mm)		1	SS	12		85					
0.8 / 83.8	**FILL:** clayey silt, trace organics, grey, moist, firm to very stiff		2	SS	7		84					
1.7	**SILTY CLAY TILL:** some sand, trace to some gravel, trace shale fragements, brown, moist, very stiff to hard		3	SS	29	W. L. 83.8 m Aug 25, 2022						
			4	SS	54		83					10 10 56 24
82.4 / 3.1	augar refusal at 3.1m on possible boulder or bedrock											
	END OF BOREHOLE:											

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

Date:	Water Level(mbgl):
Aug 25, 2022	1.64

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 BH22-18

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825764.09 E 616517.47

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-18-2022

REF. NO.: 22-200-100
ENCL NO.: 19

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS / 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
84.3 / 0.0	**ASPHALT:** 130mm						
0.1 / 83.8	**GRANULAR BASE:** sand and gravel, 380mm		1	SS	16		84
0.5	**FILL:** silty clay, some organics, trace asphalt, grey, moist, firm to very stiff		2	SS	6		
1 / 82.8							83
1.5	**CLAYEY SILT TO SILT:** trace sand, trace gravel, brown to grey, moist, very stiff to hard		3	SS	15		
2			4	SS	31		82
3			5	SS	29		81
4 / 79.9			6	SS	50/ 25mm		80
4.4	**END OF BOREHOLE:** Notes: 1) No recovery@4.3m, augar refusal on possible boulder or bedrock at 4.4m. 2) Borehole was wet at botttom upon completion of drilling.						

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

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × 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 BH22-19

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825753.18 E 616572.03

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-23-2022

REF. NO.: 22-200-100
ENCL NO.: 20

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
83.6 / 0.0	**ASPHALT:** 150mm				
83.4 / 0.2	**GRANULAR BASE:** sand and gravel, 230mm	1	SS	23	83
83.3 / 0.4	**FILL:** clayey silt, sandy, trace gravel, greyish brown, moist, very stiff				
82.8 / 0.8	**SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, hard	2	SS	31	
		3	SS	50/100mm	82
	grey below 2.3m	4	SS	56	
		5	SS	42	81
		6	SS	34	80
		7	SS	41	79
		8	SS	45	78
75.4 / 8.2	**END OF BOREHOLE:**				77
	Notes: 1) Borehole is wet at the bottom upon completion after drilling.				76

GROUND WATER CONDITIONS

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

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 BH22-20

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825869.08 E 616543.51

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-23-2022

REF. NO.: 22-200-100
ENCL NO.: 21

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS 0.3 m	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
83.7												
80.8 0.1	**GRANULAR FILL:** sand and gravel, 130mm											
	FILL: silty clay, trace sand, trace organics, greyish brown, moist, stiff to very stiff		1	SS	14				○			
1 82.7							83					
1.0	**SILTY CLAY TILL:** sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard		2	SS	19				○			
			3	SS	50/ 50mm		82		○			
2 81.4												
2.3 81.2	**SHALE BEDROCK:** grey, weathered		4	SS	50/ 25mm							
2.5	**END OF BOREHOLE:** Notes: 1) Borehole is dry at bottom upon completion after drilling.											

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 BH22-21

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825973.2 E 616622.29

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Jul-19-2022

REF. NO.: 22-200-100
ENCL NO.: 22

(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
83.4 / 0.0	**ASPHALT:** 150mm											
0.2 / 82.9	**GRANULAR BASE:** sand and gravel, 380mm		1	SS	13		83					
0.5 / 82.4	**FILL:** sand, some asphalt pieces, trace gravel, dark brown, moist, loose to compact		2	SS	8							
1.0 / 80.3	**SILTY CLAY:** trace sand, brown, moist, stiff to very stiff		3	SS	20		82					0 4 68 28
			4	SS	25		81					
3.1 / 78.9	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, trace gravel, grey, moist, hard		5	SS	69		80					
4.5 / 78.7	**SHALE BEDROCK:** grey, weathered		6	SS	50/ 50mm		79					
4.7	**END OF BOREHOLE:** Notes: 1) Borehole is dry at bottom upon completion after drilling.											

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 BH22-22

PROJECT: Geotechnical Investigation
CLIENT: Landowners Group Inc.
PROJECT LOCATION: Rangeview Estates Precinct Area, Mississauga, ON
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4825864.46 E 616712.36

DRILLING DATA
Method: Solid Stem Auger
Diameter: 150mm
Date: Aug-22-2022

REF. NO.: 22-200-100
ENCL NO.: 23

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
83.1 / 0.0	**ASPHALT:** 130mm				83
0.1 / 82.6	**GRANULAR BASE:** sand and gravel, 430mm	1	SS	4	
0.5	**FILL:** silty clay, trace to some organics, some sand, trace concrete piece, grey, moist, firm to stiff	2	SS	10	82
81.7					
1.4	**SILTY CLAY TILL:** some sand to sandy, trace gravel, occasional cobble, brown, moist, very stiff to hard	3	SS	40	
	grey below 2.3m	4	SS	41	81
		5	SS	32	80
		6	SS	28	79
		7	SS	40	78
	silt seams @7.6m	8	SS	48	77
74.9					76
8.2	**END OF BOREHOLE:**				75

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

Date:	Water Level(mbgl):
Aug 25, 2022	dry

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

Appendix B: MECP Water Wells Records

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

TOWNSHIP C	E	N	DATE CNTR	CASING	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
MISSISSAUGA CITY	616386	4825953	2016/08 3349	2					7271484	
MISSISSAUGA CITY	616374	4825987	2016/08 3349	2					7271485	
MISSISSAUGA CITY	616075	4825265	2016/09 7472	2			MO	0005 10	7272677	BRWN FILL 0005 BRWN SAND CLAY 0010 BRWN SAND 0015
MISSISSAUGA CITY	616484	4826097	2016/08 7075	2			MO	0010 10	7275019	BRWN SILT CLAY HARD 0008 GREY SILT CLAY HARD 0014 GREY SHLE HARD 0020
MISSISSAUGA CITY	616679	4825174	2016/08 7215	2	10		TH	0006 5	7275985	BRWN CLAY GRNT DRY 0005 GREY SHLE 0011
MISSISSAUGA CITY	616005	4825455	2016/08 7215						7276128	
MISSISSAUGA CITY	616013	4825438	2016/07 7215						7276346	
MISSISSAUGA CITY	616150	4825619	2014/05 6946						7224638	
MISSISSAUGA CITY	616895	4825156	2016/12 7464						7282270	
MISSISSAUGA CITY	616344	4825953	2016/08 3349	2					7271481	
MISSISSAUGA CITY	616688	4825233	2016/11 7215	2			TH	0020 5	7282442	FILL 0007 CLAY SILT 0018 SHLE WTHD 0025
MISSISSAUGA CITY	616729	4825175	2016/11 7215	2			TH	0005 15	7282443	FILL 0005 CLAY SILT TILL 0018 SHLE WTHD 0020
MISSISSAUGA CITY	616095	4825243	2017/02 7472						7283249	
MISSISSAUGA CITY	616110	4825227	2017/02 7472						7283250	
MISSISSAUGA CITY	616096	4825528	2017/02 7472						7283251	
MISSISSAUGA CITY	616079	4825274	2017/02 7472						7283252	
MISSISSAUGA CITY	616969	4826077	2016/06 6032	2			MO	0012 10	7281568	
MISSISSAUGA CITY	616095	4825264	2016/03 7360	2			MO	0010 5	7262964	BRWN FILL 0010 GREY DNSE HARD 0015
MISSISSAUGA CITY	616043	4825239	2014/10 7241	2			MT	0007 5	7231445	
MISSISSAUGA CITY	616854	4825925	2015/06 6032						7248109	
MISSISSAUGA CITY	616858	4826255	2015/01 7215						7250123	
MISSISSAUGA CITY	616310	4825168	2015/12 7403	2	UT 0025		MO	0020 10	7255934	BRWN SAND SHLE FILL 0002 GREY SHLE ROCK 0030
MISSISSAUGA CITY	616400	4825966	2016/08 3349	2					7271483	
MISSISSAUGA CITY	616128	4825230	2015/03 7360	2			MO	0010 5	7262963	BRWN FILL 0010 GREY DNSE HARD 0015
MISSISSAUGA CITY	616352	4825944	2016/08 3349	2					7271482	
MISSISSAUGA CITY	616081	4825232	2015/03 7360	2	UT 0005		MO	0015 5	7262965	BRWN FILL 0015 GREY DNSE HARD 0020
MISSISSAUGA CITY	616810	4826343	2015/12 7215						7269513	
MISSISSAUGA CITY	616614	4825436	2014/12 7215						7269751	
MISSISSAUGA CITY	616908	4826293	2015/09 7215						7270640	
MISSISSAUGA CITY	616575	4826202	2016/06 7215						7271382	
MISSISSAUGA CITY	616361	4825926	2016/07 3349	2					7271480	
MISSISSAUGA CITY	616620	4826201	2017/03 7148						7285134	
MISSISSAUGA CITY	616878	4826343	2015/03 6607						7262617	
MISSISSAUGA CITY	616791	4826454	2018/01 7610						7304028	

Table: MECP Water Wells Records (500 m Radius)

Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616096	4825256	2017/08 7241	2			OT	0010 10	7296594	
MISSISSAUGA CITY	616085	4825262	2017/08 7241	2			OT	0010 10	7296595	
MISSISSAUGA CITY	616050	4825251	2017/08 7241	2			OT	0010 10	7296596	
MISSISSAUGA CITY	616098	4825201	2017/08 7241	2			OT	0010 10	7296597	
MISSISSAUGA CITY	616071	4825254	2017/08 7241	2			OT	0010 10	7296598	
MISSISSAUGA CITY	616092	4825211	2017/08 7241	2			OT	0010 10	7296599	
MISSISSAUGA CITY	616406	4825983	2018/01 7610						7304027	
MISSISSAUGA CITY	616263	4825782	2018/05 7295	1.79			MO	0015 10	7319604	BLCK LOAM 0002 GREY FILL DRY 0005 LMSN DRY 0025
MISSISSAUGA CITY	616283	4825806	2018/05 7295	1.79			MO	0015 10	7319605	BLCK LOAM 0002 GREY FILL DRY 0005 ROCK LMSN 0025
MISSISSAUGA CITY	616249	4825816	2018/05 7295	1.79			MO	0015 10	7319606	BLCK LOAM ---- 0002 GREY FILL DRY 0005 ROCK LMSN DRY 0025
MISSISSAUGA CITY	616874	4825727	2018/07 7472	2			MO	0040 10	7319825	BRWN GRVL FILL SOFT 0005 BRWN TILL CLAY 0050
MISSISSAUGA CITY	616954	4826071	2018/01 7383	2			TH MO	0015 10	7321525	SILT SAND 0025
MISSISSAUGA CITY	616080	4825260	2017/08 7241	2			OT	0010 10	7296600	
MISSISSAUGA CITY	616430	4825571	2017/01 7383	2			TH MO	0010 10	7289359	SILT TILL 0020
MISSISSAUGA CITY	616234	4825811	2014/06 7241	2			MT	0008 10	7224387	BRWN SILT SAND 0007 GREY SHLE 0018
MISSISSAUGA CITY	616243	4825668	2017/03 7148						7285135	
MISSISSAUGA CITY	616052	4825284	2017/04 7383	2			TH	0012 5	7288973	SAND GRVL 0005 CLAY SLTY 0010 SHLE 0017
MISSISSAUGA CITY	616045	4825275	2017/04 7383	2			TH	0012 5	7288974	SAND GRVL 0005 CLAY SLTY 0010 SHLE 0017
MISSISSAUGA CITY	616063	4825257	2017/04 7383	2			TH	0012 5	7288975	SAND GRVL 0005 CLAY SLTY 0010 SHLE 0017
MISSISSAUGA CITY	616312	4825168	2017/05 6875				MO		7289050	
MISSISSAUGA CITY	617102	4825952	2016/10 7383	2			TH MO	0017 10	7289351	
MISSISSAUGA CITY	616021	4825281	2017/08 7241	2			OT	0010 10	7296593	
MISSISSAUGA CITY	616465	4825587	2017/01 7383	2			TH MO	0010 10	7289358	SILT TILL 0020
MISSISSAUGA CITY	616620	4826202	2017/03 7148						7285133	
MISSISSAUGA CITY	616495	4825525	2017/02 7383	2			TH	0035 10	7289360	SILT CLAY TILL 0045
MISSISSAUGA CITY	616465	4825587	2017/02 7383	2			TH	0037 10	7289361	SILT CLAY TILL 0047
MISSISSAUGA CITY	616430	4825571	2017/02 7383	2			TH	0027 10	7289362	SILT CLAY TILL 0037
MISSISSAUGA CITY	616060	4825265	2017/02 7383	2			TH	0009 5	7289377	
MISSISSAUGA CITY	616059	4825249	2017/02 7383	2			TH	0012 5	7289378	
MISSISSAUGA CITY	616076	4825257	2017/02 7383	2			TH	0012 5	7289379	
MISSISSAUGA CITY	616068	4825267	2017/02 7383	2			TH	0012 5	7289380	
MISSISSAUGA CITY	617022	4826023	2016/10 7383	2			TH MO	0013 10	7289352	
MISSISSAUGA CITY	616566	4825902	2008/01 6607	1.25			MO		7129134	BRWN SAND GRVL 0001 BRWN SILT SAND CLAY 0009 GREY SHLE LMSN FCRD 0025
MISSISSAUGA CITY	616598	4825808	2008/11 7215				TH	0013 10	7117828	BRWN CLAY 0008 GREY CLAY 0016 GREY CLAY WBRG 0023

