5100 Erin Mills Parkway – Block 1, Mississauga, Ontario

L5M 5P5

Hydrogeological Investigation

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1 Introduction

1.1 Project Description

EXP Services Inc. (EXP) was retained by The Muzzo Group of Companies. to prepare a Hydrogeological Investigation Report associated with the proposed development located at 5100 Erin Mills Parkway – Block 1, Mississauga, Ontario (hereinafter referred to as the 'Site').

The Site is currently occupied in part by a single storey commercial building along with paved surface parking and landscape areas. It is our understanding that the proposed development plan is to construct a total of nine (9) towers of 20 to 35 storeys in height. The development consists of five (5) phases which will include five (5) levels of underground parking. The Site location plan is shown on Figure 1.

In 2020 and 2024, EXP conducted Preliminary Geotechnical Investigation, Hydrogeological Investigation and Environmental Site Assessment in conjunction with this investigation. The pertinent information gathered from the noted investigations is utilized for this report.

1.2 Project Objectives

The main objectives of the Hydrogeological Investigation are as follows:

- Establish the local hydrogeological settings within the Site;
- Provide Preliminary recommendations on construction and long-term dewatering;
- Assess groundwater quality; and
- Prepare a Hydrogeological Investigation Report.

1.3 Scope of Work

To achieve the investigation objectives, EXP has completed the following scope of work:

- Reviewed available geological and hydrogeological information for the Site;
- Developed and conducted Single Well Response Tests (SWRT) on monitoring wells to assess hydraulic conductivities of the saturated soils at the Site;
- Completed two (2) rounds of groundwater level measurements at all monitoring wells;
- Collected one (1) groundwater sample for analyses of parameters, as listed in the Peel Region Sanitary and Storm Sewer Use By-Law;
- Evaluated the information collected during the field investigation program, including borehole geological information, Water Well Records (WWR), SWRT results, groundwater level measurements and groundwater water quality;
- Prepared site plans, cross sections, geological mapping and groundwater contour mapping for the Site;
- Provided preliminary recommendations on the requirements for construction and long-term dewatering;
- Provided recommendations on the Ministry of Environment, Conservation and Parks (MECP) Water Taking Permits and Peel Region Sewer Discharge Agreements (SDA) for the construction and post-construction phases; and,
- Prepared a Hydrogeological Investigation Report

The Hydrogeological Investigation was prepared in accordance with the Ontario Water Resources Act, and Ontario Regulation 387/04. The scope of work outlined above was made to assess dewatering and did not include a review of Environmental Site Assessments (ESA).

1.4 Review of Previous Reports

The following reports were reviewed as part of this Hydrogeological Investigation:

- EXP Services Inc. (November 16, 2022), Preliminary Hydrogeological Investigation, 5100 Erin Mills Parkway, Mississauga, ON, prepared for Muzzo Group.
- EXP Services Inc. (November 10, 2022), Supplementary Geotechnical Investigation, Proposed Mixed Use Development, 5100 Erin Mills Parkway, Mississauga, ON, prepared for Muzzo Group.
- EXP Services Inc. (December 1, 2020), Phase II Environmental Site Assessment, 5100 Erin Mills Parkway, Mississauga, ON, prepared for Muzzo Group.
- EXP Services Inc. (March 27, 2020), Draft Preliminary Geotechnical Investigation, 5100 Erin Mills Parkway, Mississauga, ON, prepared for Muzzo Group.
- Cushman & Wakefield Asset Services (May 22, 2019), Erin Mills Town Centre, Business Plan for a New Mixed-Use Development, prepared for Investment Management Corporation Ontario.

Any past and/or future geotechnical, hydrogeological, environmental and risk assessments, and updated development/architectural plans should be provided to update this hydrogeological report prior to submission of permits and approvals by the municipalities and agencies.

2 Hydrogeological Setting

2.1 Regional Setting

2.1.1 Regional Physiography

The Site is within a physiographic region known as the South Slope, and the physiographic landform is named Till Moraines (as shown on Figures 2B and 2C). The South Slope is a sloping plain that extends along the southern boundary of the Peel Plain to the shoreline of former Lake Iroquois. This physiographic region represents the southern flank of the Oak Ridges Moraine and is underlain by glacial till. The resulting soil types are predominantly clay with some clay loam and loam. Since the topography is not hummocky like the Oak Ridges, runoff is relatively high and infiltration is correspondingly low.

2.1.2 Regional Geology and Hydrogeology

The surficial geology can be described as glaciolacustrine-derived silty to clayey till in northern portion of the site and Paleozoic Bedrock in the southern portion of the site (Ministry of Northern Development and Mines, 2010). The surficial geology of the Site and surrounding areas is shown on Figure 2.

Based on the available regional geology maps, the subsurface stratigraphy of the Site from top to bottom is summarized in Table 2-1 (TRCA, 2008 and Oak Ridge Moraine Groundwater Program, 2024). The overburden thickness is approximately 11.09 m.

Table 2-1: Summary of Subsurface Stratigraphy

Stratigraphic Unit	General Description	Top Elevation of Stratigraphic Unit
Halton Till or Equivalent (Aquitard)	This lithologic unit typically consists of sandy silt to clayey silt till interbedded with silt, clay, sand and gravel.	172.36
Newmarket Till (Aquitard)	This lithologic unit mainly consist of a massive and dense silty sand unit.	162.2
Queenston Formation (Aquifer)	Bedrock consists of interbedded shale, limestone, dolostone and siltstone. It belongs to the Upper Ordovician, (Ministry of Northern Development and Mines, 2012).	165.22

Regional groundwater across the area flows northeast, towards the Credit River (Oak Ridge Moraine Groundwater Program, 2024). Local deviation from the regional groundwater flow pattern may occur in response to changes in topography and/or soils, as well as the presence of surface water features and/or existing subsurface infrastructure.

2.1.3 Existing Water Well Survey

Water Well Records (WWRs) were compiled from the database maintained by the Ministry of the Environment, Conservation and Parks (MECP) and reviewed to determine the number of water wells documented within a 500-m radius of the Site boundaries. The locations of the MECP WWRs within 500 m of the Site are shown on Figure 3. A summary of the WWR is included in Appendix A.

The MECP WWR database indicates that sixteen (16) records within a 500 m radius from the Site centroid where three (3) well records are identified onsite (Figure 3 and Appendix A). Well distances are calculated relative to the Site centroid, therefore some distances in Appendix A exceed 500 m.

All offsite wells were reportedly identified as monitoring and observation wells, test holes, wells, abandoned and/or listed with unknown use.

2.2 Site Setting

2.2.1 Site Topography

The Site is in an urban land use setting. The topography is considered relatively flat with a regional gradual southeasterly slope towards Credit River and Lake Ontario. The surface elevation of the Site ranges between approximately 175.26 to 176.87 meters above sea level (masl).

2.2.2 Local Surface Water Features

The Site is within the Credit River watershed. No surface water features exist onsite. The nearest surface water feature is an unnamed tributary of Mullet Creek, approximately located 500 meters northeast of the Site boundary. Lake Ontario is approximately 10 km from the Site boundary to the southeast.

2.2.3 Local Geology and Hydrogeology

A summary of subsurface soil stratigraphy is provided in the following paragraphs. The soil descriptions are based on the geotechnical investigation report (EXP, 2024). They are summarized for the hydrogeological interpretations. As such, the information provided in this section shall not be used for construction design purposes.

The detailed soil profiles encountered in each borehole and the results of moisture content determinations are presented on the attached borehole logs (Appendix B). The soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during drilling. These boundaries are intended to reflect approximate transition zones for the Hydrogeological Investigation and shall not be interpreted as exact planes of geological change.

The "Notes on Sample Description" preceding the borehole logs form an integral part of and should be read in conjunction with this report. The following is a brief description of the soil conditions encountered during the investigation.

Based on the results of the geotechnical investigation, the general subsurface soil stratigraphy consists of the following units from top to bottom:

Asphalt and Topsoil
Asphalt with thickness ranging from about 70 to 140 mm was encountered at the surface of Boreholes 201, 202, 203, 204, 205, 206 and 209D. At the ground surface of Boreholes 207, 210, 211, 212, 213 and 214D, topsoil cover with thickness ranging from about 100 to 200 mm was encountered. At Borehole 208, a topsoil layer of about 125 mm thick was encountered below the surficial pebble layer.

Fill
Fill, comprising sand and gravel, silty sand and clayey silt was encountered below the asphalt or topsoil at all borehole locations. The fill extends to depths ranging from about 0.7 to 2 m below existing ground surface (El. ~176.1 to 173.3 m).

Silt
The fill in Borehole 205 is underlain by a silt deposit which is brown to grey in colour, contains a trace of clay and gravel. It is in a dense to very dense state of compactness (recorded 'N'-values of 41 to over 100) and extends to a depth of about 8.5 m below existing grade (El. ~166.8 m).