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616424	4825628	2009/04 7241	1.25			MO		7122835	BRWN CLAY TILL 0008 RED SHLE WTHD 0014
MISSISSAUGA CITY	616454	4825092	2009/04 1663	2	UT	//4/1:0	MO	0013 5	7124885	GREY CLAY SAND GRVL 0013 GREY CLAY SAND SILT 0018
MISSISSAUGA CITY	615952	4825850	2014/07 6902	2	OT			0017 10	7226441	GREY CLAY SILT 0002 GREY SILT CLAY DNSE 0006 BRWN SILT SHLE 0012 GREY SHLE DRY 0025 GREY SHLE DRY 0028
MISSISSAUGA CITY	616453	4825087	2009/04 1663	6.11	UT	13/20/100/1:0	TH	0071 4 007	7124887	GREY CLAY SAND STNS 0027 GREY CLAY STNS SILT 0071 GREY CSND GRVL 0078
MISSISSAUGA CITY	616553	4825957	2008/11 7147	1.97			NU		7116626	GREY CMTD 0001 BRWN FILL 0002 BRWN TILL 0010 BRWN SHLE
MISSISSAUGA CITY	616456	4825744	2008/02 6607	1.25	FR 0028		MO		7129215	BRWN SAND GRVL FILL 0002 BRWN SILT CLAY SAND 0009 GREY SILT CLAY SAND 0013 GREY SHLE LMSN FCRD 0030
MISSISSAUGA CITY	615910	4825206	2009/07 7247	2			MO	0007 10	7130477	BRWN LOAM LOOS 0000 BRWN SAND CLAY SLTY 0004 BRWN CLAY TILL SLTY 0010 GREY SHLE DNSE 0017
MISSISSAUGA CITY	616446	4825064	2009/09 3413	8	FR 0072		DE	0079 5	7133239	GREY CLAY 0033 BRWN SAND 0038 GREY CLAY 0072 GRVL CGVL 0084
MISSISSAUGA CITY	616459	4825090	2009/09 3413	8	FR 0072		DE	0090 5 008	7133240	GREY CLAY 0033 BRWN SAND 0036 GREY CLAY 0072 GRVL CGVL 0095
MISSISSAUGA CITY	616567	4826183	2009/11 6809				MT		7140767	GREY TILL 0012 GREY SHLE ROCK 0015
MISSISSAUGA CITY	616453	4825087	2010/02 6875	5.9			TH	0071 7	7143015	
MISSISSAUGA CITY	616445	4825082	2009/04 1663	2		//10/1:0	NU	0064 10	7124886	GREY CLAY GRVL SAND 0018 GREY SAND CLAY 0023 GREY CLAY SAND GRVL 0027 GREY CLAY SILT STNS 0068 GREY CSND GRVL 0074 GREY CLAY 0074
MISSISSAUGA CITY	616240	4825427	2007/12 7241	1.22			MO		7104551	BRWN SAND 0001 BRWN SILT GRVL CLAY 0005 GREY SILT GRVL CLAY 0007 GREY SHLE ROCK 0025
MISSISSAUGA CITY	616451	4825832	2007/07 7230	2			NU	0008 3	7050157	BRWN GRVL DNSE 0001 BRWN CLAY HARD 0004 GREY CLAY DNSE 0010 GREY SHLE HARD 0011
MISSISSAUGA CITY	616084	4825485	2007/09 7238	2	8			0015 10	7051983	BRWN SAND GRVL 0003 BRWN SILT SAND CLAY 0005 GREY SILT CLAY 0008 GREY SHLE 0026
MISSISSAUGA CITY	616760	4826156	2007/11 6032	1.97			NU	0004 10	7054194	BRWN SAND GRVL BRWN SILT GREY ROCK
MISSISSAUGA CITY	616760	4826157	2007/11 6032				NU		7054195	

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616681	4825819	2005/01 6607	2	25			0014 15	4909653	BRWN SAND GRVL 0002 BRWN SILT SNDY CLAY 0029
MISSISSAUGA CITY	616398	4825453	2006/05 7215	2				0005 5	4910190	
MISSISSAUGA CITY	616488	4825826	2006/09 6032	4.32 1.97			NU	0014 6	4910354	BRWN SAND GRVL CLAY 0004 GREY SHLE LMSN 0020
MISSISSAUGA CITY	616567	4825933	2008/11 7215				TH	0005 15	7116784	BRWN FILL DRY LOOS 0005 GREY SHLE DRY 0018 GREY SHLE WBRG 0020
MISSISSAUGA CITY	616301	4825668	2007/12 7241	1.25			MO		7104552	GREY SILT GRVL TILL 0007 GREY SHLE ROCK 0025
MISSISSAUGA CITY	616540	4825835	2008/07 7215				TH	0010 5	7116783	BRWN SAND SILT WBRG 0002 GREY SILT CLAY ROCK 0015
MISSISSAUGA CITY	616127	4825385	2007/12 7241	1.25			MO		7104550	BRWN GRVL SAND 0002 GREY SILT CLAY TILL 0008 GREY SHLE ROCK 0025
MISSISSAUGA CITY	616376	4825744	2007/12 7241	9.99		///:	MO		7104446	BRWN GRVL SAND FILL 0001 GREY SILT SAND GRVL 0007 GREY SHLE ROCK 0020
MISSISSAUGA CITY	616422	4825398	2008/08 6607	2	FR 0013 FR 0023		MO		7112537	BRWN SAND GRVL LOOS 0005 BRWN SILT GRVL DNSE 0013 RED SILT GRVL DNSE 0018 BRWN SILT GRVL HARD 0020 GREY CLAY SILT DNSE 0025 GREY SHLE LMSN LYRD 0027
MISSISSAUGA CITY	616584	4825812	2008/07 6607	2.31	FR 0013		OT		7112538	BRWN SILT STNS FILL 0007 GREY SHLE 0010 GREY LMSN 0022
MISSISSAUGA CITY	616706	4825925	2008/10 7241	1.59			MT	0008 10	7114795	BRWN SAND SOFT 0005 GREY SILT SHLE SOFT 0008 BLUE SHLE HARD 0018
MISSISSAUGA CITY	616481	4825981	2008/10 7241	1.17			MO		7114846	BRWN LOAM 0001 BRWN SILT CLAY GRVL 0009 GREY SHLE ROCK 0019
MISSISSAUGA CITY	616845	4826223	2008/05 7241	2.06			MT	0004 10	7116165	GREY TILL GRVL DNSE 0014
MISSISSAUGA CITY	616144	4824973	2012/09 7241	2.04			MT	0008 5	7189880	BRWN LOAM SAND LOOS 0002 BRWN SILT SAND HARD 0010 GREY SHLE WTHD 0013
MISSISSAUGA CITY	616622	4826203	2011/10 7238	2			TH	0020 10	7170553	BRWN FILL GRVL SOFT 0005 BRWN TILL CLAY HARD 0010 GREY SHLE CLAY HARD 0030
MISSISSAUGA CITY	616622	4826203	2011/10 7238	2			TH	0045 10	7170554	BRWN FILL GRVL HARD 0010 GREY SHLE CLAY HARD 0071
MISSISSAUGA CITY	616796	4826451	2011/09 7238	2			TH	0044 10	7170555	BRWN FILL GRVL HARD 0005 BRWN TILL CLAY HARD 0015 GREY SHLE HARD 0070

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616037	4825516	2011/11 7241	2.04			MT	0003 9	7173314	WHIT HARD 0001 BRWN SAND GRVL LOOS 0003 GREY SILT FSND SOFT 0010 BRWN SHLE SLTY 0118
MISSISSAUGA CITY	616030	4825504	2011/11 7241	2.04			MT	0003 9	7173315	BLCK SOFT 0000 BRWN SAND SILT LOOS 0010 BRWN SILT SHLE HARD 0012
MISSISSAUGA CITY	616049	4825488	2011/11 7241	2.04			MT	0007 3	7173316	BLCK SOFT 0000 BLUE SILT SAND SOFT 0010 BRWN SILT SHLE HARD 0010
MISSISSAUGA CITY	616774	4826287	2011/04 7215	2			TH	0006 7	7166952	BRWN FILL 0004 BRWN CLAY SLTY 0009 GREY CLAY SILT SHLE 0013
MISSISSAUGA CITY	616079	4824881	2012/09 7241	2.04			MT	0008 5	7189879	BRWN LOAM LOOS 0002 BRWN SILT SAND HARD 0010 GREY SHLE WTHD 0013
MISSISSAUGA CITY	615833	4825103	2011/05 7215	2			TH	0016 5	7164321	BRWN FILL 0007 GREY SHLE WBRG 0016
MISSISSAUGA CITY	616147	4824973	2012/09 7241	2.04			MT	0007 5	7189881	BRWN LOAM LOOS DRY 0002 BRWN SILT SAND GRVL 0006 BRWN SAND 0010 WHIT SHLE WTHD 0012
MISSISSAUGA CITY	616774	4826402	2012/08 7215	2			TH	0012 5	7191830	BRWN SAND SILT CLAY 0012
MISSISSAUGA CITY	616041	4825299	2012/09 6032	2			MO	0025 10	7196499	BLCK STNS HARD 0001 BRWN SILT CLAY HARD 0009 GREY SHLE CLAY HARD 0025
MISSISSAUGA CITY	616139	4825643	2013/05 6946						7203011	
MISSISSAUGA CITY	616145	4825621	2013/07 6946						7212112	
MISSISSAUGA CITY	616247	4825828	2014/06 7241	2			MT	0008 10	7224380	BRWN SILT SAND 0007 GREY SHLE 0018
MISSISSAUGA CITY	616234	4825824	2014/06 7241	2			MT	0008 10	7224382	BRWN SILT SAND 0007 GREY SHLE 0018
MISSISSAUGA CITY	616385	4825958	2012/07 7230						7189019	
MISSISSAUGA CITY	616371	4825524	2011/04 7238	1			MO	0040 10	7162446	BRWN CLAY TILL 0010 GREY SHLE ROCK 0050
MISSISSAUGA CITY	617167	4825940	2018/09 7230						7320262	
MISSISSAUGA CITY	616339	4825812	2010/11 6032	1.97			MO	0010 10	7155337	BRWN SAND SILT SHLE 0020 BRWN SAND SILT SHLE 0020
MISSISSAUGA CITY	616386	4825605	2010/11 7241	0.79			MT		7155811	GREY SILT CLAY DRY 0007 BRWN TILL SILT 0026 BRWN SHLE WTHD 0072
MISSISSAUGA CITY	616446	4825064	2010/11 6875				DE		7158865	
MISSISSAUGA CITY	616459	4825090	2010/11 6875				DE		7158866	
MISSISSAUGA CITY	615895	4825220	2011/01 7241	2					7159340	
MISSISSAUGA CITY	616754	4826114	2010/12 6032				MO		7160223	GREY SAND SILT TILL 0020
MISSISSAUGA CITY	616502	4825811	2010/08 6607	2.00 2.00			MO		7152202	BRWN SAND GRVL FILL 0001 BRWN CLAY SILT DNSE 0005 GREY SHLE LMSN LYRD 0020

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616440	4825397	2011/04 7238	1			MO	0040 10	7162447	BRWN CLAY SILT STNS 0015 GREY CLAY SILT STNS 0050
MISSISSAUGA CITY	616420	4825455	2011/04 7238	1			MO	0040 10	7162448	BRWN CLAY TILL 0010 GREY SHLE ROCK 0050
MISSISSAUGA CITY	616247	4825646	2011/04 7238	1			MO	0040 10	7162449	BRWN CLAY TILL 0010 GREY SHLE ROCK 0050
MISSISSAUGA CITY	616419	4825592	2011/05 7241	1.75			MT	0005 5	7164236	BLUE FILL SAND LOOS 0003 GREY SHLE TILL DNSE 0010
MISSISSAUGA CITY	616419	4825592	2011/05 7241	1.75			MT	0004 6	7164237	BRWN SAND LOOS 0003 GREY SHLE TILL DNSE 0010
MISSISSAUGA CITY	616419	4825592	2011/05 7241	1.75			MT	0004 5	7164238	BRWN SAND LOOS 0003 GREY SHLE TILL DNSE 0009
MISSISSAUGA CITY	616419	4825592	2011/05 7241	1.75			MT	0004 5	7164239	BRWN SAND FILL LOOS 0003 GREY SHLE TILL DNSE 0009
MISSISSAUGA CITY	616419	4825592	2011/05 7241	1.75			MO	0004 5	7164240	BRWN SAND FILL LOOS 0003 GREY SHLE TILL DNSE 0008
MISSISSAUGA CITY	615884	4825203	2011/01 7241	2			MT		7159341	
MISSISSAUGA CITY	616723	4825529	2020/03 7472						7364753	
MISSISSAUGA CITY	617114	4825985	2020/09 6875		8				7369235	
MISSISSAUGA CITY	616768	4825346	2020/03 7472						7364704	
MISSISSAUGA CITY	616795	4825327	2020/03 7472						7364705	
MISSISSAUGA CITY	616687	4825478	2020/03 7472						7364706	
MISSISSAUGA CITY	616630	4825420	2020/02 7472						7364707	
MISSISSAUGA CITY	616561	4825385	2020/02 7472						7364708	
MISSISSAUGA CITY	616864	4825306	2020/02 7472						7364750	
MISSISSAUGA CITY	616679	4825382	2020/03 7472						7364702	
MISSISSAUGA CITY	616715	4825374	2020/03 7472						7364752	
MISSISSAUGA CITY	616717	4825338	2020/02 7472						7364701	
MISSISSAUGA CITY	616933	4825302	2020/03 7472						7364754	
MISSISSAUGA CITY	616822	4825261	2020/02 7472						7364755	
MISSISSAUGA CITY	616988	4825823	2020/03 7472						7364756	
MISSISSAUGA CITY	616869	4825688	2020/03 7472						7364759	
MISSISSAUGA CITY	616987	4825868	2020/03 7472						7364760	
MISSISSAUGA CITY	617111	4825915	6875	5		///:	DE	0030 20	7354999	TILL CLAY GRVL 0020 GRVL BLDR WBRG 0025 GRVL SAND WBRG 0050
MISSISSAUGA CITY	616813	4825423	2020/03 7472						7364751	
MISSISSAUGA CITY	617142	4825920	6875	2		///:	DE	0045 5	7355003	TILL CLAY SAND 0010 GRVL BLDR 0024 TILL GRVL SAND 0040 SAND 0050
MISSISSAUGA CITY	616011	4825330	2018/11 7215						7325276	
MISSISSAUGA CITY	616791	4825239	2020/02 7238	2	UT 0003	///:	MO	0020 10	7355718	FILL 0005 SHLE ROCK 0030
MISSISSAUGA CITY	616725	4825438	2020/03 7472						7364703	
MISSISSAUGA CITY	616701	4826137	2020/10 7644						7373748	
MISSISSAUGA CITY	616569	4825664	2020/03 7464						7359499	
MISSISSAUGA CITY	617090	4826093	2020/06 7215						7362232	