Sandy Silt to Silty Sand
A sandy silt to silty sand deposit was encountered below the fill in Borehole 206. This deposit is brown in colour and is in a compact state of compactness. The sandy silt to silty sand extends to a depth of about 2.5 m below existing ground surface (El. ~173.5 m).

Silt Till

A silt till deposit was encountered below the silt in Borehole 205, below the sandy silt to silty sand in Borehole 206 and below the fill in the remaining boreholes. The silt till is generally reddish brown in colour, contains some clay, a trace of sand with a trace of shale fragments at lower level of the deposit. It has moisture contents of about 5 to 11 percent of dry mass and is in a dense to very dense state of compactness (recorded 'N'-values of 38 to over 100). The silt till extends to depths of about 2.6 to 10.1 m below existing ground surface (El. ~174.2 to 165.2 m).

Shale Bedrock

Shale bedrock of the Queenston Formation was encountered below the silt till at all borehole locations. The approximate elevation for the bedrock encountered in each borehole is presented in the individual borehole and core logs. Approximately 4.7 to 12.6 m of shale bedrock was cored in the boreholes and the detailed findings from the rock cores are presented in the respective rock core logs for each borehole.

Based on the rock core information, the shale bedrock comprises about 62 to 98% shale, 1 to 11% limestone, 1 to 26% siltstone and 1 to 2% clay seams. The core recovery ranged from 92 to 100%. The Rock Quality Designation (RQD), a rock quality indicator, is defined as the sum of core lengths of 100 mm or greater divided by the total length of the drill run. The recorded RQD ranged from about 0 to 100% with the lower values recorded in the weathered or rubble zones within the shale bedrock. In general, the RQD values beyond the weathered or rubble zones ranged from about 56 to 100%, indicating a fair quality. The shale bedrock generally consists of moderately soft bedded red shale with some limestone interbeds and is highly weathered in the upper zones and becoming sound with depth. All 14 deep boreholes were terminated in the shale bedrock at depths ranging from about 15.3 to 15.9 m below existing ground surface (El. 161.6 to 159.8 m).

The Queenston Formation consists of red shale with interbeds of limestone and siltstone. Typically, the hard layers comprise about 15 to 20 percent of the unit. The hard layers are usually less than about 100 to 150 mm thick but some layers are much thicker. The thicker layers have been observed to be as much as 750 to 900 mm at other sites. The layers are actually lenses and they can vary significantly in thickness over short distances.

The borehole and monitoring well locations are shown on Figure 4. Geological cross-sections were generated based on the available borehole logs completed as part of the previous and current investigations and shown on Figure 5 (Cross section A-A') The cross section shows a simplified representation of soil conditions and soil deposits may be interconnected differently than represented. Borehole logs used to generate both cross-sections are provided in Appendix B.

3 Results

3.1 Monitoring Well Details

The monitoring well network was installed as part of the Geotechnical and Environmental Investigations at the Site. It consists of the following:

- Two (2) shallow overburden monitoring wells (BH5 and BH20) were installed as part of the previous investigation;
- One (1) deep monitoring well (BH101) was installed as part of the previous investigation;
- Four (4) shallow monitoring wells (BH/MW 202, BH/MW 203, BH/MW 209S and BH/MW 214S) were installed as part of the current investigation;
- Five (5) deep monitoring wells (BH/MW 205, BH/MW 207, BH/MW 209D, BH/MW 212, and BH/MW 214D) were installed as part of the current investigation.

The diameter of all monitoring wells is 50 mm. All wells were installed with a flush mount protective casing. Borehole logs and monitoring well installation details are provided in Appendix B. The monitoring well locations are shown on Figure 4.

3.2 Water Level Monitoring

As part of the Hydrogeological Investigation, static water levels in the monitoring wells installed outside of the existing building were recorded in five (5) monitoring events between October 26, 2022 and February 4, 2024. A summary of all static water level data as it relates to the elevation survey is given in Table 3-1 below.

The groundwater elevation recorded in the shallow wells ranged from 167.74 masl to 172.30 masl. The groundwater elevation recorded in the deep wells ranged from 168.90 masl to 170.42 masl

Table 3-1: Summary of Measured Groundwater Elevations

Monitoring Well ID	Ground Surface Elevation (masl)	Stick Up (m)*	Approximate Full Well Depth (mbTOP)*	Approximate Full Well Depth (mbgs)	Minimum Groundwater Elevation (masl)	Maximum Groundwater Elevation (masl)	Depth	26-Oct-22	28-Oct-22	31-Oct-22	29-Jan-24	4-Feb-24
BH 5	175.10	0.00	4.68	4.68	169.38	169.38	mbTOP	DRY	-	DRY	5.72	5.72
							mbgs	-	-	-	5.72	5.72
							masl	-	-	-	169.38	169.38
BH 20	177.19	0.76	6.56	5.80	172.23	172.30	mbTOP	5.65	-	5.67	5.72	5.72
							mbgs	4.89	-	4.91	4.96	4.96
							masl	172.30	-	172.28	172.23	172.23
BH 101	175.11	0.00	12.05	12.05	169.37	169.44	mbTOP	5.72	5.67	5.75	5.72	5.72
							mbgs	5.72	5.67	5.75	5.72	5.72
							masl	169.40	169.44	169.37	169.39	169.39
BH 202	176.76	0.00	7.21	7.21	170.79	170.82	mbTOP	-	-	-	5.94	5.97
							mbgs	-	-	-	5.94	5.97
							masl	-	-	-	170.82	170.79
BH 203	176.31	0.00	6.94	6.94	169.84	170.15	mbTOP	-	-	-	6.47	6.16
							mbgs	-	-	-	6.47	6.16
							masl	-	-	-	169.84	170.15
BH 205	175.26	0.00	15.20	15.20	169.70	169.92	mbTOP	-	-	-	5.34	5.56
							mbgs	-	-	-	5.34	5.56
							masl	-	-	-	169.92	169.70
BH 207	176.12	0.96	15.50	14.54	168.74	170.01	mbTOP	-	-	-	7.07	8.34
							mbgs	-	-	-	6.11	7.38
							masl	-	-	-	170.01	168.74
BH 209 S	176.87	0.00	6.91	6.91			mbTOP	-	-	-	DRY	DRY
							mbgs	-	-	-	DRY	DRY
							masl	-	-	-	DRY	DRY
BH 209 D	176.87	0.00	14.60	14.60	168.90	169.02	mbTOP	-	-	-	7.85	7.97
							mbgs	-	-	-	7.85	7.97
							masl	-	-	-	169.02	168.90
BH 212	176.12	0.89	15.94	15.05	170.30	170.42	mbTOP	-	-	-	6.59	6.71
							mbgs	-	-	-	5.70	5.82
							masl	-	-	-	170.42	170.30
BH 214 S	175.97	1.10	7.21	6.11	170.02	170.05	mbTOP	-	-	-	7.02	7.05
							mbgs	-	-	-	5.92	5.95
							masl	-	-	-	170.05	170.02
BH 214 D	175.97	0.95	16.77	15.82	169.69	169.92	mbTOP	-	-	-	7.00	7.23
							mbgs	-	-	-	6.05	6.28
							masl	-	-	-	169.92	169.69

Two (2) maps were created for the Site to show groundwater contours of the shallow and deep water-bearing zones (Figures 6). Accordingly, the general groundwater flow direction is interpreted to be northeast of the Site for the shallow and deep water-bearing zones respectively, towards Mullet Creek, one of the tributaries of Credit River. This is consistent with the Oak Ridges Moraine Groundwater Program database. Groundwater levels are expected to show seasonal fluctuations and vary in response to prevailing climate conditions. This may also affect the direction and rate of flow. It is recommended to conduct seasonal groundwater level measurements to provide more information on seasonal groundwater level fluctuations.

3.3 Hydraulic Conductivity Testing

Two (2) Single Well Response Tests (SWRT's) were completed on monitoring wells BH20 and BH101 on October 31, 2022, as well as an additional six (6) on BH/MW 202, BH/MW 205, BH/MW 207, BH/MW 209D, BH/MW 212, and BH/MW 214D on February 4, 2024. The tests were completed to estimate the saturated hydraulic conductivity (K) of the soils at the well screen depths utilizing data loggers, preprogramed to take measurement on (time in sec/ half sec/minutes) intervals.

The static water level within each monitoring well was measured prior to the start of testing. In advance of performing SWRTs, each monitoring well underwent development to remove fines introduced into the screens following construction. The development process involved purging of the monitoring wells to induce the flow of fresh formation water through the screen. Each monitoring well was permitted to fully recover prior to performing SWRTs.

Hydraulic conductivity values were calculated from the SWRT and constant rate test data as per Hvorslev's solution included in the Aqtesolv Pro. V.4.5 software package. The semi-log plots for normalized drawdown versus time are included in Appendix C. A summary of the hydraulic conductivities (K-values) estimated from the SWRTs are provided in Table 3-2.

Table 3-5: Summary of Hydraulic Conductivity Testing

Monitoring Well	Well Depth (mbgs)	Screen Interval (mbgs)		Soil formation Screened	Estimated Hydraulic Conductivity (m/s)
		from	to		
BH 20	6.56	3.56	6.56	Shale	1.2E-06
BH 101	12.05	9.05	12.05	Shale	2.7E-07
BH/MW 202	7.21	4.21	7.21	Shale	4.6E-08
BH/MW 205	15.2	12.2	15.2	Shale	5.7E-08
BH/MW 207	15.5	12.5	15.5	Shale	1.8E-07
BH/MW 209D	14.6	11.6	14.6	Shale	3.5E-07
BH/MW 212	15.05	12.05	15.05	Shale	1.6E-07
BH/MW 214D	15.82	12.82	15.82	Shale	1.3E-06
				Highest Estimated K Value	1.3E-06
				Geometric Mean of Estimated K Values	2.6E-07
				Arithmetic Mean of Estimated K Values	4.6E-07

SWRTs provide K-estimates of the geological formation surrounding the well screens and may not be representative of bulk formation hydraulic conductivity. As shown in Table 3-2, the highest K-value of the tested water-bearing zone is 1.3E-06 m/s, and the geometric mean of the K-values is 2.6E-07 m/s.

3.4 Groundwater Quality

To assess the suitability for discharging pumped groundwater into the sewers owned by the Peel Region and/or the City of Mississauga during dewatering activities, one (1) groundwater sample was collected from monitoring well BH 101 on October 28, 2022 and BH 205 on February 2, 2024 using a peristaltic pump. Prior to collecting the noted water sample, approximately three (3) standing well volumes of groundwater were purged from the referred well. The samples were collected unfiltered and placed into pre-cleaned laboratory-supplied vials and/or bottles provided with analytical test group specific preservatives, as required. Dedicated nitrile gloves were used during sample handling. The groundwater samples were submitted for analysis to Bureau Veritas Laboratory, a CALA certified independent laboratory in Mississauga, Ontario. Analytical results are provided in Appendix D.

Table 3-3 summarizes exceedance(s) of the Sanitary (Table 1) and Storm (Table 2) Sewer Use By-Law parameters.

When comparing the chemistry of the collected groundwater samples to the Peel Region's Sanitary and Combined Sewer Discharge Criteria, there were no parameter exceedances to be reported.

When comparing the chemistry of the collected groundwater samples to the Peel Region's Storm Sewer Discharge Criteria, the concentrations of Total Kjeldahl Nitrogen (TKN), Total Suspended Solids (TSS), and Total and Dissolved Manganese (Mn) exceeded the applicable guidelines.

Please note that the City of Mississauga updated their sewer use By-Law in 2022 (0046-2022) and as a result the only parameter which exceeded the City of Mississauga Storm sewer use By-Law limits was Total Suspended Solids (TSS).

Reporting detection limits (RDLs) were below the Sewer Use By-Law parameter criteria of Tables 1 and 2.

Table 3-3: Summary of Analytical Results

Parameter	Units	Peel Region Sanitary and Combined Sewer Discharge Limit	Peel Region Storm Sewer Discharge Limit	The City of Mississauga's Storm Sewer Discharge Limit	BH 101 October 28, 2022	BH 205 February 2, 2024
Total Suspended Solids (TSS)	mg/L	350	15	15	**27**	**27**
Total Manganese (Mn)	µg/L	5,000	50	2,000	(**370**)	**(82)**
Dissolved Manganese (Mn)	µg/L	5,000	50	2,000	-	-
Total Kjeldahl Nitrogen (TKN)	µg/L	100	1	-	(**1.5**)	**(2.3)**

Bold – Exceeds City of Mississauga and Peel Region's Storm Sewer Discharge limit.
Bolded and in brackets: Exceeds Peel Region's Storm Sewer Discharge criteria, however it complies with the City of Mississauga's Storm Discharge criteria.

For the short-term dewatering system (construction phase), it is anticipated that TSS levels and some other parameters (for example, Total Metals) in the pumped groundwater may become elevated and exceed both, Sanitary and Storm Sewer Use By-Law limits. To control the concentration of TSS and associated metals, it is recommended that a suitable treatment method be implemented (filtration or decantation facilities and/ or any other applicable treatment system) during construction dewatering activities to discharge to the applicable sewer system. The specifications of the treatment system will need to be adjusted to the reported water quality results by the treatment contractor/process engineer.

Post construction (long-term) discharge to the Region of Peel's sanitary system is not permitted. Should the pumped groundwater be released into the Region of Peel's sanitary system and based on the groundwater quality results, using a pre-treatment is required for the long-term phase.

Should the pumped groundwater be released into the Region of Peel's storm system and based on the groundwater quality results, using a pre-treatment system is required for the long-term phase.

Should pumped groundwater be released into the City of Mississauga's storm system and based on the groundwater quality results, using a pre-treatment system is required for the long-term phase.

The water quality results presented in this report may not be representative of the long-term condition of groundwater quality onsite. As such, regular water quality monitoring is recommended for the post-construction phase, as required by the City. An agreement to discharge into the sewers owned by Peel Region will be required prior to releasing dewatering effluent. The Environmental Site Assessment Report(s) shall be reviewed for more information on the groundwater quality conditions at the Site.

4 Dewatering Assessment

4.1 Dewatering Flow Rate Estimate and Zone of Influence

The Dupuit-Forcheimer equation for radial flow to both sides of an excavation through an unconfined aquifer resting on a horizontal impervious surface was used to obtain a flow rate estimate. Dewatering flow rate is expressed as follows:

$$Q_w = \frac{\pi K(H^2 - h^2)}{Ln\left[\frac{R_o}{r_e}\right]}$$

$$r_e = \frac{a+b}{\pi} \qquad R_o = R_{cj} + r_e$$

Where:

Qw = Rate of pumping (m^3/s)
X = Length of excavation (m)
K = Hydraulic conductivity (m/s)
H = Hydraulic head beyond the influence of pumping (static groundwater elevation) (m)
h = Hydraulic head above the base of aquifer in an excavation (m)
R_0 = Radius of influence (m)
R_{cj} = Cooper-Jacob's radius of influence (m)
r_e = Equivalent perimeter (m)
a = Length of the excavation area (m)
b = Width of the excavation area (m)

It is expected that the initial dewatering rate will be higher to remove groundwater from within the overburden formation. The dewatering rates are expected to decrease once the target water level is achieved in the excavation footprint as groundwater will have been removed, primarily from storage, resulting in lower seepage rates into the excavation.

4.2 Cooper-Jacob's Radius of Influence

The radius of influence (Rcj) for the construction dewatering was calculated based on Cooper-Jacob's equation. This equation is used to predict the distance at which the drawdown resulting from pumping is negligible.

The estimated radius of influence due to pumping is based on Cooper-Jacob's formula as follows:

$$\mathrm{R}_{cj} = \sqrt{2.25KDt/s}$$

Where:

Ro = Estimated radius of influence (m)
D = Aquifer thickness (original saturated thickness) (m)
K = Hydraulic conductivity (m/s)
S = Storage coefficient
t = Duration of pumping (s)

4.3 Stormwater

Additional pumping capacity may be required to maintain dry conditions within the excavation during and following significant precipitation events. Therefore, the dewatering rates at the Site should also include removing stormwater from the excavation.

A 15 mm precipitation event was utilized for estimating the stormwater volume. The calculation of the stormwater volume is included in Appendix E.

The estimate of the stormwater volume only accounts for direct precipitation into the excavation. The dimensions of the excavation are considered in the dewatering calculations. Runoff which originated outside of the excavation's footprint is excluded and it should be directed away from the excavation.

During precipitation events greater than 15 mm (ex: 100-year storm), measures should be taken by the contractor to retain stormwater onsite in a safe manner to not exceed the allowable water taking and discharge limits, as necessary. A two (2) and a one hundred (100) year storm event over a 24-hour period are approximately 57 and 124.4 mm.

4.4 Results of Dewatering Rate Estimates

4.4.1 Construction Dewatering Rate Estimate

For this assessment, it was assumed that the proposed construction plans include an excavation with shoring extending to the Site boundaries. EXP should be retained to review the assumptions outlined in this section, should the assumed shoring design change.

Short-term (construction) and long term (post construction) dewatering calculations are presented in Appendix E.

Pits (elevator, sump pits) are assumed to have the same excavation depth and dewatering target as the main excavation; deeper pits may require localized dewatering and revised dewatering estimates.