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616376	4826453	2020/05 7472	2		///:	MO	0016 10	7363884	BRWN SAND SILT LOOS 0009 GREY CLAY TILL PCKD 0013 GREY SHLE WTHD 0018 GREY SHLE 0026
MISSISSAUGA CITY	616371	4826451	2020/05 7472	2		///:	MO	0005 10	7363885	BRWN FILL LOOS 0005 GREY SILT PCKD 0010 GREY TILL SILT PCKD 0015
MISSISSAUGA CITY	616599	4826239	2020/05 7472	2		///:	MO	0008 10	7363886	BRWN FILL LOOS 0005 BRWN SAND SILT LOOS 0015 BRWN SAND PCKD 0018
MISSISSAUGA CITY	616338	4826489	2020/05 7472	2		///:	MO	0011 10	7363889	BLCK LOOS 0002 BRWN SAND SILT LOOS 0010 GREY CLAY SILT PCKD 0015 GREY SHLE 0021
MISSISSAUGA CITY	615975	4826062	2020/04 7472						7364032	
MISSISSAUGA CITY	616668	4825315	2020/02 7472						7364700	
MISSISSAUGA CITY	617162	4825593	2020/03 7472						7364761	
MISSISSAUGA CITY	616596	4825371	2021/03 1663						7388901	
MISSISSAUGA CITY	616665	4825377	2021/03 1663						7388904	
MISSISSAUGA CITY	616663	4826097	2020/12 7644						7378968	
MISSISSAUGA CITY	616890	4826309	2020/10 7644						7373749	
MISSISSAUGA CITY	616929	4826366	2020/10 7644						7373750	
MISSISSAUGA CITY	616783	4826337	2020/10 7644						7373751	
MISSISSAUGA CITY	616122	4825131	2020/12 6607	2	UT 0012	///:	MO	0020 5	7376464	BRWN LOAM SAND SOFT 0001 BRWN SAND SILT DNSE 0005 GREY SILT CLAY HARD 0009 GREY SHLE SHLE LYRD 0025
MISSISSAUGA CITY	616122	4825107	2020/12 6607	2	UT 0012	///:	MO	0015 10	7376469	BRWN LOAM SAND SOFT 0001 BRWN SAND SILT DNSE 0005 GREY SILT CLAY HARD 0009 GREY SHLE SHLE LYRD 0025
MISSISSAUGA CITY	616121	4825108	2020/12 6607	2	UT 0012	///:	MO	0009 4	7376474	BRWN LOAM SAND SOFT 0001 BRWN SAND SILT DNSE 0005 GREY SILT CLAY HARD 0008 GREY SILT SHLE DNSE 0013
MISSISSAUGA CITY	616107	4825121	2020/12 6607	2	UT 0012	///:	MO	0025 10	7376476	BRWN LOAM SAND SOFT 0001 BRWN SAND SILT DNSE 0005 GREY SILT CLAY HARD 0009 GREY SHLE SHLE LYRD 0035
MISSISSAUGA CITY	616732	4826038	2020/12 7644						7378967	
MISSISSAUGA CITY	617131	4825897	6875	5		///:	DE	0033 22	7355020	TILL ---- BLDR 0038 GRVL SAND WBRG 0053
MISSISSAUGA CITY	616967	4825992	2020/12 7644						7378969	
MISSISSAUGA CITY	616854	4825189	2021/03 7644						7385466	
MISSISSAUGA CITY	616108	4825119	2020/12 6607	2	UT 0012	///:	MO	0004 4	7376482	BRWN LOAM SAND SOFT 0001 BRWN SAND SILT DNSE 0005 GREY SILT CLAY HARD 0008
MISSISSAUGA CITY	616575	4826051	2017/11 7383	2			MT	0020 5	7327960	TILL ROCK 0025

Table: MECP Water Wells Records (500 m Radius)

Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616570	4825514	2017/11 7383	2			MT	0047 3	7327961	TILL ROCK 0050
MISSISSAUGA CITY	616830	4825320	2018/08 7644	2			MT	0020 10	7327962	SILT CLAY 0030
MISSISSAUGA CITY	617053	4825715	2018/08 7644	2			TH MO	0020 10	7332457	SILT CLAY 0030 LMSN
MISSISSAUGA CITY	616691	4825290	2018/07 7644	2			TH MO	0025 10	7332458	SILT CLAY 0035 LMSN
MISSISSAUGA CITY	616636	4825337	2019/07 7644	2		///:	MT	0010 10	7342397	GREY CLAY SLTY 0020
MISSISSAUGA CITY	616678	4825534	2019/07 7644	2	UT 0024	///:	MT	0015 10	7342398	GREY CLAY SLTY 0020
MISSISSAUGA CITY	616055	4825500	2019/10 7147	1.97		///:	MO	0005 5	7346767	BRWN SAND SILT 0010 BRWN SHLE
MISSISSAUGA CITY	616868	4825444	2017/11 7383	2			MT	0018 10	7327957	TILL ROCK 0028
MISSISSAUGA CITY	616942	4825989	2019/08 7644	2		///:	MT	0015 10	7342478	TILL CLAY 0025
MISSISSAUGA CITY	617090	4825899	2019/08 7644	2		///:	MO	0027 10	7342479	BRWN FILL 0010 BRWN TILL SNDY 0025 GREY SILT SNDY 0037
MISSISSAUGA CITY	616784	4825167	2020/02 7238	2	UT 0005	///:	MO	0030 10	7355719	FILL 0007 SHLE ROCK 0040
MISSISSAUGA CITY	617091	4826115	6875	5		///:	DE MO	0025 20	7345293	GREY TILL CLAY GRVL 0017 BRWN SAND WBRG 0033 GREY GRVL STNS WBRG 0045
MISSISSAUGA CITY	617113	4825913	6875	5		///:	DE	0035 20	7354998	TILL CLAY GRVL 0008 GRVL ---- 0015 GRVL CLAY SAND 0032 GRVL SAND WBRG 0050 SAND WBRG 0055
MISSISSAUGA CITY	616042	4825513	2019/10 7147	1.97		///:	MO	0003 10	7346766	BRWN SAND SILT 0010 BRWN SHLE 0013
MISSISSAUGA CITY	616968	4825467	2017/11 7383	2			MT	0004 10	7327958	TILL ROCK 0014
MISSISSAUGA CITY	616821	4825313	2018/10 7644	2			MT	0005 10	7327951	
MISSISSAUGA CITY	616916	4825433	2018/10 7644	2			MT	0010 10	7327952	
MISSISSAUGA CITY	616730	4825339	2017/11 7683	2			MT	0018 10	7327953	TILL ROCK 0028
MISSISSAUGA CITY	616036	4825519	2019/10 7147	1.97		///:	MO	0003 10	7346765	BRWN SAND SILT 0010 BRWN SHLE 0013
MISSISSAUGA CITY	617018	4825702	2019/11 7644	2		///:	MT	0010 2	7353431	SILT 0012
MISSISSAUGA CITY	617082	4825598	2019/11 7644	2		///:	MT	0008 5	7353422	SILT 0013
MISSISSAUGA CITY	617050	4825828	2019/11 7644	2		///:	MT	0008 5	7353423	SILT 0013
MISSISSAUGA CITY	616029	4825507	2019/10 7147	1.97		///:	MO	0003 10	7346768	BRWN SAND SILT 0010 BRWN SHLE 0013
MISSISSAUGA CITY	617056	4825799	2019/11 7644	2		///:	MT	0010 5	7353425	SILT 0015
MISSISSAUGA CITY	616922	4826044	2019/08 7644	2		///:	MO	0030 10	7342480	BRWN FILL 0010 BRWN TILL SNDY 0025 GREY SILT SNDY 0040
MISSISSAUGA CITY	617115	4825733	2019/11 7644	2		///:	MT	0010 10	7353427	SILT SAND WBRG 0020
MISSISSAUGA CITY	617169	4825708	2019/11 7644	2		///:	MT	0010 28	7353428	SILT CLAY SAND 0038
MISSISSAUGA CITY	617054	4825855	2019/11 7644	2		///:	MT	0010 2	7353421	SILT 0012
MISSISSAUGA CITY	617072	4825698	2019/11 7644	2		///:	MT	0000 13	7353430	SILT 0013
MISSISSAUGA CITY	616976	4825824	2019/11 7644	2		///:	MT	0010 11	7353424	SILT CLAY 0021
MISSISSAUGA CITY	617041	4825687	2019/11 7644	2		///:	MT	0010 5	7353432	
MISSISSAUGA CITY	617128	4825899	6875	5		///:	DE	0030 20	7354991	TILL CLAY GRVL 0025 ---- SLTY 0035 GRVL SAND WBRG 0040 SAND GRVL WBRG 0050

Table: MECP Water Wells Records (500 m Radius)
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	617125	4825901	6875	5		///:	DE	0030 20	7354992	TILL CLAY GRVL 0020 ---- GRVL WBRG 0030 SAND GRVL WBRG 0046 GRVL WBRG 0050
MISSISSAUGA CITY	617123	4825902	6875	5		///:	DE	0035 20	7354993	TILL CLAY SAND 0018 GRVL CLAY SAND 0030 ---- SAND 0035 GRVL SAND ---- 0043 SAND GRVL 0050 GRVL 0055
MISSISSAUGA CITY	617121	4825904	6875	5		///:	DE	0030 20	7354994	TILL CLAY GRVL 0035 GRVL WBRG 0042 SAND GRVL WBRG 0050
MISSISSAUGA CITY	617199	4825906	6875	5		///:	DE	0030 20	7354995	TILL CLAY SAND 0035 GRVL WBRG 0042 SAND GRVL WBRG 0050
MISSISSAUGA CITY	617117	4825909	6875	5		///:	DE	0033 20	7354996	TILL GRVL CLAY 0008 GRVL BLDR 0015 SAND GRVL WBRG 0033 GRVL SAND WBRG 0042 SAND WBRG 0053
MISSISSAUGA CITY	617115	4825911	6875	5		///:	DE	0035 20	7354997	TILL CLAY GRVL 0008 GRVL BLDR 0015 GRVL SAND CLAY 0030 GRVL SAND WBRG 0050 SAND WBRG 0055
MISSISSAUGA CITY	617111	4825702	2019/11 7644	2		///:	MT	0010 11	7353429	SILT CLAY SAND 0021
MISSISSAUGA CITY	616401	4825654	2019/11 7641	2		///:	TH MO	0005 10	7350164	
MISSISSAUGA CITY	615911	4825222	2019/11 7241	2		///:	MT	0008 10	7348080	BRWN CLAY SILT 0009 GREY SHLE 0015 GREY SHLE 0018
MISSISSAUGA CITY	615898	4825217	2012/11 7241	2		///:	MT	0012 10	7348081	BRWN CLAY SILT 0009 GREY SHLE 0020 GREY SHLE 0022
MISSISSAUGA CITY	616654	4825613	2019/06 7644						7349530	
MISSISSAUGA CITY	616854	4825144	2018/06 7644						7349531	
MISSISSAUGA CITY	616993	4825786	7644	2		///:	MT	0010 2	7353426	SILT 0012
MISSISSAUGA CITY	616434	4825622	2019/11 7644	2		///:	MT	0005 5	7350163	CLAY TILL 0008 ROCK 0015
MISSISSAUGA CITY	617111	4825829	2019/11 7644	1.87		///:	MO	0010 5	7353420	SILT CLAY SAND 0015
MISSISSAUGA CITY	616245	4825472	2019/11 7644	2	UT 0010	///:	MT	0005 10	7350165	BRWN FILL SAND GRVL 0001 GREY TILL SILT HARD 0010 GREY SHLE HARD 0015
MISSISSAUGA CITY	616282	4825423	2019/11 7644	2	UT 0010	///:	MT	0005 10	7350166	BRWN LOAM SOFT 0000 GREY SILT TILL HARD 0010 GREY SHLE HARD 0015
MISSISSAUGA CITY	616398	4825576	2019/11 7644	2	UT 0010	///:	MT	0005 10	7350168	BLCK ---- HARD 0000 GREY TILL SHLE HARD 0015
MISSISSAUGA CITY	616376	4825676	2019/11 7644	2	UT 0010	///:	MT	0005 10	7350169	BLCK ---- HARD 0000 GREY TILL SHLE HARD 0015
MISSISSAUGA CITY	616067	4825431	2019/11 7644	2	UT 0010	///:	MT	0005 10	7350170	BLCK ---- HARD 0000 GREY TILL HARD 0015
MISSISSAUGA CITY	616411	4825633	2019/11 7644	2	UT 0010	///:	MT	0005 10	7350167	BRWN FILL GRVL SAND 0005 GREY TILL SHLE HARD 0015
MISSISSAUGA CITY	616454	4825636	2019/11 7644	2		///:	MT	0010 10	7350162	CLAY TILL 0020
MISSISSAUGA CITY	617104	4825565	2019/11 7644	2		///:	MT	0010 5	7353417	SILT 0015

Table: MECP Water Wells Records (500 m Radius)