Based on the assumptions provided in this report, the results of the dewatering rate estimate can be summarized as follows:

Table 4-1 Summary of Construction Dewatering Assumptions and Rate

Input Parameter	Phase I Building A	Phase 2 Building B and G	Phase 3 Building C and D	Phase 4 Building E and H	Phase 5 Building F1-F2	Units	Notes
Number of Subgrade Levels	5 Levels					-	
Ground Elevations	175.97	175.97	177.03	176.22	175.16	masl	Average elevation of boreholes and wells across each phase.
Top of Slab Elevation	160.57	161.04	161.63	160.82	159.76	masl	Assumed to be approximately 15.40 meters below ground surface elevation to P5 per Drawing A451.S.
Lowest Footing Elevation	159.07	159.54	160.13	159.32	158.26	masl	Assumed to be approximately 1.5 m below the top of slab elevation
Excavation Area (Length x Width)	4,900 (70 x 70)	1,1000 (100 x 110)	1,2100 (110 x 110)	8,100 (90 x 90)	5,200 (130 x 40)	m^2 (m x m)	Approximate area (length x width) of Site parking area for the proposed development
Short Term Dewatering							
With Safety Factor and Precipitation	380,000	652,000	699,000	518,000	440,000	L/day	15 mm of precipitation
With Safety Factor	258,000	377,000	396,000	316,000	310,000	L/day	With safety factor of 2 and without precipitation
Without Safety Factor	251,000	463,000	501,000	360,000	285,000	L/day	Without precipitation
Long Term Dewatering							
With Safety Factor	71,000	58,000	62,000	48,000	47,000	L/day	Safety Factor of 1.5

Local dewatering may be required for pits (elevator pits, sump pits), if these extend deeper than the dewatering target. Local dewatering is not considered to be part of this assessment. Dewatering estimates should be reviewed once the pit dimensions are available.

Local dewatering may be required for pits (elevator pits, sump pits, raft) and for localized areas with permeable, soft, or wet soil conditions. Local dewatering is not considered to be part of this assessment, but contractor should be ready to install additional system to manage such conditions. Dewatering estimates should be reviewed once the pit dimensions are available.

All grading around the perimeter of the excavation should be graded away from the shoring the systems and ramp/site access to redirect runoff away from excavation.

The dewatering assumptions are based on using shoring system without open cuts and sloped excavations.

If groundwater cutoff systems (ex: caisson walls, sheet piles) are installed, these should be designed for maximal hydrostatic pressure for shallow and deep water levels, without dewatering on the outer side of the groundwater cutoff. Soldier pile and lagging and caisson wall systems should be designed to account for shallow groundwater conditions and take into consideration that dewatering systems may not provide fully dewatered soil conditions.

If groundwater cutoff systems are used for decreasing long-term dewatering rates, these should be designed as permanent structures to cutoff groundwater inflow in the long-term. All perforations should be sealed permanently (ex: tiebacks, breaches, and cold joints) with no leakages and inspected. Fillers should extend into low permeability deposits (ex: sound bedrock or till) to cutoff groundwater from water bearing zones. Inspections should be conducted to confirm the depth of low permeability deposits along shoring system and that fillers are keyed into low permeability soil deposits.

All grading around the perimeter of the construction Site should be graded away from the shoring the system.

The contractor is responsible for the design of the dewatering systems (depth of wells, screen length, number of wells, spacing sand pack around screens, prevent soil loss etc.) to ensure that dry conditions are always maintained within the excavation at all costs.

Dewatering should be monitored using dedicated monitoring wells within and around the perimeter of the excavation, and these wells should be monitored using manual measurements and with electronic data loggers; records should be maintained on site to track dewatering progress. Discharge rates should be monitored using calibrated flow meters and records of dewatering progress, and daily precipitation as per MECP requirements should be maintained.

4.4.2 Post-Construction Dewatering Rate Estimate

It is our understanding that the development plan includes a permanent foundation sub-drain system that will ultimately discharge to the municipal sewer system if conventional footings are installed.

The long-term dewatering was based on the same equations as construction dewatering shown in Section 4.1.

The calculation for the estimated flow to the future sub-drain system (with no cutoff walls) is provided in Appendix E. The dewatering target for the foundation drainage system is taken at 0.5 m below the lowest slab elevation.

The foundation drain analysis provides a flow rate estimate. Once the foundation drain is built, actual flow rate measurements of the sump discharge will be required to confirm the estimated flow rate.

Based on the assumptions provided in this report, the estimated sub-drain discharge volumes are summarized in Appendix E. Seasonal and daily fluctuations are expected. These estimates may be affected by hydrogeological conditions beyond those encountered at this time, fluctuations in groundwater regimes, surrounding Site alterations, and existing and future infrastructures.

Intermittent cycling of sump pumps and seasonal fluctuation in groundwater regimes should be considered for pump specifications. A safety factor was applied to the flow rate to account for water level fluctuations due to seasonal changes.

These estimates assume that pits (elevator and/or sump pits) are made as watertight structures (without drainage), if their depths extend below the dewatering target, as previously stated. The dewatering assumptions are based on using shoring system without open cuts. Open cuts can act as preferential groundwater pathways in the long-term and cause foundation drainage volumes to increase.

The sub-drain rate estimate is based on the assumptions outlined in this report. Any variations in hydrogeological conditions beyond those encountered as part of this investigation may significantly influence the sub-drain discharge volumes.

4.5 MECP Water Taking Permits

4.5.1 Short-Term Discharge Rate (Construction Phase)

In accordance with the Ontario Water Resources Act, if the water taking for the construction dewatering is more than 50,000 L/day but less than 400,000 L/day, then an online registration in the Environmental Activity and Sector Registry (EASR) with the MECP will be required. If groundwater dewatering rates onsite exceed 400,000 L/day, a Category 3 Permit to Take Water (PTTW) will be required from the MECP.

As of July 1, 2021, an amendment of O. Reg. 63/16 has come into effect and replaced the former subsection 7 (5) such that the EASR water taking limit of 400,000 L/day would apply to groundwater takings of each dewatered work area only, excluding stormwater.

The dewatering estimate including a safety factor is greater than 50,000 L/day and as shown in Table 4-1 for Phase 1 through 5. The MECP construction dewatering rate excludes the precipitation amount and is the rate used for the permit application. Based on the MECP construction dewatering an EASR will be required to facilitate the construction dewatering program for these buildings.

A Discharge Plan (dewatering sketch, sewer discharge agreement) must be developed and applied for any discharges from the Site. Monitoring of both water quantity and water quality must be carried out for the entire duration of the construction dewatering phase. During this phase, the Discharge Plan and the daily water taking records must be available onsite.

The EASR, Discharge Plan, hydrogeological investigation report, and geotechnical assessment of settlements must also be available at the construction Site during the entire construction dewatering. EXP should be notified immediately about any changes to the construction dewatering schedule or design, since the EASR will need to be updated to reflect these modifications. Altogether, the hydrogeological report, EASR, Discharge Plan and geotechnical assessment constitute the Water Taking Plan which needs to be available onsite during the construction dewatering.

4.5.2 Long-Term Discharge Rate (Post Construction Phase)

In accordance with the Ontario Water Resources Act, if the water taking for the construction dewatering is more than 50,000 L/day, then an application for a Category 3 Permit to Take Water (PTTW) will be required from the MECP.

Based on the long term dewatering estimates shown in Table 4-1, a Category 3 Permit to Take Water (PTTW) will not be required to facilitate the post-development phase for Phases 4 and 5, but will be required for Phases 1, 2 and 3.

The safety factor for construction (short-term) dewatering is selected larger than for long-term to account for anticipated greater groundwater volumes during initial dewatering. The applied analytical formula is adequate for long-term (steady state) conditions as it omits specific yield and time dependency. When the formula is used for short-term conditions a larger safety factor is recommended to cover a larger initial dewatering rate, which is required to remove stored groundwater. Moreover, a large initial construction dewatering rate is favorable, as it supports reducing the time to reach the dewatering target elevation.

5 Environmental Impact

5.1 Surface Water Features

The Site is within the Credit River watershed. No surface water features exist onsite. The nearest surface water feature is an unnamed tributary of Mullet Creek, approximately located 500 meters northeast of the Site boundary. Lake Ontario is approximately 10 km from the Site boundary to the southeast.

Due to the limited extent of zone of influence and the wide distance to the nearest surface water feature, no detrimental impacts on surface water features are expected during construction activities.

5.2 Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas (HVAs and SGRA)

Based on the Ontario Source Protection Information Atlas, the Site is partially identified within a Highly Vulnerable Aquifer (HVA) area. Moreover, the Significant Groundwater Recharge Areas (SGRA) are identified at the close proximity of the Site boundary (Appendix F).

5.3 Groundwater Sources

Well Records from the MECP Water Well Record (WWR) Database were reviewed to determine the presence and number of water supply wells within a 500 m radius of the Site boundaries. Given that no water supply wells exist within the 500 m buffer, no dewatering related impact on water supply wells is expected in the area.

5.4 Geotechnical Considerations

As per the MECP technical requirement for PTTW and EASRs, the geotechnical assessment of the stability of the soils due to water taking (ex: settlement, soil loss, subsidence, etc.) is required. The water taking should not have unacceptable interference on soils and underground structures (foundations, utilities, etc.).

A letter related to geotechnical issues as it pertains to the Site is required to be completed under a separate cover.

5.5 Groundwater Quality

It is our understanding that the potential effluent from the dewatering system during the construction will be released to the municipal sewer system. As such, the quality of groundwater discharge is required to comply with the Peel Region Sewer Use By-Law.

Dewatering (short and long-term) may induce migration of contaminants within the zone of influence and beyond due to changing hydraulic gradients, hydrogeological conditions beyond Site boundaries and preferential pathways in utility beddings etc. The water quality sampling conducted as part of this assessment was performed under static conditions. As a result, monitoring may be required during dewatering activities (short and long-term) to monitor potential migration, and this should be performed more frequently during early dewatering stages.

Post construction (long-term) discharge to the Region of Peel's sanitary system is optional. Should the pumped groundwater be released into the Region of Peel's sanitary system and based on the groundwater quality results, using a pre-treatment is not required for the long-term phase.

Should the pumped groundwater be released into the Region of Peel's storm system and based on the groundwater quality results, using a pre-treatment system is required for the long-term phase.

Should pumped groundwater be released into the City of Mississauga's storm system and based on the groundwater quality results, using a pre-treatment system is required for the long-term phase.

The water quality results presented in this report may not be representative of the long-term condition of groundwater quality onsite. As such, regular water quality monitoring is recommended for the post-construction phase as required by the City.

An agreement to discharge into the sewers owned by Peel Region (Sanitary) and Municipality (Storm) will be required prior to releasing dewatering effluent.

The Environmental Site Assessment Report(s) shall be reviewed for more information on the groundwater quality conditions at the Site.

5.6 Well Decommissioning

In conformance with Regulation 903 of the Ontario Water Resources Act, the installation and eventual decommissioning of any dewatering system wells or monitoring wells must be completed by a licensed well contractor. This will be required for all wells that are no longer in use.

6 Conclusions and Recommendations

Based on the findings of the Hydrogeological Investigation, the following conclusions and recommendations are provided:

- When comparing the chemistry of the collected groundwater samples to the Peel Region's Sanitary and Combined Sewer Discharge Criteria, there were no parameter exceedances to be reported.
- When comparing the chemistry of the collected groundwater samples to the Peel Region's Storm Sewer Discharge Criteria, the concentrations of Total Kjeldahl Nitrogen (TKN), Total Suspended Solids (TSS), and Total and Dissolved Manganese (Mn) exceeded the applicable guidelines. Please note that the City of Mississauga updated their sewer use By-Law in 2022 (0046-2022) and as a result the only parameter which exceeded the City of Mississauga Storm sewer use By-Law limits was Total Suspended Solids (TSS).
- Reporting detection limits (RDLs) were below the Sewer Use By-Law parameter criteria of Tables 1 and 2.
- Based on the assumptions outlined in this report, the estimated peak dewatering rate for proposed construction activities is approximately 380,000 L/day, 652,000 L/day, 699,000 L/day, 518,000 L/day, and 440,000 L/day for Phases 1 through 5 respectively. These are the rates which will be required to be discharged to the municipal sewer system.
- The dewatering estimate including a safety factor is greater than 50,000 L/day and as shown in Table 4-1 for Phase 1 through 5. The MECP construction dewatering rate excludes the precipitation amount and is the rate used for the permit application. Based on the MECP construction dewatering an EASR will be required to facilitate the construction dewatering program for these buildings.
- Based on the long term dewatering estimates shown in Table 4-1, a Category 3 Permit to Take Water (PTTW) will not be required to facilitate the post-development phase for Phases 4, and 5, but will be required for Phases 1, 2 and 3. It is recommended that once the sub-drain system is in place, a flow meter be installed at the sump(s) to record daily discharge volumes during the commissioning stage of the system. Regular maintenance/cleaning of the sub-drain system is recommended to ensure its proper operation.
- The construction dewatering and long-term estimate of sub-drain discharge volumes is based on the assumptions outlined in this report. Any variations in hydrogeological conditions beyond those encountered as part of this preliminary investigation may significantly influence the discharge volumes.
- For the short-term dewatering system (construction phase), it is anticipated that TSS levels and some other parameters (for example, Total Metals) in the pumped groundwater may become elevated and exceed both, Sanitary and Storm Sewer Use By-Law limits. To control the concentration of TSS and associated metals, it is recommended that a suitable treatment method be implemented (filtration or decantation facilities and/ or any other applicable treatment system) during construction dewatering activities to discharge to the applicable sewer system. The specifications of the treatment system will need to be adjusted to the reported water quality results by the treatment contractor/process engineer.
- For the long-term dewatering discharge to the storm sewer system (post-development phase) and based on the water quality results, it is recommended to implement a suitable pre-treatment as required.
- As per the MECP technical requirement for EASRs, the geotechnical assessment of the stability of the soils due to water taking (ex: settlement, soil loss, subsidence etc.) is required. The water taking should not have unacceptable interference on soils and underground structures (foundations, utilities etc.). A letter related to geotechnical issues as it pertains to the Site is required to be completed under a separate cover.
- An agreement to discharge into the sewers owned by the Peel Region will be required prior to releasing dewatering effluent.
- The EASR registration allows construction dewatering discharge of up to 400,000 L/day. A Discharge Plan (dewatering sketch, sewer discharge agreement) must be developed and applied for any discharges from the Site. The Discharge Plan and monitoring for both water quantity and water quality must be carried at the Site during the entire construction dewatering phase. The daily water taking records must be maintained onsite for the entire construction dewatering phase.

The EASR, Discharge Plan, hydrogeological investigation report, and geotechnical assessment of settlements must always also be available at the construction Site for the entire construction dewatering. EXP should be notified immediately about any changes to the construction dewatering schedule or design, since EASR will need to be updated to reflect these modifications. The hydrogeological report, EASR, Discharge Plan and geotechnical assessment constitutes the Water Taking Plan which needs to be available onsite for the duration of construction dewatering.

- In conformance with Regulation 903 of the Ontario Water Resources Act, the installation and eventual decommissioning of any dewatering system wells or monitoring wells must be completed by a licensed well contractor. This will be required for all wells that are no longer in use.

The conclusions and recommendations provided above should be reviewed in conjunction with the entirety of the report. They assume that the present design concept described throughout the report will proceed to construction. This report is solely intended for the construction and long-term dewatering assessments. Any changes to the design concept may result in a modification to the recommendations provided in this report.

7 Limitations

This report is based on a limited investigation designed to provide information to support an assessment of the current hydrogeological conditions within the study area. The conclusions and recommendations presented within this report reflect Site conditions existing at the time of the assessment. EXP must be contacted immediately, if any unforeseen Site conditions are experienced during construction activities. This will allow EXP to review the new findings and provide appropriate recommendations to allow the construction to proceed in a timely and cost-effective manner.

Our undertaking at EXP, therefore, is to perform our work within limits prescribed by our clients, with the usual thoroughness and competence of the geoscience/engineering profession. No other warranty or representation, either expressed or implied, is included or intended in this report.

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We trust that this information is satisfactory for your purposes. Should you have any questions or comments, please do not hesitate to contact this office.

Sincerely,

EXP Services Inc.