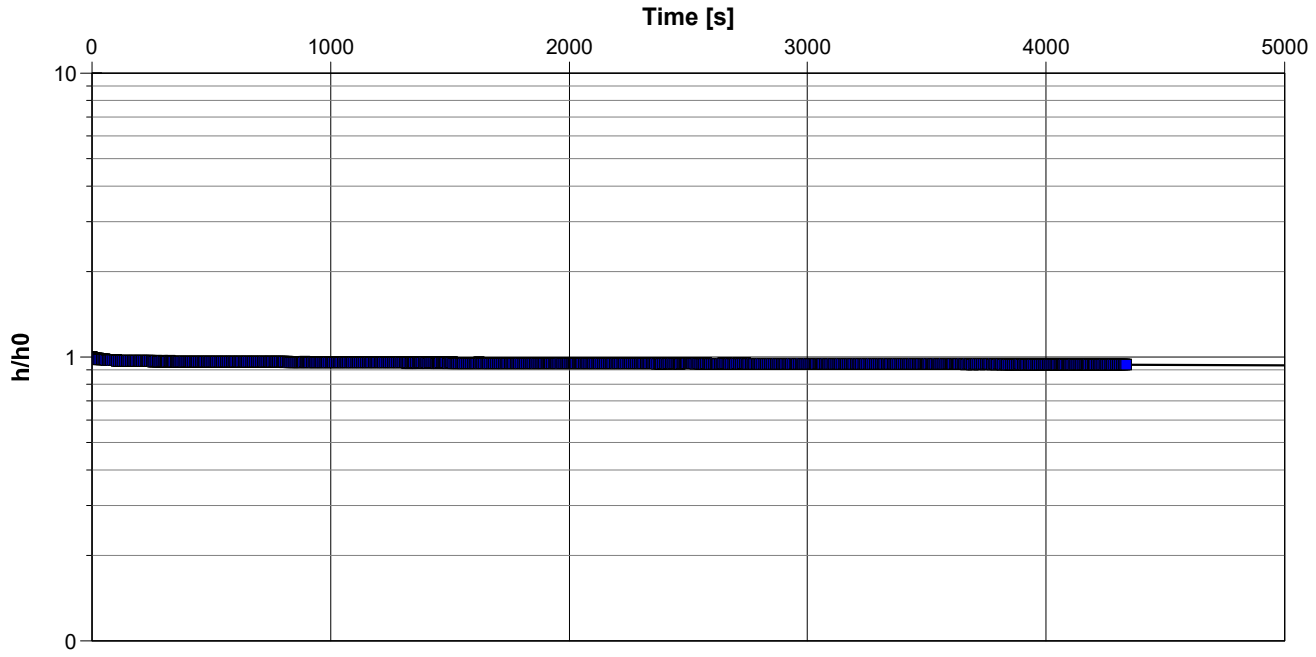
Location: Rangview Road, Mississauga

MISSISSAUGA CITY	616911	4825805	2019/11 7644	2		///:	MT	0010 3	7353416	SILT 0013
MISSISSAUGA CITY (PO	616376	4825397	2007/08 6607	1.99		///:	MO		7050861	BRWN SAND GRVL 0005 GREY SHLE SOFT 0010 GREY SHLE 0020
MISSISSAUGA CITY DS S 03	616508	4825833	2002/02 7147					0001 5	4908971	BRWN LOAM 0001 BRWN CLAY 0006 GREY SHLE ROCK 0006
MISSISSAUGA CITY DS S 03	616522	4825880	2002/02 7147					0001 5	4908970	BRWN LOAM 0001 BRWN CLAY 0006 GREY SHLE ROCK 0006
MISSISSAUGA CITY DS S 03	616482	4825852	2002/02 7147					0003 5	4908972	BRWN LOAM 0001 BRWN CLAY 0008 GREY SHLE ROCK 0008
MISSISSAUGA CITY DS S 03	616446	4825874	2002/02 7147					0001 5	4908969	BRWN LOAM 0001 BRWN CLAY 0006 GREY SHLE ROCK 0006
MISSISSAUGA CITY DS S 03 008	616490	4825589	1967/04 3512	8	FR 0070	30/35/135/:	IN	0072 10	4902286	BRWN CLAY MSND 0020 BLUE CLAY GRVL 0062 BLUE CLAY 0070 MSND GRVL 0082
TORONTO CITY	616386	4825426	2007/08 7241	1.5				0010 9	7049725	RED FILL SAND SOFT 0003 BRWN SILT CLAY DNSE 0017 BRWN SILT CLAY 0019

Appendix C: Hydraulic Conductivity Analysis

	Slug Test Analysis Report
	Project: Hydrogeology Investigation
	Number: 22-200-100
	Client: Rangeview Estates

Location: Mississauga, ON	Slug Test: MW/BH 22-6	Test Well: MW/BH 22-6
Test Conducted by: AQ		Test Date: 10/18/2022
Analysis Performed by: PP	Hvorslev	Analysis Date: 10/18/2022
Aquifer Thickness: 1.31 m		

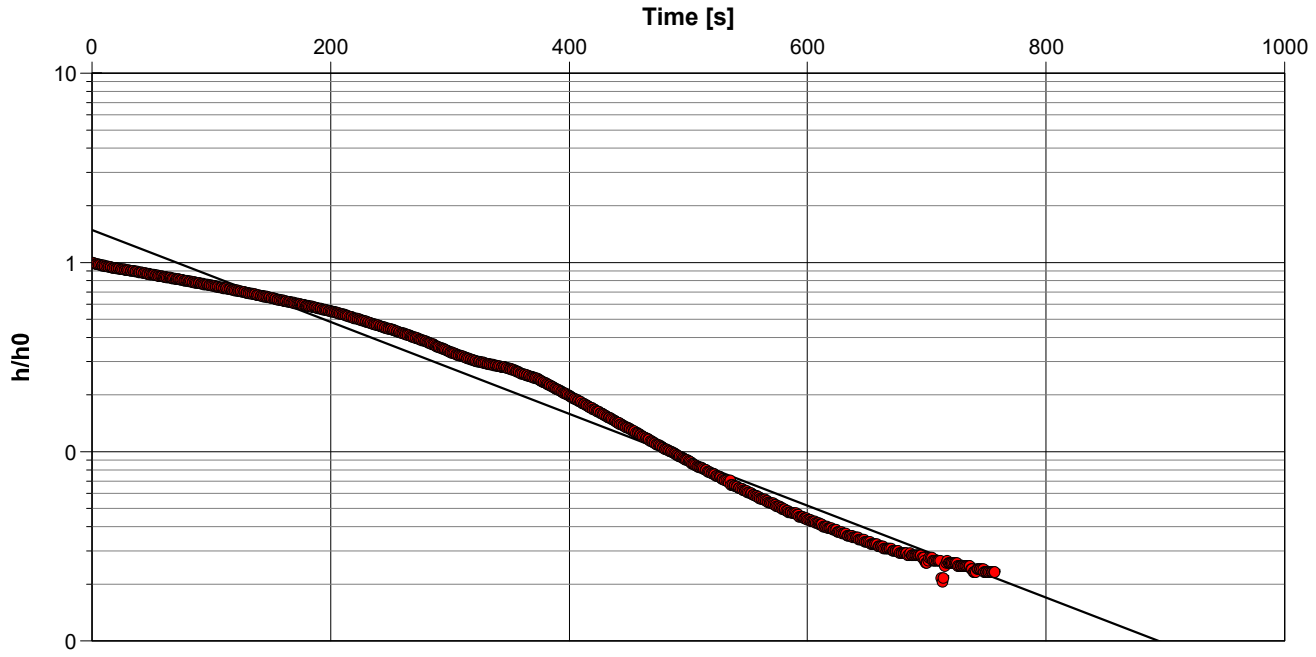


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
MW/BH 22-6	5.28×10^{-9}	

Slug Test Analysis Report	
Project: Hydrogeology Investigation	
Number: 22-200-100	
Client: Rangeview Estates	

Location: Mississauga, ON	Slug Test: MW/BH 22-9	Test Well: MW/BH 22-9
Test Conducted by:		Test Date: 10/18/2022
Analysis Performed by: PP	Hvorslev	Analysis Date: 10/18/2022
Aquifer Thickness: 3.11 m		

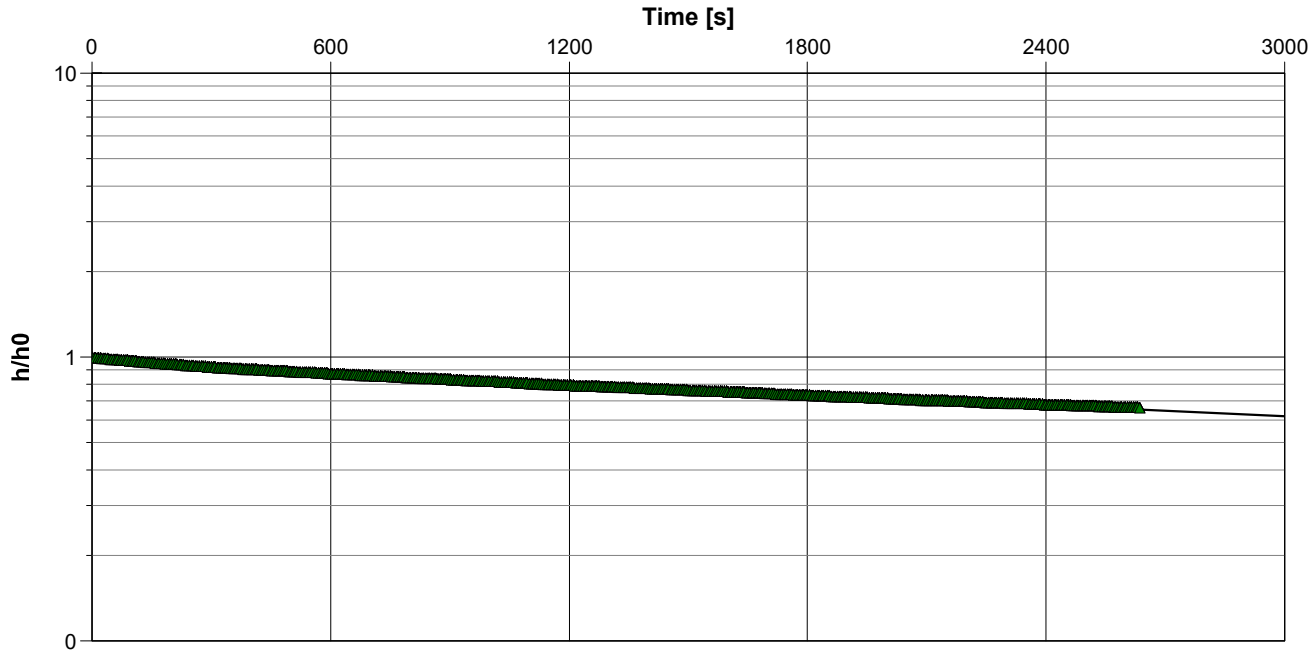


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
MW/BH 22-9	2.52×10^{-6}	

	Slug Test Analysis Report
	Project: Hydrogeology Investigation
	Number: 22-200-100
	Client: Rangeview Estates

Location: Mississauga, ON	Slug Test: MW/BH 22-13	Test Well: MW/BH 22-13
Test Conducted by: PP		Test Date: 10/18/2022
Analysis Performed by: PP	Hvorslev	Analysis Date: 10/18/2022
Aquifer Thickness: 2.21 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
MW/BH 22-13	1.11×10^{-7}	

Appendix D: Groundwater Quality Certificate of Analysis

FINAL REPORT

CA14622-SEP22 R1

22-200-100, 974 Lakeshore Rd E, Mississauga

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Unit 6 Vaughan, Ontario L4H 0K8. Canada
Contact	Abdul Qadir
Telephone	204-951-8164
Facsimile	905-264-2685
Email	abdul.qadir@dsconsultants.ca; don.hsu@dsconsultants.ca
Project	22-200-100, 974 Lakeshore Rd E, Mississauga
Order Number	
Samples	Ground Water (2)

LABORATORY DETAILS

Project Specialist	Maarit Wolfe, Hon.B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2000
Facsimile	705-652-6365
Email	Maarit.Wolfe@sgs.com
SGS Reference	CA14622-SEP22
Received	09/23/2022
Approved	10/05/2022
Report Number	CA14622-SEP22 R1
Date Reported	10/05/2022

COMMENTS

RL - SGS Reporting Limit

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

Chain of Custody Number: 033384

Metals limits raised 10x due to sample matrix

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

TABLE OF CONTENTS

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Mississauga Sewer Use ByLaw - Storm Sewer - BL_0046_2022

			Sample Number	8	9	
			Sample Name	BH22-9	BH22-9	
					03-Oct-22	
			Sample Matrix	Ground Water	Ground Water	
			Sample Date	22/09/2022	03/10/2022	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	
General Chemistry						
Biochemical Oxygen Demand (BOD5)	mg/L	2	15	< 4 ↑	---	
Total Suspended Solids	mg/L	2	15	9560	---	
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5	---	
Metals and Inorganics						
Total Chlorine	mg/L	0.02	1	< 0.02	---	
Fluoride	mg/L	0.06		0.18	---	
Cyanide (total)	mg/L	0.01	0.02	< 0.01	---	
Sulphate	mg/L	2		98	---	
Aluminum (0.2µm)	mg/L	0.001		0.211	---	
Aluminum (total)	mg/L	0.01	1	63.5	---	
Antimony (total)	mg/L	0.009		< 0.009	---	
Arsenic (total)	mg/L	0.002	0.02	0.038	---	
Cadmium (total)	mg/L	0.00003	0.008	0.00012	---	
Chromium (total)	mg/L	0.0008	0.08	0.117	---	
Copper (total)	mg/L	0.002	0.04	0.129	---	
Cobalt (total)	mg/L	0.00004		0.0661	---	
Lead (total)	mg/L	0.0009	0.12	0.0362	---	
Manganese (total)	mg/L	0.0001	2	5.44	---	
Molybdenum (total)	mg/L	0.0004		0.0033	---	
Nickel (total)	mg/L	0.001	0.08	0.135	---	
Phosphorus (total)	mg/L	0.03	0.4	3.76	---	

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Mississauga Sewer Use ByLaw - Storm Sewer - BL_0046_2022

			Sample Number	8	9	
			Sample Name	BH22-9	BH22-9	
					03-Oct-22	
			Sample Matrix	Ground Water	Ground Water	
			Sample Date	22/09/2022	03/10/2022	
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	
Metals and Inorganics (continued)						
Selenium (total)	mg/L	0.0004	0.02	0.0006	---	
Silver (total)	mg/L	0.0005	0.12	< 0.0005	---	
Tin (total)	mg/L	0.0006		0.0016	---	
Titanium (total)	mg/L	0.0005		0.190	---	
Zinc (total)	mg/L	0.02	0.2	**0.37**	---	
Microbiology						
E. Coli	cfu/100mL	0	200	---	0	
Nonylphenol and Ethoxylates						
Nonylphenol	mg/L	0.001		< 0.001	---	
Nonylphenol Ethoxylates	mg/L	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		< 4	---	
Oil & Grease (mineral/synthetic)	mg/L	4		< 4	---	

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Mississauga Sewer Use ByLaw - Storm Sewer - BL_0046_2022

			Sample Number	8	9
			Sample Name	BH22-9	BH22-9
					03-Oct-22
			Sample Matrix	Ground Water	Ground Water
			Sample Date	22/09/2022	03/10/2022
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**
Other (ORP)					
pH	No unit	0.05	9	7.13	---
Chromium VI	mg/L	0.0002	0.04	< 0.0002	---
Mercury (total)	mg/L	0.00001	0.0004	0.00001	---
PAHs					
Benzo(b+j)fluoranthene	mg/L	0.0001		< 0.0001	---
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	µg/L	0.04	0.4	< 0.04	---
Phenols					
4AAP-Phenolics	mg/L	0.002	0.008	< 0.002	---
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002		< 0.002	---
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002	---
PAHs (Total)	mg/L		0.002	< 0.001	---
Perylene	mg/L	0.0005		< 0.0005	---

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Mississauga Sewer Use ByLaw - Storm Sewer - BL_0046_2022

	Sample Number			8	9	
	Sample Name			BH22-9	BH22-9	
					03-Oct-22	
	Sample Matrix			Ground Water	Ground Water	
	Sample Date			22/09/2022	03/10/2022	
Parameter	**Units**	**RL**	**L1**	**Result**	**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: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Mississauga Sewer Use ByLaw - Storm Sewer - BL_0046_2022

Sample Number	8	9
Sample Name	BH22-9	BH22-9
		03-Oct-22
Sample Matrix	Ground Water	Ground Water
Sample Date	22/09/2022	03/10/2022

Parameter	Units	RL	L1	Result	Result
VOCs					
Chloroform	mg/L	0.0005		< 0.0005	---
1,2-Dichlorobenzene	mg/L	0.0005	0.0056	< 0.0005	---
1,4-Dichlorobenzene	mg/L	0.0005	0.0068	< 0.0005	---
cis-1,2-Dichloroethene	mg/L	0.0005		0.0115	---
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005	---
Methylene Chloride	mg/L	0.0005		< 0.0005	---
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.017	< 0.0005	---
1,1,1,2-Tetrachloroethane	mg/L	0.0005	0.017	< 0.0005	---
Methyl ethyl ketone	mg/L	0.02		< 0.02	---
Styrene	mg/L	0.0005		< 0.0005	---
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.0044	< 0.0005	---
Trichloroethylene	mg/L	0.0005	0.0076	0.0029	---
VOCs - BTEX					
Benzene	mg/L	0.0005	0.002	< 0.0005	---
Ethylbenzene	mg/L	0.0005	0.002	< 0.0005	---
Toluene	mg/L	0.0005	0.002	< 0.0005	---
Xylene (total)	mg/L	0.0005	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 / - - Mississauga Sewer Use ByLaw - Storm Sewer - BL_0046_2022 L1
BH22-9				
Total Suspended Solids	SM 2540D	mg/L	9560	15
Aluminum	SM 3030/EPA 200.8	mg/L	63.5	1
Arsenic	SM 3030/EPA 200.8	mg/L	0.038	0.02
Chromium	SM 3030/EPA 200.8	mg/L	0.117	0.08
Copper	SM 3030/EPA 200.8	mg/L	0.129	0.04
Manganese	SM 3030/EPA 200.8	mg/L	5.44	2
Nickel	SM 3030/EPA 200.8	mg/L	0.135	0.08
Phosphorus	SM 3030/EPA 200.8	mg/L	3.76	0.4
Zinc	SM 3030/EPA 200.8	mg/L	0.37	0.2

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

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
Sulphate	DIO5058-SEP22	mg/L	2	<2	9	20	111	80	120	91	75	125

Biochemical Oxygen Demand

Method: SM 5210 | 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)	BOD0050-SEP22	mg/L	2	< 2	15	30	102	70	130	82	70	130

Chlorine

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-008

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 Chlorine	EWL0494-SEP22	mg/L	0.02	< 0.02	ND	20	99	90	110	NA		

QC SUMMARY

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)	SKA0220-SEP22	mg/L	0.01	<0.01	ND	10	95	90	110	NV	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	EWL0495-SEP22	mg/L	0.06	<0.06	5	10	100	90	110	110	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-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	SKA0234-SEP22	mg/L	0.0002	<0.0002	ND	20	100	80	120	92	75	125

QC SUMMARY

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)	EHG0052-SEP22	mg/L	0.00001	< 0.00001	11	20	118	80	120	102	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)	EMS0238-SEP22	mg/L	0.0005	<0.00005	ND	20	103	90	110	71	70	130
Aluminum (total)	EMS0238-SEP22	mg/L	0.01	<0.001	2	20	93	90	110	89	70	130
Arsenic (total)	EMS0238-SEP22	mg/L	0.002	<0.0002	6	20	106	90	110	103	70	130
Cadmium (total)	EMS0238-SEP22	mg/L	0.00003	<0.000003	20	20	103	90	110	91	70	130
Cobalt (total)	EMS0238-SEP22	mg/L	0.00004	<0.000004	7	20	104	90	110	102	70	130
Chromium (total)	EMS0238-SEP22	mg/L	0.0008	<0.00008	11	20	100	90	110	109	70	130
Copper (total)	EMS0238-SEP22	mg/L	0.002	<0.0002	14	20	100	90	110	91	70	130
Manganese (total)	EMS0238-SEP22	mg/L	0.0001	<0.00001	2	20	107	90	110	97	70	130
Molybdenum (total)	EMS0238-SEP22	mg/L	0.0004	<0.00004	7	20	94	90	110	100	70	130
Nickel (total)	EMS0238-SEP22	mg/L	0.001	<0.0001	0	20	100	90	110	92	70	130
Lead (total)	EMS0238-SEP22	mg/L	0.0009	<0.00001	14	20	94	90	110	89	70	130
Phosphorus (total)	EMS0238-SEP22	mg/L	0.03	<0.003	9	20	96	90	110	NV	70	130
Antimony (total)	EMS0238-SEP22	mg/L	0.009	<0.0009	ND	20	95	90	110	101	70	130
Selenium (total)	EMS0238-SEP22	mg/L	0.0004	<0.00004	7	20	101	90	110	95	70	130
Tin (total)	EMS0238-SEP22	mg/L	0.0006	<0.00006	ND	20	97	90	110	NV	70	130
Titanium (total)	EMS0238-SEP22	mg/L	0.0005	<0.00005	2	20	97	90	110	NV	70	130
Zinc (total)	EMS0238-SEP22	mg/L	0.02	<0.002	4	20	103	90	110	80	70	130
Aluminum (0.2µm)	EMS0242-SEP22	mg/L	0.001	<0.001	2	20	101	90	110	75	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	BAC9013-OCT22	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	GCM0393-SEP22	mg/L	0.01	<0.01			88	55	120			
Nonylphenol Ethoxylates	GCM0393-SEP22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0393-SEP22	mg/L	0.01	<0.01			90	55	120			
Nonylphenol	GCM0393-SEP22	mg/L	0.001	<0.001			91	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)	GCM0482-SEP22	mg/L	2	<2	NSS	20	105	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)	GCM0482-SEP22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0482-SEP22	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	EWL0496-SEP22	No unit	0.05	NA	1		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	SKA0228-SEP22	mg/L	0.002	<0.002	ND	10	105	80	120	102	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	GCM0452-SEP22	ug/L	0.04	< 0.04	NSS	30	100	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
7Hdibenzo(c,g)carbazole	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Anthracene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	104	50	140	NSS	50	140
Benzo(a)anthracene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	100	50	140	NSS	50	140
Benzo(a)pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	103	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	99	50	140	NSS	50	140
Benzo(e)pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	98	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0499-SEP22	mg/L	0.0002	< 0.0002	NSS	30	99	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	102	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0499-SEP22	mg/L	0.002	< 0.002	NSS	30	137	50	140	NSS	50	140
Chrysene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	105	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0499-SEP22	mg/L	0.002	< 0.002	NSS	30	132	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	104	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	75	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Fluoranthene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	109	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0499-SEP22	mg/L	0.0002	< 0.0002	NSS	30	109	50	140	NSS	50	140
Perylene	GCM0499-SEP22	mg/L	0.0005	< 0.0005	NSS	30	101	50	140	NSS	50	140
Phenanthrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	106	50	140	NSS	50	140
Pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	101	50	140	NSS	50	140

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-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	EWL0493-SEP22	mg/L	2	< 2	0	10	101	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-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	SKA0230-SEP22	as N mg/L	0.5	<0.5	1	10	103	90	110	108	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
1,1,1,2-Tetrachloroethane	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	95	60	130	99	50	140
1,1,2,2-Tetrachloroethane	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	95	60	130	97	50	140
1,2-Dichlorobenzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	99	50	140
1,4-Dichlorobenzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	97	50	140
Benzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	95	60	130	99	50	140
Chloroform	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	94	60	130	98	50	140
cis-1,2-Dichloroethene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	101	50	140
Ethylbenzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	101	50	140
m-p-xylene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	99	50	140
Methyl ethyl ketone	GCM0420-SEP22	mg/L	0.02	<0.02	ND	30	91	50	140	98	50	140
Methylene Chloride	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	99	50	140
o-xylene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	99	60	130	103	50	140
Styrene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Tetrachloroethylene (perchloroethylene)	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Toluene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	99	60	130	103	50	140
Trichloroethylene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	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.

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: 033384
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Sofia
Received Date: 09/23/2022 (mm/dd/yy)
Received Time: 11:30 (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&2.3
LAB LIMS #: CAL1622-Sep22

REPORT INFORMATION

Company: Accounting
Contact: Abdul Qadir
Address: 6221 Hwy 7, Unit 16, Vaughan ON
Phone: 204-951-8164
Fax:
Email: abdul.qadir@dsconsultants.ca

INVOICE INFORMATION

☑ (same as Report Information)
Company: Accounting
Contact:
Address:
Phone:
Email:

Quotation #:
P.O. #:
Project #: 22-200-100
Site Location/ID: 974 Lakeshore Rd E, Mississauga

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:
☐ Table 2 ☐ Ind/Com ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ Medium/Fine
☐ 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: Peel/Mississauga

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,Ti,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)	Other: Sewer Use: Peel/Mississauga (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	BH22-9	22/Sep/2022	PM	20	GW	N													✓				Non filtered
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Observations/Comments/Special Instructions

Sampled By (NAME): Abdul Qadir Signature:
Relinquished by (NAME): Abdul Qadir Signature:

Date: 09/23/22 (mm/dd/yy)
Date: 09/23/22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

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: 029536
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Bryant
Received Date: 10 / 05 / 22 (mm/dd/yy)
Received Time: 11 : 30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice packs
Temperature Upon Receipt (°C) 9.9.9
LAB LIMS #: CA-14622-SEP22

REPORT INFORMATION	INVOICE INFORMATION
Company: DS Consultants	☒ (same as Report Information)
Contact: Abdul Qadir	Company: Accounting
Address: 6221 Hwy 7, Unit 16, Vaughan, ON	Contact:
Phone: 204-951-8164	Address:
Fax:	Phone:
Email: abdul.qadir@dsconsultants.ca	Email:

Quotation #:
P.O. #:
Project #: 22-200-100
Site Location/ID: 974 Lakeshore Rd E, Mississauga

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: Peel Region/ Mississauga

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,(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 (please specify)	Other	Other	Other	Other: Sewer Use: Peel Region Specify pkg: Mississauga	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	BH22-9	03/oct/2022	Am	1	GW	N															✓				CA14622 Append
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): Abdul Qadir Signature: Date: 10 / 03 / 22 (mm/dd/yy)
Relinquished by (NAME): Abdul Qadir Signature: Date: 10 / 03 / 22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

FINAL REPORT

CA14622-SEP22 R1

22-200-100, 974 Lakeshore Rd E, Mississauga

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Unit 6 Vaughan, Ontario L4H 0K8. Canada
Contact	Abdul Qadir
Telephone	204-951-8164
Facsimile	905-264-2685
Email	abdul.qadir@dsconsultants.ca; don.hsu@dsconsultants.ca
Project	22-200-100, 974 Lakeshore Rd E, Mississauga
Order Number	
Samples	Ground Water (2)

LABORATORY DETAILS

Project Specialist	Maarit Wolfe, Hon.B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2000
Facsimile	705-652-6365
Email	Maarit.Wolfe@sgs.com
SGS Reference	CA14622-SEP22
Received	09/23/2022
Approved	10/05/2022
Report Number	CA14622-SEP22 R1
Date Reported	10/05/2022