Nicolas Sabo, B.Sc., M.E.S.
Junior Project Manager
Environmental Services

Reinhard Zapata Blosa, P.Geo., Ph.D.
Senior Hydrogeologist
Environmental Services

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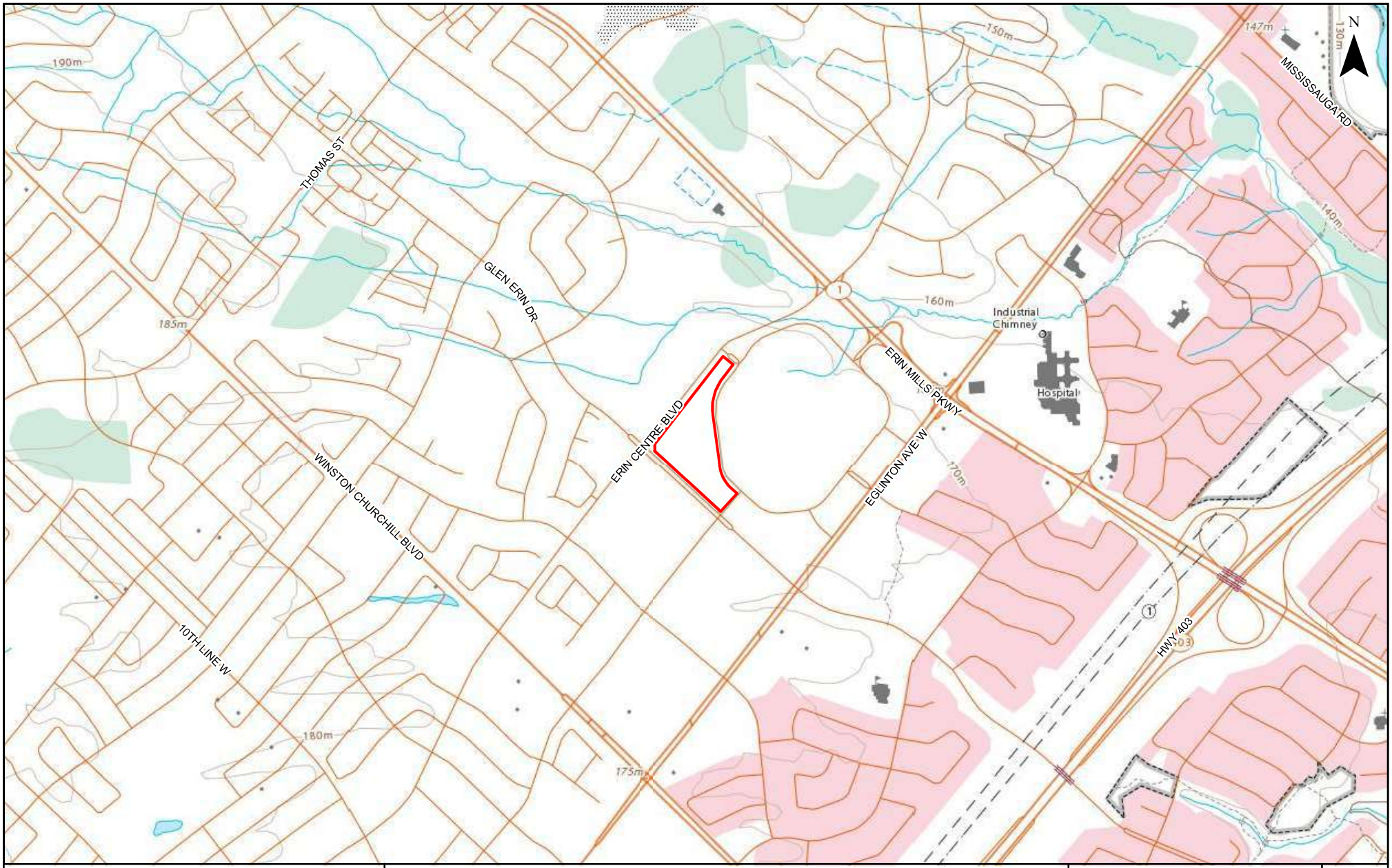
Figures



SCALE:

0 150 300 450 600 750 m

LEGEND:

APPROXIMATE SITE BOUNDARY

SITE LOCATION PLAN

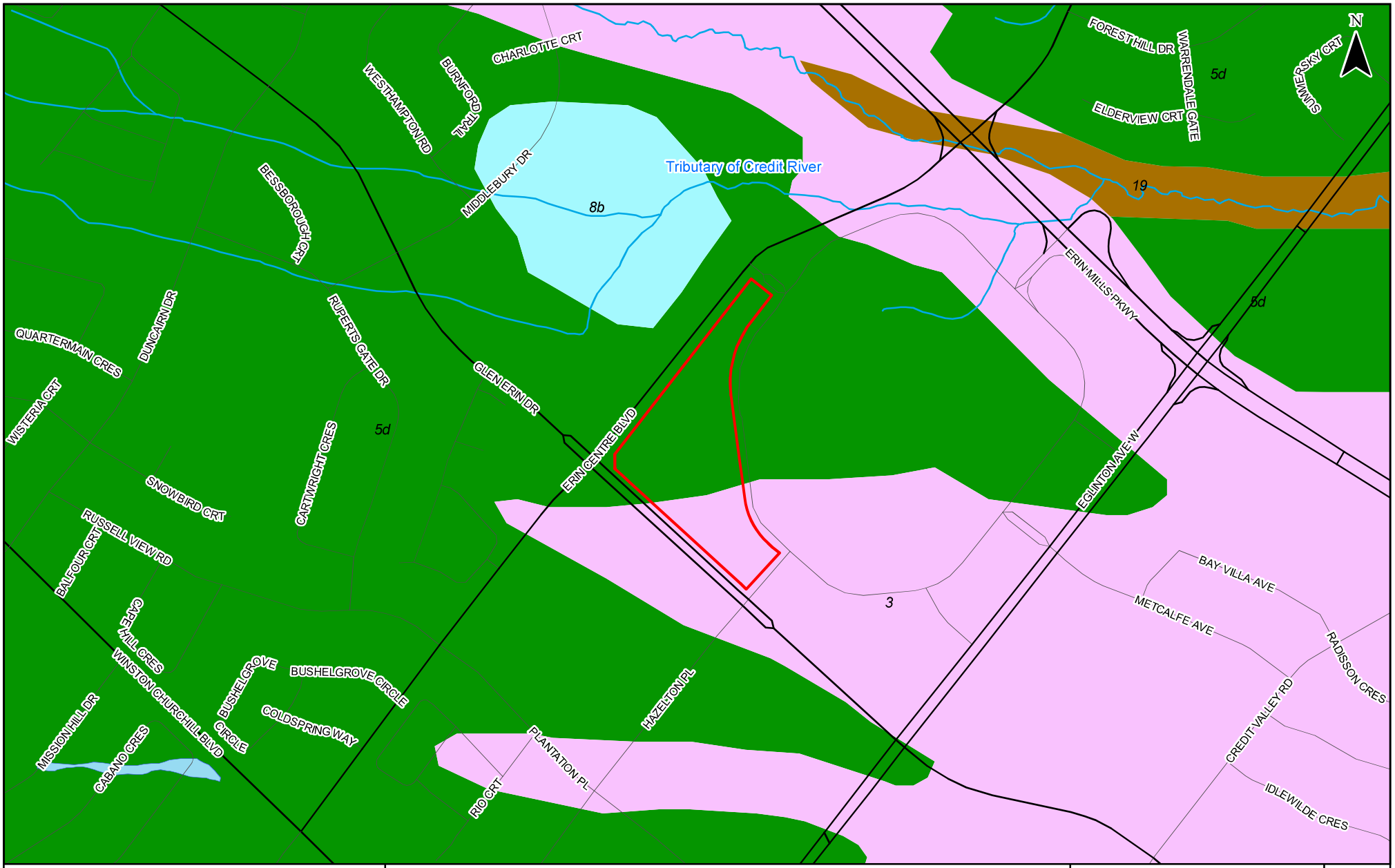
FIGURE: 1

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

DRAWN BY:	CHECKED BY:
AC	NS

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024



SCALE:
0 100 200 300 400 500 m

SOURCE:
BASED ON ONTARIO GEOLOGICAL SURVEY DATA PUBLISHED IN 2010

exp.

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:
- APPROXIMATE SITE BOUNDARY
- 19: MODERN ALLUVIAL DEPOSITS
- 8B: FINE-TEXTURED GLACIOLACUSTRINE DEPOSITS
- 5D: GLACIOLACUSTRINE-DERIVED SILTY TO CLAYEY TILL
- 3: PALEOZOIC BEDROCK