COMMENTS

RL - SGS Reporting Limit

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

Chain of Custody Number: 033384

Metals limits raised 10x due to sample matrix

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

TABLE OF CONTENTS

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Sample Number 8 / Sample Name BH22-9 / Sample Matrix Ground Water / Sample Date 22/09/2022	Sample Number 9 / Sample Name BH22-9 03-Oct-22 / Sample Matrix Ground Water / Sample Date 03/10/2022
General Chemistry						
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 ↑	---
Total Suspended Solids	mg/L	2	350	15	9560	---
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5	---
Metals and Inorganics						
Total Chlorine	mg/L	0.02			< 0.02	---
Fluoride	mg/L	0.06	10		0.18	---
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01	---
Sulphate	mg/L	2	1500		98	---
Aluminum (0.2µm)	mg/L	0.001			0.211	---
Aluminum (total)	mg/L	0.01	50		63.5	---
Antimony (total)	mg/L	0.009	5		< 0.009	---
Arsenic (total)	mg/L	0.002	1	0.02	0.038	---
Cadmium (total)	mg/L	0.00003	0.7	0.008	0.00012	---
Chromium (total)	mg/L	0.0008	5	0.08	0.117	---
Copper (total)	mg/L	0.002	3	0.05	0.129	---
Cobalt (total)	mg/L	0.00004	5		0.0661	---
Lead (total)	mg/L	0.0009	3	0.12	0.0362	---
Manganese (total)	mg/L	0.0001	5	0.05	5.44	---
Molybdenum (total)	mg/L	0.0004	5		0.0033	---
Nickel (total)	mg/L	0.001	3	0.08	0.135	---
Phosphorus (total)	mg/L	0.03	10	0.4	3.76	---

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Sample Number 8 / Sample Name BH22-9 / Sample Matrix Ground Water / Sample Date 22/09/2022	Sample Number 9 / Sample Name BH22-9 03-Oct-22 / Sample Matrix Ground Water / Sample Date 03/10/2022
Metals and Inorganics (continued)						
Selenium (total)	mg/L	0.0004	1	0.02	0.0006	---
Silver (total)	mg/L	0.0005	5	0.12	< 0.0005	---
Tin (total)	mg/L	0.0006	5		0.0016	---
Titanium (total)	mg/L	0.0005	5		0.190	---
Zinc (total)	mg/L	0.02	3	0.04	0.37	---
Microbiology						
E. Coli	cfu/100mL	0		200	---	0
Nonylphenol and Ethoxylates						
Nonylphenol	mg/L	0.001	0.02		< 0.001	---
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 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: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

				Sample Number	8	9
				Sample Name	BH22-9	BH22-9
						03-Oct-22
				Sample Matrix	Ground Water	Ground Water
				Sample Date	22/09/2022	03/10/2022
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**
Other (ORP)						
pH	No unit	0.05	10	9	7.13	---
Chromium VI	mg/L	0.0002			< 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	µg/L	0.04	1	0.4	< 0.04	---
Phenols						
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002	---
SVOCs						
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	---
PAHs (Total)	mg/L				< 0.001	---
Perylene	mg/L	0.0005			< 0.0005	---

Client: DS Consultants
Project: 22-200-100, 974 Lakeshore Rd E, Mississauga
Project Manager: Abdul Qadir
Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

				Sample Number	8	9
				Sample Name	BH22-9	BH22-9
						03-Oct-22
				Sample Matrix	Ground Water	Ground Water
				Sample Date	22/09/2022	03/10/2022
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**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: 22-200-100, 974 Lakeshore Rd E, Mississauga

Project Manager: Abdul Qadir

Samplers: Abdul Qadir

MATRIX: WATER

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

				Sample Number	8	9
				Sample Name	BH22-9	BH22-9
						03-Oct-22
				Sample Matrix	Ground Water	Ground Water
				Sample Date	22/09/2022	03/10/2022
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**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	0.0115	---
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	---
1,1,1,2-Tetrachloroethane	mg/L	0.0005			< 0.0005	---
Methyl ethyl ketone	mg/L	0.02	8		< 0.02	---
Styrene	mg/L	0.0005	0.2		< 0.0005	---
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005	---
Trichloroethylene	mg/L	0.0005	0.4	0.008	0.0029	---
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	0.27	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 / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010 L1	SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010 L2
BH22-9					
cis-1,2-Dichloroethene	EPA 5030B/8260C	mg/L	0.0115		0.0056
Total Suspended Solids	SM 2540D	mg/L	9560	350	15
Aluminum	SM 3030/EPA 200.8	mg/L	63.5	50	
Arsenic	SM 3030/EPA 200.8	mg/L	0.038		0.02
Chromium	SM 3030/EPA 200.8	mg/L	0.117		0.08
Copper	SM 3030/EPA 200.8	mg/L	0.129		0.05
Manganese	SM 3030/EPA 200.8	mg/L	5.44	5	0.05
Nickel	SM 3030/EPA 200.8	mg/L	0.135		0.08
Phosphorus	SM 3030/EPA 200.8	mg/L	3.76		0.4
Zinc	SM 3030/EPA 200.8	mg/L	0.37		0.04

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

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
Sulphate	DIO5058-SEP22	mg/L	2	<2	9	20	111	80	120	91	75	125

Biochemical Oxygen Demand

Method: SM 5210 | 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)	BOD0050-SEP22	mg/L	2	< 2	15	30	102	70	130	82	70	130

Chlorine

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-008

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 Chlorine	EWL0494-SEP22	mg/L	0.02	< 0.02	ND	20	99	90	110	NA		

QC SUMMARY

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)	SKA0220-SEP22	mg/L	0.01	<0.01	ND	10	95	90	110	NV	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	EWL0495-SEP22	mg/L	0.06	<0.06	5	10	100	90	110	110	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-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	SKA0234-SEP22	mg/L	0.0002	<0.0002	ND	20	100	80	120	92	75	125

QC SUMMARY

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)	EHG0052-SEP22	mg/L	0.00001	< 0.00001	11	20	118	80	120	102	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)	EMS0238-SEP22	mg/L	0.0005	<0.00005	ND	20	103	90	110	71	70	130
Aluminum (total)	EMS0238-SEP22	mg/L	0.01	<0.001	2	20	93	90	110	89	70	130
Arsenic (total)	EMS0238-SEP22	mg/L	0.002	<0.0002	6	20	106	90	110	103	70	130
Cadmium (total)	EMS0238-SEP22	mg/L	0.00003	<0.000003	20	20	103	90	110	91	70	130
Cobalt (total)	EMS0238-SEP22	mg/L	0.00004	<0.000004	7	20	104	90	110	102	70	130
Chromium (total)	EMS0238-SEP22	mg/L	0.0008	<0.00008	11	20	100	90	110	109	70	130
Copper (total)	EMS0238-SEP22	mg/L	0.002	<0.0002	14	20	100	90	110	91	70	130
Manganese (total)	EMS0238-SEP22	mg/L	0.0001	<0.00001	2	20	107	90	110	97	70	130
Molybdenum (total)	EMS0238-SEP22	mg/L	0.0004	<0.00004	7	20	94	90	110	100	70	130
Nickel (total)	EMS0238-SEP22	mg/L	0.001	<0.0001	0	20	100	90	110	92	70	130
Lead (total)	EMS0238-SEP22	mg/L	0.0009	<0.00001	14	20	94	90	110	89	70	130
Phosphorus (total)	EMS0238-SEP22	mg/L	0.03	<0.003	9	20	96	90	110	NV	70	130
Antimony (total)	EMS0238-SEP22	mg/L	0.009	<0.0009	ND	20	95	90	110	101	70	130
Selenium (total)	EMS0238-SEP22	mg/L	0.0004	<0.00004	7	20	101	90	110	95	70	130
Tin (total)	EMS0238-SEP22	mg/L	0.0006	<0.00006	ND	20	97	90	110	NV	70	130
Titanium (total)	EMS0238-SEP22	mg/L	0.0005	<0.00005	2	20	97	90	110	NV	70	130
Zinc (total)	EMS0238-SEP22	mg/L	0.02	<0.002	4	20	103	90	110	80	70	130
Aluminum (0.2µm)	EMS0242-SEP22	mg/L	0.001	<0.001	2	20	101	90	110	75	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	BAC9013-OCT22	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	GCM0393-SEP22	mg/L	0.01	<0.01			88	55	120			
Nonylphenol Ethoxylates	GCM0393-SEP22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0393-SEP22	mg/L	0.01	<0.01			90	55	120			
Nonylphenol	GCM0393-SEP22	mg/L	0.001	<0.001			91	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)	GCM0482-SEP22	mg/L	2	<2	NSS	20	105	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)	GCM0482-SEP22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0482-SEP22	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	EWL0496-SEP22	No unit	0.05	NA	1		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	SKA0228-SEP22	mg/L	0.002	<0.002	ND	10	105	80	120	102	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	GCM0452-SEP22	ug/L	0.04	< 0.04	NSS	30	100	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
7Hdibenzo(c,g)carbazole	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Anthracene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	104	50	140	NSS	50	140
Benzo(a)anthracene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	100	50	140	NSS	50	140
Benzo(a)pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	103	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	99	50	140	NSS	50	140
Benzo(e)pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	98	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0499-SEP22	mg/L	0.0002	< 0.0002	NSS	30	99	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	102	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0499-SEP22	mg/L	0.002	< 0.002	NSS	30	137	50	140	NSS	50	140
Chrysene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	105	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0499-SEP22	mg/L	0.002	< 0.002	NSS	30	132	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	104	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	75	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Fluoranthene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	109	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0499-SEP22	mg/L	0.0002	< 0.0002	NSS	30	109	50	140	NSS	50	140
Perylene	GCM0499-SEP22	mg/L	0.0005	< 0.0005	NSS	30	101	50	140	NSS	50	140
Phenanthrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	106	50	140	NSS	50	140
Pyrene	GCM0499-SEP22	mg/L	0.0001	< 0.0001	NSS	30	101	50	140	NSS	50	140

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-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	EWL0493-SEP22	mg/L	2	< 2	0	10	101	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-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	SKA0230-SEP22	as N mg/L	0.5	<0.5	1	10	103	90	110	108	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
1,1,1,2-Tetrachloroethane	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	95	60	130	99	50	140
1,1,2,2-Tetrachloroethane	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	95	60	130	97	50	140
1,2-Dichlorobenzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	99	50	140
1,4-Dichlorobenzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	97	50	140
Benzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	95	60	130	99	50	140
Chloroform	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	94	60	130	98	50	140
cis-1,2-Dichloroethene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	101	50	140
Ethylbenzene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	101	50	140
m-p-xylene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	99	50	140
Methyl ethyl ketone	GCM0420-SEP22	mg/L	0.02	<0.02	ND	30	91	50	140	98	50	140
Methylene Chloride	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	96	60	130	99	50	140
o-xylene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	99	60	130	103	50	140
Styrene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Tetrachloroethylene (perchloroethylene)	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Toluene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	99	60	130	103	50	140
Trichloroethylene	GCM0420-SEP22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	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.

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: 033384
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Sofia
Received Date: 09/23/2022 (mm/dd/yy)
Received Time: 11:30 (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&2.3
LAB LIMS #: CAL1622-Sep22

REPORT INFORMATION

Company: Accounting
Contact: Abdul Qadir
Address: 6221 Hwy 7, Unit 16, Vaughan ON
Phone: 204-951-8164
Fax:
Email: abdul.qadir@dsconsultants.ca

INVOICE INFORMATION

☑ (same as Report Information)
Company: Accounting
Contact:
Address:
Phone:
Email:

Quotation #:
P.O. #:
Project #: 22-200-100
Site Location/ID: 974 Lakeshore Rd E, Mississauga

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:
☐ Table 2 ☐ Ind/Com ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ Medium/Fine
☐ 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: Peel/Mississauga

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,Ti,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)	Other: Sewer Use: Peel/Mississauga (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	BH22-9	22/Sep/2022	PM	20	GW	N													✓				Non filtered
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Observations/Comments/Special Instructions

Sampled By (NAME): Abdul Qadir Signature:
Relinquished by (NAME): Abdul Qadir Signature:

Date: 09/23/22 (mm/dd/yy)
Date: 09/23/22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

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: 029536
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Bryant
Received Date: 10 / 05 / 22 (mm/dd/yy)
Received Time: 11 : 30 (hr : min)
Received By (signature):
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: Ice packs
Temperature Upon Receipt (°C) 9.9.9
LAB LIMS #: CA-14622-SEP22

REPORT INFORMATION	INVOICE INFORMATION
Company: DS Consultants	☒ (same as Report Information)
Contact: Abdul Qadir	Company: Accounting
Address: 6221 Hwy 7, Unit 16, Vaughan, ON	Contact:
Phone: 204-951-8164	Address:
Fax:	Phone:
Email: abdul.qadir@dsconsultants.ca	Email:

Quotation #:
P.O. #:
Project #: 22-200-100
Site Location/ID: 974 Lakeshore Rd E, Mississauga

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: Peel Region/ Mississauga

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,(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 (please specify)	Other	Other	Other	Other: Sewer Use: Peel Region Specify pkg: Mississauga	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	BH22-9	03/oct/2022	Am	1	GW	N															✓				CA14622 Append
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): Abdul Qadir Signature: Date: 10 / 03 / 22 (mm/dd/yy)
Relinquished by (NAME): Abdul Qadir Signature: Date: 10 / 03 / 22 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.6
Date of Issue: 02 May 2022

Your Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Your C.O.C. #: 930059-01-01

Attention: PRADEEP PATEL

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/05/01
Report #: R7610413
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3A6391
Received: 2023/04/17, 13:05

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ABN Compounds in Water by GC/MS	1	2023/04/20	2023/04/21	CAM SOP-00301	EPA 8270 m
Biochemical Oxygen Demand (BOD)	1	2023/04/21	2023/04/26	CAM SOP-00427	SM 23 5210B m
Carbonaceous BOD	1	2023/04/19	2023/04/24	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2023/04/20	2023/04/20	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2023/04/20	2023/04/20	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2023/04/20	2023/04/20	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by Axial ICP	1	2023/04/20	2023/04/25	CAM SOP-00408	EPA 6010D m
E.coli, (CFU/100mL)	1	N/A	2023/04/19	CAM SOP-00552	MECP E3371
Total Nonylphenol in Liquids by HPLC	1	2023/04/21	2023/04/22	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2023/04/21	2023/04/22	CAM SOP-00313	Bureau Veritas
Animal and Vegetable Oil and Grease	1	N/A	2023/04/24	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/04/24	2023/04/24	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl in Water	1	2023/04/20	2023/04/21	CAM SOP-00309	EPA 8082A m
pH	1	2023/04/20	2023/04/20	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/04/21	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Turbidimetry	1	N/A	2023/04/21	CAM SOP-00464	SM 23 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2023/04/20	2023/04/21	CAM SOP-00938	OMOE E3516 m
Total PAHs: Barrie/Mississauga Sewer Use (1)	1	N/A	2023/04/24	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2023/04/24	2023/04/24	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2023/04/20	2023/04/20	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2023/04/21	CAM SOP-00228	EPA 8260D