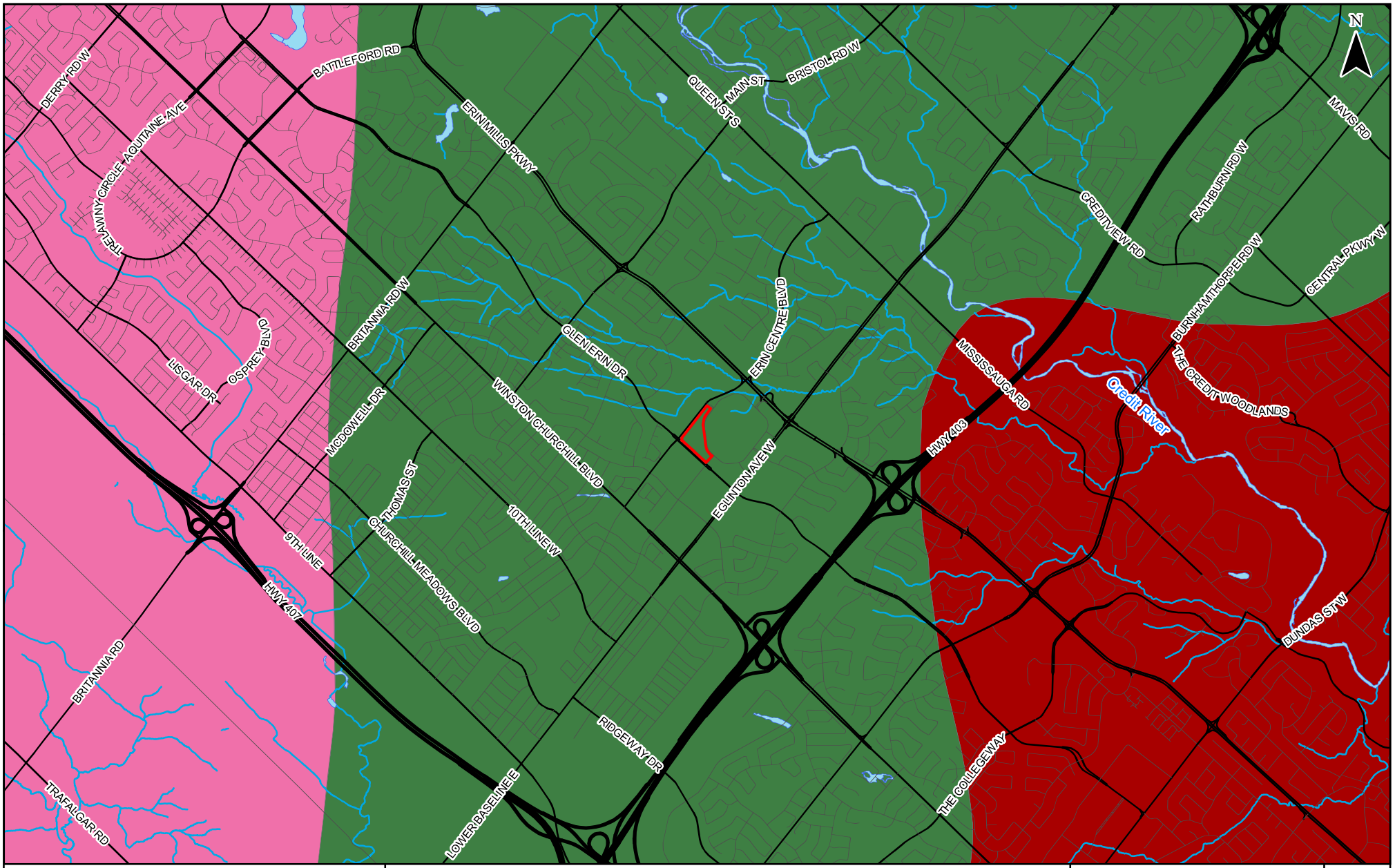
SURFICIAL/QUATERNARY GEOLOGY

FIGURE: 2A

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024



SCALE:
0 500 1,000 1,500 2,000 2,500 m

SOURCE:
BASED ON ONTARIO GEOLOGICAL SURVEY DATA PUBLISHED IN 2007

exp.

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:
- APPROXIMATE SITE BOUNDARY
- IROQUOIS PLAIN
- PEEL PLAIN
- SOUTH SLOPE

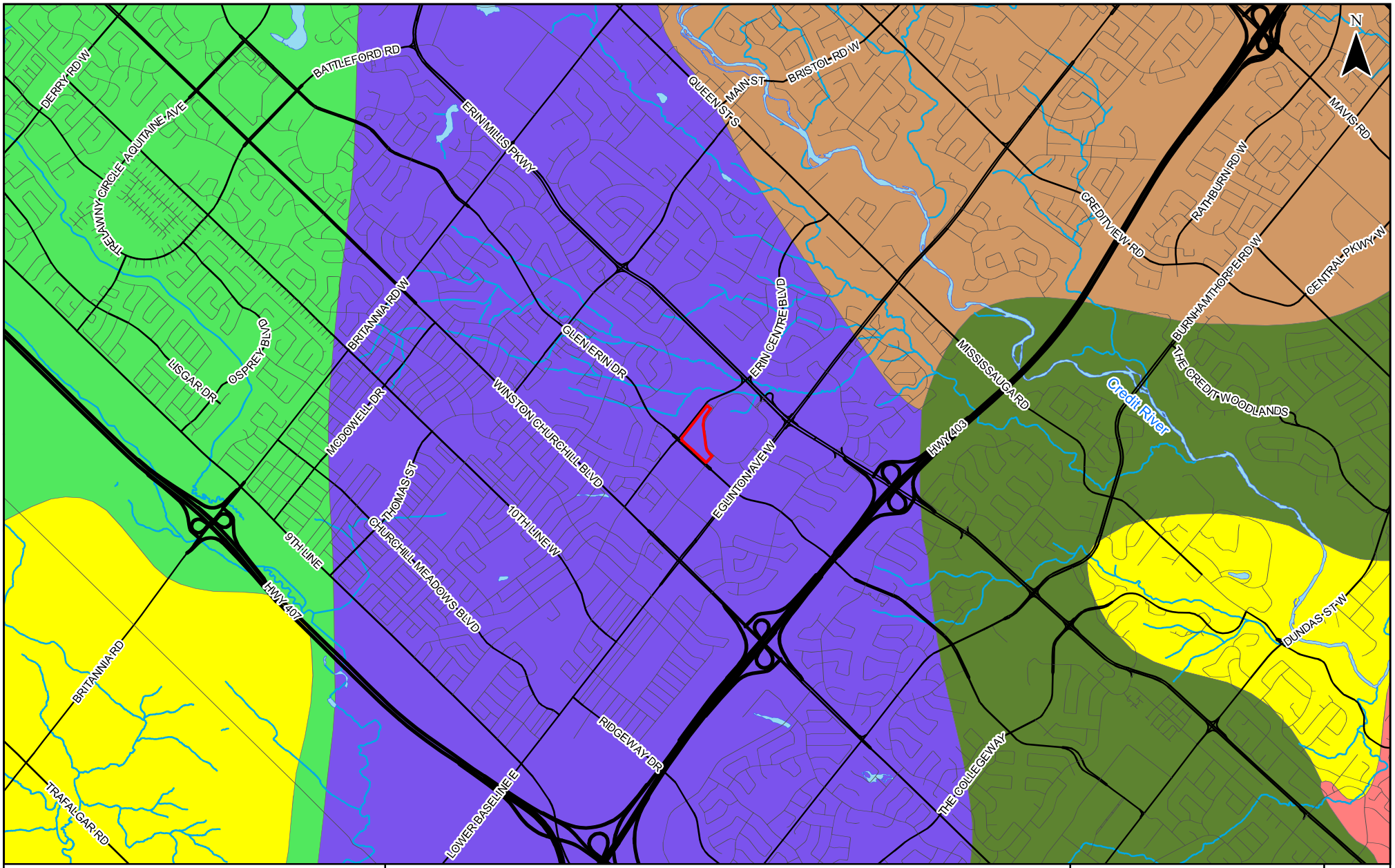
PHYSIOGRAPHIC REGIONS

FIGURE: 2B

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024



SCALE:

0 500 1,000 1,500 2,000 2,500 m

SOURCE:

BASED ON ONTARIO GEOLOGICAL SURVEY DATA PUBLISHED IN 2007

exp.

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:

- APPROXIMATE SITE BOUNDARY
- BEACHES
- BEVELLED TILL PLAINS
- SAND PLAINS
- SHALE PLAINS
- TILL MORAINES
- TILL PLAINS (DRUMLINIZED)

PHYSIOGRAPHIC LANDFORMS

FIGURE: 2C

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024

SCALE:
0 100 200 300 400 500 m

SOURCE:
BASED ON ONTARIO GEOLOGICAL SURVEY DATA PUBLISHED IN 2011

exp.

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:
- APPROXIMATE SITE BOUNDARY
- 55a: QUEENSTON FORMATION (SHALE, LIMESTONE, DOLOSTONE, SILTSTONE)

BEDROCK GEOLOGY

FIGURE: 2D

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024

SCALE:

0 100 200 300 400 500 m

SOURCE:

BASED ON GOOGLE EARTH IMAGERY DATED 2020
AVAILABLE WELL RECORD INFORMATION AS OF JUNE 2022

exp.

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:

- MONITORING WELL / TEST HOLE
- ABANDONED WELL
- UNCLASSIFIED / UNFINISHED WELL
- APPROXIMATE SITE BOUNDARY
- 500 m ZONE

MECP WATER WELL RECORDS MAP

FIGURE: 3

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024

SCALE:

0 30 60 90 120 150 m

LEGEND:

- BOREHOLE (EXP, 2020)
- BOREHOLE (EXP, 2024)
- BOREHOLE / MONITORING WELL (EXP, 2020)
- BOREHOLE / MONITORING WELL (EXP, 2022)
- BOREHOLE / MONITORING WELL (EXP, 2024)
- APPROXIMATE SITE BOUNDARY

exp.