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Your Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Your C.O.C. #: 930059-01-01

Attention: PRADEEP PATEL

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/05/01
Report #: R7610413
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3A6391
Received: 2023/04/17, 13:05

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Total PAHs include only those PAHs specified in the sewer use by-by-law.
(2) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Bureau Veritas
01 May 2023 18:02:12

Please direct all questions regarding this Certificate of Analysis to:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

MISSISSAUGA STORM SEWER BYLAW (46-2022)

Bureau Veritas ID			VOI141		
Sampling Date			2023/04/17		
COC Number			930059-01-01		
	UNITS	Criteria	BH22-14	RDL	QC Batch
Inorganics					
Total BOD	mg/L	15	<2	2	8620686
Calculated Parameters					
Total PAHs	ug/L	2	**<3.4 (1)**	3.4	8616586

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: City of Mississauga Storm Sewer Use By-Law 0046-2022
(1) RDL exceeds criteria

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C3A6391
Report Date: 2023/05/01

DS Consultants Limited
Client Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Sampler Initials: HS

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				VOI141			VOI141		
Sampling Date				2023/04/17			2023/04/17		
COC Number				930059-01-01			930059-01-01		
	UNITS	Criteria	Criteria-2	BH22-14	RDL	QC Batch	BH22-14 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Total Animal/Vegetable Oil and Grease	mg/L	-	150	1.9	0.50	8611791			
Inorganics									
Total Carbonaceous BOD	mg/L	-	300	<2	2	8615705	<2	2	8615705
Fluoride (F-)	mg/L	-	10	0.22	0.10	8618800			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	100	0.30	0.10	8618510			
pH	pH	6:9	5.5:10.0	7.28		8618816			
Phenols-4AAP	mg/L	0.008	1	<0.0010	0.0010	8621267			
Total Suspended Solids	mg/L	15	350	**42**	10	8616229			
Dissolved Sulphate (SO4)	mg/L	-	1500	300	1.0	8618856			
Total Cyanide (CN)	mg/L	0.02	2	<0.0050	0.0050	8619331	<0.0050	0.0050	8619331
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	-	-	1.9	0.50	8624415			
Total Oil & Grease Mineral/Synthetic	mg/L	-	15	<0.50	0.50	8624419			
Miscellaneous Parameters									
Nonylphenol Ethoxylate (Total)	mg/L	-	0.2	<0.025	0.025	8622178	<0.025	0.025	8622178
Nonylphenol (Total)	mg/L	-	0.02	<0.001	0.001	8621974			
Metals									
Total Aluminum (Al)	mg/L	1.0	50	0.1	0.1	8618519	0.1	0.1	8618519
Total Antimony (Sb)	mg/L	-	5	<0.02	0.02	8618519	<0.02	0.02	8618519
Total Arsenic (As)	mg/L	0.02	1	<0.01	0.01	8618519	<0.01	0.01	8618519
Total Cadmium (Cd)	mg/L	0.008	0.7	<0.002	0.002	8618519	<0.002	0.002	8618519
Total Chromium (Cr)	mg/L	0.08	5	<0.01	0.01	8618519	<0.01	0.01	8618519
Total Cobalt (Co)	mg/L	-	5	<0.002	0.002	8618519	<0.002	0.002	8618519
Total Copper (Cu)	mg/L	0.04	3	<0.01	0.01	8618519	<0.01	0.01	8618519
Total Lead (Pb)	mg/L	0.12	3	<0.01	0.01	8618519	<0.01	0.01	8618519
Total Manganese (Mn)	mg/L	2.0	5	0.018	0.001	8618519	0.017	0.001	8618519
Mercury (Hg)	mg/L	0.0004	0.01	<0.00010	0.00010	8618388			
Total Molybdenum (Mo)	mg/L	-	5	0.019	0.005	8618519	0.014	0.005	8618519

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: City of Mississauga Storm Sewer Use By-Law 0046-2022
Criteria-2: The Regional Municipality of Peel Sanitary Sewer Discharge. By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C3A6391
Report Date: 2023/05/01

DS Consultants Limited
Client Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Sampler Initials: HS

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				VOI141			VOI141		
Sampling Date				2023/04/17			2023/04/17		
COC Number				930059-01-01			930059-01-01		
	UNITS	Criteria	Criteria-2	BH22-14	RDL	QC Batch	BH22-14 Lab-Dup	RDL	QC Batch
Total Nickel (Ni)	mg/L	0.08	3	<0.005	0.005	8618519	<0.005	0.005	8618519
Total Phosphorus (P)	mg/L	0.4	10	<0.05	0.05	8618519	<0.05	0.05	8618519
Total Selenium (Se)	mg/L	0.02	1	<0.02	0.02	8618519	<0.02	0.02	8618519
Total Silver (Ag)	mg/L	0.12	5	<0.01	0.01	8618519	<0.01	0.01	8618519
Total Tin (Sn)	mg/L	-	5	<0.02	0.02	8618519	<0.02	0.02	8618519
Total Titanium (Ti)	mg/L	-	5	<0.005	0.005	8618519	<0.005	0.005	8618519
Total Zinc (Zn)	mg/L	0.2	3	<0.005	0.005	8618519	<0.005	0.005	8618519
Semivolatile Organics									
Bis(2-ethylhexyl)phthalate	ug/L	-	12	<8.0	8.0	8619798			
Di-N-butyl phthalate	ug/L	-	80	<8.0	8.0	8619798			
Volatile Organics									
Benzene	ug/L	2	10	<0.40	0.40	8618617			
Chloroform	ug/L	-	40	<0.40	0.40	8618617			
1,2-Dichlorobenzene	ug/L	5.6	50	<0.80	0.80	8618617			
1,4-Dichlorobenzene	ug/L	6.8	80	<0.80	0.80	8618617			
cis-1,2-Dichloroethylene	ug/L	-	4000	<1.0	1.0	8618617			
trans-1,3-Dichloropropene	ug/L	-	140	<0.80	0.80	8618617			
Ethylbenzene	ug/L	2	160	<0.40	0.40	8618617			
Methylene Chloride(Dichloromethane)	ug/L	5.2	2000	<4.0	4.0	8618617			
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	8000	<20	20	8618617			
Styrene	ug/L	-	200	<0.80	0.80	8618617			
1,1,2,2-Tetrachloroethane	ug/L	17	1400	<0.80	0.80	8618617			
Tetrachloroethylene	ug/L	4.4	1000	<0.40	0.40	8618617			
Toluene	ug/L	2	270	<0.40	0.40	8618617			
Trichloroethylene	ug/L	7.6	400	<0.40	0.40	8618617			
p+m-Xylene	ug/L	-	-	<0.40	0.40	8618617			
o-Xylene	ug/L	-	-	<0.40	0.40	8618617			
Total Xylenes	ug/L	4.4	1400	<0.40	0.40	8618617			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: City of Mississauga Storm Sewer Use By-Law 0046-2022
Criteria-2: The Regional Municipality of Peel Sanitary Sewer Discharge. By-Law Number 53-2010.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C3A6391
Report Date: 2023/05/01

DS Consultants Limited
Client Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Sampler Initials: HS

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				VOI141			VOI141		
Sampling Date				2023/04/17			2023/04/17		
COC Number				930059-01-01			930059-01-01		
	UNITS	Criteria	Criteria-2	BH22-14	RDL	QC Batch	BH22-14 Lab-Dup	RDL	QC Batch
PCBs									
Total PCB	ug/L	0.4	1	<0.05	0.05	8618461			
Microbiological									
Escherichia coli	CFU/100mL	200	-	0	N/A	8616957			
Surrogate Recovery (%)									
2,4,6-Tribromophenol	%	-	-	48		8619798			
2-Fluorobiphenyl	%	-	-	77		8619798			
2-Fluorophenol	%	-	-	28		8619798			
D14-Terphenyl	%	-	-	98		8619798			
D5-Nitrobenzene	%	-	-	87		8619798			
D5-Phenol	%	-	-	24		8619798			
Decachlorobiphenyl	%	-	-	94		8618461			
4-Bromofluorobenzene	%	-	-	99		8618617			
D4-1,2-Dichloroethane	%	-	-	115		8618617			
D8-Toluene	%	-	-	88		8618617			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: City of Mississauga Storm Sewer Use By-Law 0046-2022
Criteria-2: The Regional Municipality of Peel Sanitary Sewer Discharge. By-Law Number 53-2010.
N/A = Not Applicable

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Bureau Veritas Job #: C3A6391
Report Date: 2023/05/01

DS Consultants Limited
Client Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Sampler Initials: HS

TEST SUMMARY

Bureau Veritas ID: VOI141
Sample ID: BH22-14
Matrix: Water

Collected: 2023/04/17
Shipped:
Received: 2023/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in Water by GC/MS	GC/MS	8619798	2023/04/20	2023/04/21	Kathy Horvat
Biochemical Oxygen Demand (BOD)	DO	8620686	2023/04/21	2023/04/26	Gurjot Kaur
Carbonaceous BOD	DO	8615705	2023/04/19	2023/04/24	Gurjot Kaur
Total Cyanide	SKAL/CN	8619331	2023/04/20	2023/04/20	Chloe Pollock
Fluoride	ISE	8618800	2023/04/20	2023/04/20	Kien Tran
Mercury in Water by CVAA	CV/AA	8618388	2023/04/20	2023/04/20	Gagandeep Rai
Total Metals Analysis by Axial ICP	ICPX	8618519	2023/04/20	2023/04/25	Medhat Nasr
E.coli, (CFU/100mL)	PL	8616957	N/A	2023/04/19	Sonja Elavinamannil
Total Nonylphenol in Liquids by HPLC	LC/FLU	8621974	2023/04/21	2023/04/22	Furneesh Kumar
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	8622178	2023/04/21	2023/04/22	Furneesh Kumar
Animal and Vegetable Oil and Grease	BAL	8611791	N/A	2023/04/24	Automated Statchk
Total Oil and Grease	BAL	8624415	2023/04/24	2023/04/24	Navneet Singh
Polychlorinated Biphenyl in Water	GC/ECD	8618461	2023/04/20	2023/04/21	Svitlana Shaula
pH	AT	8618816	2023/04/20	2023/04/20	Kien Tran
Phenols (4AAP)	TECH/PHEN	8621267	N/A	2023/04/21	Mandeep Kaur
Sulphate by Automated Turbidimetry	KONE	8618856	N/A	2023/04/21	Yogesh Patel
Total Kjeldahl Nitrogen in Water	SKAL	8618510	2023/04/20	2023/04/21	Jency Sara Johnson
Total PAHs: Barrie/Mississauga Sewer Use	CALC	8616586	N/A	2023/04/24	Automated Statchk
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8624419	2023/04/24	2023/04/24	Navneet Singh
Total Suspended Solids	BAL	8616229	2023/04/20	2023/04/20	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	8618617	N/A	2023/04/21	Hai Son Tran

Bureau Veritas ID: VOI141 Dup
Sample ID: BH22-14
Matrix: Water

Collected: 2023/04/17
Shipped:
Received: 2023/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8615705	2023/04/19	2023/04/24	Gurjot Kaur
Total Cyanide	SKAL/CN	8619331	2023/04/20	2023/04/20	Chloe Pollock
Total Metals Analysis by Axial ICP	ICPX	8618519	2023/04/20	2023/04/25	Medhat Nasr
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	8622178	2023/04/21	2023/04/22	Furneesh Kumar

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.0°C

Sample VOI141 [BH22-14] : ABN Analysis: Due to the sample matrix, a smaller amount was used for analysis. Detection limits were adjusted accordingly.

Sample VOI141 [BH22-14] : VOC Analysis: Due to sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

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Bureau Veritas Job #: C3A6391
Report Date: 2023/05/01

QUALITY ASSURANCE REPORT

DS Consultants Limited
Client Project #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Sampler Initials: HS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8618461	Decachlorobiphenyl	2023/04/21	101	60 - 130	96	60 - 130	97	%				
8618617	4-Bromofluorobenzene	2023/04/21	103	70 - 130	102	70 - 130	102	%				
8618617	D4-1,2-Dichloroethane	2023/04/21	105	70 - 130	101	70 - 130	110	%				
8618617	D8-Toluene	2023/04/21	103	70 - 130	106	70 - 130	89	%				
8619798	2,4,6-Tribromophenol	2023/04/21	87	10 - 130	93	10 - 130	62	%				
8619798	2-Fluorobiphenyl	2023/04/21	51	30 - 130	64	30 - 130	77	%				
8619798	2-Fluorophenol	2023/04/21	26	10 - 130	48	10 - 130	40	%				
8619798	D14-Terphenyl	2023/04/21	93	30 - 130	99	30 - 130	96	%				
8619798	D5-Nitrobenzene	2023/04/21	55	30 - 130	87	30 - 130	87	%				
8619798	D5-Phenol	2023/04/21	18	10 - 130	31	10 - 130	28	%				
8615705	Total Carbonaceous BOD	2023/04/24					<2	mg/L	NC	30	91	85 - 115
8616229	Total Suspended Solids	2023/04/20					<10	mg/L	4.8	20	96	85 - 115
8618388	Mercury (Hg)	2023/04/20	102	75 - 125	103	80 - 120	<0.00010	mg/L	NC	20		
8618461	Total PCB	2023/04/21	96	60 - 130	80	60 - 130	<0.05	ug/L	NC	40		
8618510	Total Kjeldahl Nitrogen (TKN)	2023/04/21	82	80 - 120	100	80 - 120	<0.10	mg/L	NC (1)	20	118	80 - 120
8618519	Total Aluminum (Al)	2023/04/25	127 (2)	80 - 120	94	80 - 120	<0.1	mg/L	10	20		
8618519	Total Antimony (Sb)	2023/04/25	107	80 - 120	103	80 - 120	<0.02	mg/L	NC	20		
8618519	Total Arsenic (As)	2023/04/25	109	80 - 120	103	80 - 120	<0.01	mg/L	NC	20		
8618519	Total Cadmium (Cd)	2023/04/25	106	80 - 120	103	80 - 120	<0.002	mg/L	NC	20		
8618519	Total Chromium (Cr)	2023/04/25	107	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
8618519	Total Cobalt (Co)	2023/04/25	96	80 - 120	100	80 - 120	<0.002	mg/L	NC	20		
8618519	Total Copper (Cu)	2023/04/25	99	80 - 120	101	80 - 120	<0.01	mg/L	NC	20		
8618519	Total Lead (Pb)	2023/04/25	95	80 - 120	100	80 - 120	<0.01	mg/L	NC	20		
8618519	Total Manganese (Mn)	2023/04/25	97	80 - 120	100	80 - 120	<0.001	mg/L	3.9	20		
8618519	Total Molybdenum (Mo)	2023/04/25	103	80 - 120	104	80 - 120	<0.005	mg/L	NC	20		
8618519	Total Nickel (Ni)	2023/04/25	98	80 - 120	103	80 - 120	<0.005	mg/L	NC	20		
8618519	Total Phosphorus (P)	2023/04/25	104	80 - 120	99	80 - 120	<0.05	mg/L	NC	20		
8618519	Total Selenium (Se)	2023/04/25	107	80 - 120	105	80 - 120	<0.02	mg/L	NC	20		
8618519	Total Silver (Ag)	2023/04/25	98	80 - 120	98	80 - 120	<0.01	mg/L	NC	20		
8618519	Total Tin (Sn)	2023/04/25	99	80 - 120	103	80 - 120	<0.02	mg/L	NC	20		
8618519	Total Titanium (Ti)	2023/04/25	102	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8618519	Total Zinc (Zn)	2023/04/25	99	80 - 120	101	80 - 120	<0.005	mg/L	NC	20		
8618617	1,1,2,2-Tetrachloroethane	2023/04/21	101	70 - 130	97	70 - 130	<0.40	ug/L	NC	30		
8618617	1,2-Dichlorobenzene	2023/04/21	95	70 - 130	95	70 - 130	<0.40	ug/L	NC	30		
8618617	1,4-Dichlorobenzene	2023/04/21	110	70 - 130	113	70 - 130	<0.40	ug/L	NC	30		
8618617	Benzene	2023/04/21	91	70 - 130	89	70 - 130	<0.20	ug/L	NC	30		
8618617	Chloroform	2023/04/21	98	70 - 130	95	70 - 130	<0.20	ug/L	NC	30		
8618617	cis-1,2-Dichloroethylene	2023/04/21	NC	70 - 130	99	70 - 130	<0.50	ug/L	4.5	30		
8618617	Ethylbenzene	2023/04/21	85	70 - 130	87	70 - 130	<0.20	ug/L	NC	30		
8618617	Methyl Ethyl Ketone (2-Butanone)	2023/04/21	104	60 - 140	97	60 - 140	<10	ug/L	NC	30		
8618617	Methylene Chloride(Dichloromethane)	2023/04/21	98	70 - 130	94	70 - 130	<2.0	ug/L	NC	30		
8618617	o-Xylene	2023/04/21	86	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
8618617	p+m-Xylene	2023/04/21	73	70 - 130	75	70 - 130	<0.20	ug/L	NC	30		
8618617	Styrene	2023/04/21	81	70 - 130	85	70 - 130	<0.40	ug/L	NC	30		
8618617	Tetrachloroethylene	2023/04/21	90	70 - 130	90	70 - 130	<0.20	ug/L	NC	30		
8618617	Toluene	2023/04/21	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30		
8618617	Total Xylenes	2023/04/21					<0.20	ug/L	NC	30		
8618617	trans-1,3-Dichloropropene	2023/04/21	113	70 - 130	101	70 - 130	<0.40	ug/L	NC	30		
8618617	Trichloroethylene	2023/04/21	101	70 - 130	100	70 - 130	<0.20	ug/L	NC	30		
8618800	Fluoride (F-)	2023/04/20	94	80 - 120	98	80 - 120	<0.10	mg/L	NC	20		
8618816	pH	2023/04/20			102	98 - 103			0.71	N/A		
8618856	Dissolved Sulphate (SO4)	2023/04/21	NC	75 - 125	97	80 - 120	<1.0	mg/L	3.6	20		
8619331	Total Cyanide (CN)	2023/04/20	103	80 - 120	103	80 - 120	<0.0050	mg/L	NC	20		
8619798	Bis(2-ethylhexyl)phthalate	2023/04/21	99	30 - 130	102	30 - 130	<2.0	ug/L	NC	40		
8619798	Di-N-butyl phthalate	2023/04/21	92	30 - 130	95	30 - 130	<2.0	ug/L	NC	40		
8620686	Total BOD	2023/04/26					<2	mg/L	NC	30	92	80 - 120
8621267	Phenols-4AAP	2023/04/21	106	80 - 120	100	80 - 120	<0.0010	mg/L	18	20		
8621974	Nonylphenol (Total)	2023/04/22	107	50 - 130	107	50 - 130	<0.001	mg/L	NC	40		
8622178	Nonylphenol Ethoxylate (Total)	2023/04/22	101	50 - 130	99	50 - 130	<0.025	mg/L	NC	40		
8624415	Total Oil & Grease	2023/04/24			99	85 - 115	<0.50	mg/L	0.25	25		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8624419	Total Oil & Grease Mineral/Synthetic	2023/04/24			96	85 - 115	<0.50	mg/L	0	25		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to a high concentration of NOx, the sample required dilution. The detection limit was adjusted accordingly.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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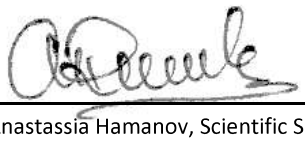
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Sonja Elavinamannil, Master of Biochemistry, Team Lead

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Exceedance Summary Table – Mississauga Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH22-14	VOI141-06	Total Suspended Solids	15	42	10	mg/L

Detection Limit Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH22-14	VOI141-03	Total PAHs	2	<3.4	3.4	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Peel Region Sanitary 2010

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your P.O. #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Your C.O.C. #: 930893-01-01

Attention: PRADEEP PATEL

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/05/10
Report #: R7623181
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3C5477
Received: 2023/05/03, 16:42

Sample Matrix: Ground Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Chlorine	1	2023/05/04	2023/05/04	CAM SOP 00425	SM 23 4500-CL G m
Chromium (VI) in Water	1	N/A	2023/05/08	CAM SOP-00436	EPA 7199 m
PAH Compounds in Water by GC/MS (SIM)	1	2023/05/09	2023/05/09	CAM SOP-00318	EPA 8270E
Total PAHs: Barrie/Mississauga Sewer Use (1)	1	N/A	2023/05/10	CAM SOP - 00301	

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Total PAHs include only those PAHs specified in the sewer use by-by-law.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Your P.O. #: 22-200-100
Site Location: RANGEVIEW RD, MISSISSAUGA
Your C.O.C. #: 930893-01-01

Attention: PRADEEP PATEL

DS Consultants Limited
6221 Highway 7, Unit 16
Vaughan, ON
CANADA L4H 0K8

Report Date: 2023/05/10
Report #: R7623181
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3C5477
Received: 2023/05/03, 16:42

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
10 May 2023 15:30:38

Please direct all questions regarding this Certificate of Analysis to:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Bureau Veritas Job #: C3C5477
Report Date: 2023/05/10

DS Consultants Limited
Site Location: RANGEVIEW RD, MISSISSAUGA
Your P.O. #: 22-200-100
Sampler Initials: HS

RESULTS OF ANALYSES OF GROUND WATER

Bureau Veritas ID		VSF740		
Sampling Date		2023/05/03		
COC Number		930893-01-01		
	UNITS	BH 22-14	RDL	QC Batch
Inorganics				
Total Chlorine	mg/L	<0.1	0.1	8646949

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C3C5477
Report Date: 2023/05/10

DS Consultants Limited
Site Location: RANGEVIEW RD, MISSISSAUGA
Your P.O. #: 22-200-100
Sampler Initials: HS

ELEMENTS BY ATOMIC SPECTROSCOPY (GROUND WATER)

Bureau Veritas ID		VSF740		
Sampling Date		2023/05/03		
COC Number		930893-01-01		
	UNITS	BH 22-14	RDL	QC Batch
Metals				
Chromium (VI)	ug/L	<0.50	0.50	8648136

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

SEMI-VOLATILE ORGANICS BY GC-MS (GROUND WATER)

Bureau Veritas ID		VSF740		
Sampling Date		2023/05/03		
COC Number		930893-01-01		
	UNITS	BH 22-14	RDL	QC Batch
Calculated Parameters				
Total PAHs	ug/L	<0.20	0.20	8645642
Polyaromatic Hydrocarbons				
Biphenyl	ug/L	<0.050	0.050	8653288
Acenaphthene	ug/L	<0.050	0.050	8653288
Acenaphthylene	ug/L	<0.050	0.050	8653288
Anthracene	ug/L	<0.050	0.050	8653288
Benzo(a)anthracene	ug/L	<0.050	0.050	8653288
Benzo(a)pyrene	ug/L	<0.0090	0.0090	8653288
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	8653288
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	8653288
Benzo(k)fluoranthene	ug/L	<0.050	0.050	8653288
Chrysene	ug/L	<0.050	0.050	8653288
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	8653288
Fluoranthene	ug/L	<0.050	0.050	8653288
Fluorene	ug/L	<0.050	0.050	8653288
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	8653288
1-Methylnaphthalene	ug/L	<0.050	0.050	8653288
2-Methylnaphthalene	ug/L	<0.050	0.050	8653288
Naphthalene	ug/L	<0.050	0.050	8653288
Phenanthrene	ug/L	<0.030	0.030	8653288
Pyrene	ug/L	<0.050	0.050	8653288
Surrogate Recovery (%)				
D10-Anthracene	%	114		8653288
D14-Terphenyl (FS)	%	106		8653288
D8-Acenaphthylene	%	100		8653288

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C3C5477
Report Date: 2023/05/10

DS Consultants Limited
Site Location: RANGEVIEW RD, MISSISSAUGA
Your P.O. #: 22-200-100
Sampler Initials: HS

TEST SUMMARY

Bureau Veritas ID: VSF740
Sample ID: BH 22-14
Matrix: Ground Water

Collected: 2023/05/03
Shipped:
Received: 2023/05/03

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Chlorine	SPEC	8646949	2023/05/04	2023/05/04	Leily Karimi
Chromium (VI) in Water	IC	8648136	N/A	2023/05/08	Theodora Luck
PAH Compounds in Water by GC/MS (SIM)	GC/MS	8653288	2023/05/09	2023/05/09	Jonghan Yoon
Total PAHs: Barrie/Mississauga Sewer Use	CALC	8645642	N/A	2023/05/10	Automated Statchk

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

DS Consultants Limited
Site Location: RANGEVIEW RD, MISSISSAUGA
Your P.O. #: 22-200-100
Sampler Initials: HS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8653288	D10-Anthracene	2023/05/09	104	50 - 130	101	50 - 130	113	%		
8653288	D14-Terphenyl (FS)	2023/05/09	102	50 - 130	104	50 - 130	105	%		
8653288	D8-Acenaphthylene	2023/05/09	98	50 - 130	100	50 - 130	100	%		
8646949	Total Chlorine	2023/05/04	70 (1)	85 - 115	99	85 - 115	<0.1	mg/L	NC	25
8648136	Chromium (VI)	2023/05/08	101	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
8653288	1-Methylnaphthalene	2023/05/09	81	50 - 130	79	50 - 130	<0.050	ug/L	NC	30
8653288	2-Methylnaphthalene	2023/05/09	72	50 - 130	70	50 - 130	<0.050	ug/L	NC	30
8653288	Acenaphthene	2023/05/09	102	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
8653288	Acenaphthylene	2023/05/09	100	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
8653288	Anthracene	2023/05/09	106	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
8653288	Benzo(a)anthracene	2023/05/09	106	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
8653288	Benzo(a)pyrene	2023/05/09	109	50 - 130	106	50 - 130	<0.0090	ug/L	NC	30
8653288	Benzo(b/j)fluoranthene	2023/05/09	115	50 - 130	115	50 - 130	<0.050	ug/L	NC	30
8653288	Benzo(g,h,i)perylene	2023/05/09	129	50 - 130	126	50 - 130	<0.050	ug/L	NC	30
8653288	Benzo(k)fluoranthene	2023/05/09	123	50 - 130	115	50 - 130	<0.050	ug/L	NC	30
8653288	Biphenyl	2023/05/09	75	50 - 130	72	50 - 130	<0.050	ug/L		
8653288	Chrysene	2023/05/09	111	50 - 130	110	50 - 130	<0.050	ug/L	NC	30
8653288	Dibenzo(a,h)anthracene	2023/05/09	111	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8653288	Fluoranthene	2023/05/09	121	50 - 130	119	50 - 130	<0.050	ug/L	NC	30
8653288	Fluorene	2023/05/09	103	50 - 130	100	50 - 130	<0.050	ug/L	NC	30
8653288	Indeno(1,2,3-cd)pyrene	2023/05/09	120	50 - 130	117	50 - 130	<0.050	ug/L	NC	30
8653288	Naphthalene	2023/05/09	87	50 - 130	85	50 - 130	<0.050	ug/L	NC	30
8653288	Phenanthrene	2023/05/09	106	50 - 130	105	50 - 130	<0.030	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8653288	Pyrene	2023/05/09	116	50 - 130	115	50 - 130	<0.050	ug/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Bureau Veritas Job #: C3C5477
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Site Location: RANGEVIEW RD, MISSISSAUGA
Your P.O. #: 22-200-100
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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

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Site Location: RANGEVIEW RD, MISSISSAUGA
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Exceedance Summary Table – Mississauga Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Appendix E: Conceptual Development Plan

MASTER PLAN V7

Concept Plan

Legend Rangeview Estates Precinct Area — — Existing Parcel Lines