DRAWN BY:	CHECKED BY:
AC	NS

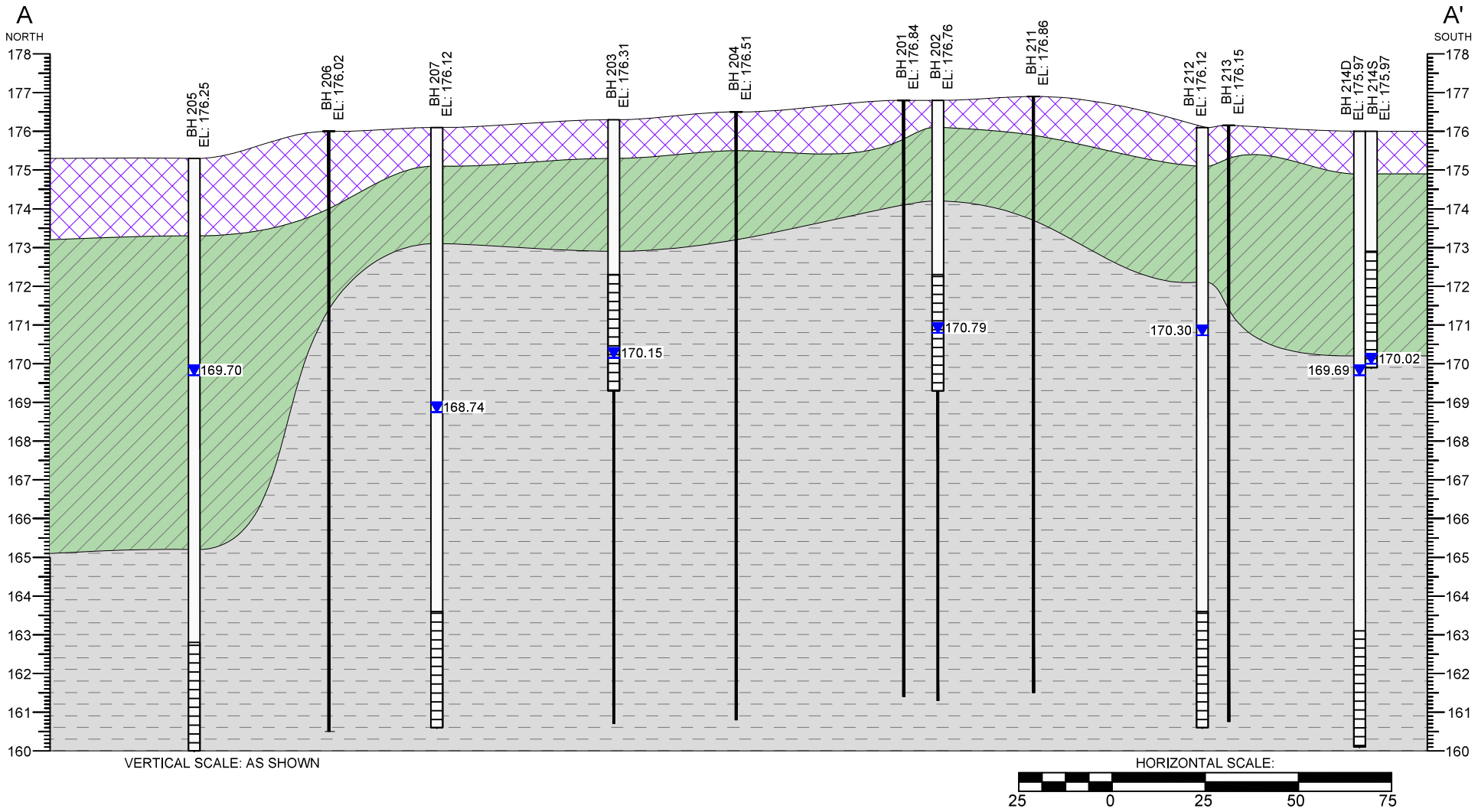
BOREHOLE / MONITORING WELL LOCATION PLAN

FIGURE: 4

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024



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LEGEND:

- FILL
- SILT TILL
- SHALE BEDROCK
- GROUNDWATER ELEVATION ON FEBRUARY 4, 2024

TITLE AND LOCATION:

CROSS SECTION A-A'

5100 ERIN MILLS PARKWAY - BLOCK 1,
MISSISSAUGA, ONTARIO

PROJECT NO.: GTR-00257769-H0	DWN.: NS
SCALE: AS NOTED	CK: FC
DATE: MARCH 19, 2024	FIG. NO.: 5

SCALE:

0 30 60 90 120 150 m

exp.

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:

- BOREHOLE (EXP, 2020)
- BOREHOLE (EXP, 2024)
- BOREHOLE / MONITORING WELL (EXP, 2020)
- BOREHOLE / MONITORING WELL (EXP, 2022)
- BOREHOLE / MONITORING WELL (EXP, 2024)
- APPROXIMATE SITE BOUNDARY

SHALLOW GROUNDWATER CONTOUR PLAN

FIGURE 6A

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024

SCALE:

0 30 60 90 120 150 m

DRAWN BY:	CHECKED BY:
AC	NS

LEGEND:

- BOREHOLE (EXP, 2020)
- BOREHOLE (EXP, 2024)
- BOREHOLE / MONITORING WELL (EXP, 2020)
- BOREHOLE / MONITORING WELL (EXP, 2022)
- BOREHOLE / MONITORING WELL (EXP, 2024)
- APPROXIMATE SITE BOUNDARY

DEEP GROUNDWATER CONTOUR PLAN

FIGURE 6B

HYDROGEOLOGICAL INVESTIGATION
5100 ERIN MILLS PARKWAY - BLOCK 1
MISSISSAUGA, ONTARIO

PROJECT NUMBER: GTR-00257769-H0

DATE: FEBRUARY 2024

Appendix A – MECP WWR Summary Table

On-Site														
BORE_HOLE_ID	WELL_ID	DATE	EAST83	NORTH83	ELEVATION (m ASL)	STREET	CITY	DISTANCE FROM SITE CENTROID (m)	CONSTRUCTION METHOD	WELL DEPTH (m bgs)	WATER FOUND (m bgs)	CASING DIAMETER (cm)	1st USE	2nd USE	FINAL STATUS
1008282276	7359193	3/9/2020	603826	4823775	175.0										
1008282282	7359195		603704	4823484	176.5										
1008282291	7359198	3/4/2020	603821	4823770	175.0										

Off-Site														
BORE_HOLE_ID	WELL_ID	DATE	EAST83	NORTH83	ELEVATION (m ASL)	STREET	CITY	DISTANCE FROM SITE BOUNDARY (m)	CONSTRUCTION METHOD	WELL DEPTH (m bgs)	WATER FOUND (m bgs)	CASING DIAMETER (cm)	1st USE	2nd USE	FINAL STATUS
1004406302	7204509	6/14/2013	604305	4823884	167.6	NE ERIN MILLS PKWAY	Mississauga	474	Direct Push	5.5		5.1	Monitoring and Test Hole		Test Hole
1004678358	7214240	9/6/2013	604301	4823895	167.0	THOMAS ST	MISSISSAUGA	472				3.2	Monitoring		Abandoned-Other
1004797352	7221248	3/6/2014	604289	4823243	174.1	3413 WOLFDALE RD	Mississauga	469	Direct Push	3.0		5.1	Monitoring and Test Hole		Test Hole
1005289451	7235929	8/26/2014	603314	4823281	176.4	5881 10TH LINE	Mississauga	397				91.4			Abandoned-Other
1005769002	7250859	8/27/2015	604058	4823121	172.4	N. BOUND LANE OF GLEN ERIN DR. APPX. 40M S. OF EGLINTON AVE. WEST	Mississauga	351							Abandoned-Other
1005769180	7250862	8/27/2015	604085	4824030	169.7	ERIN MILLS PARKWAY APPROX. 30M N. OF ERIN CENTRE BLVD.	Mississauga	344							Abandoned-Other
1005769846	7250863	8/27/2015	603845	4824256	173.8	ERIN MILLS PARKWAY APPROX. 350M NORTH OF ERIN CENTRE	Mississauga	447							Abandoned-Other
1008282279	7359194		604149	4823733	171.8			312							
1008282285	7359196		604175	4823421	175.9			322							
1008282288	7359197	3/3/2020	604036	4823244	174.5			251							
1008794122	7398521	8/5/2021	604288	4823900	167.0			460							
1008794911	7398525	8/5/2021	604291	4823900	167.0			460							
1008794914	7398526	8/5/2021	604323	4823884	167.3			491							

Appendix B – Borehole Logs

Log of Borehole BH 5

Project No. BRM-00257769-A1 | Drawing No. 6

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: 5100 Erin Mills Parkway

Erin Mills Town Centre

Date Drilled: March 4, 2020

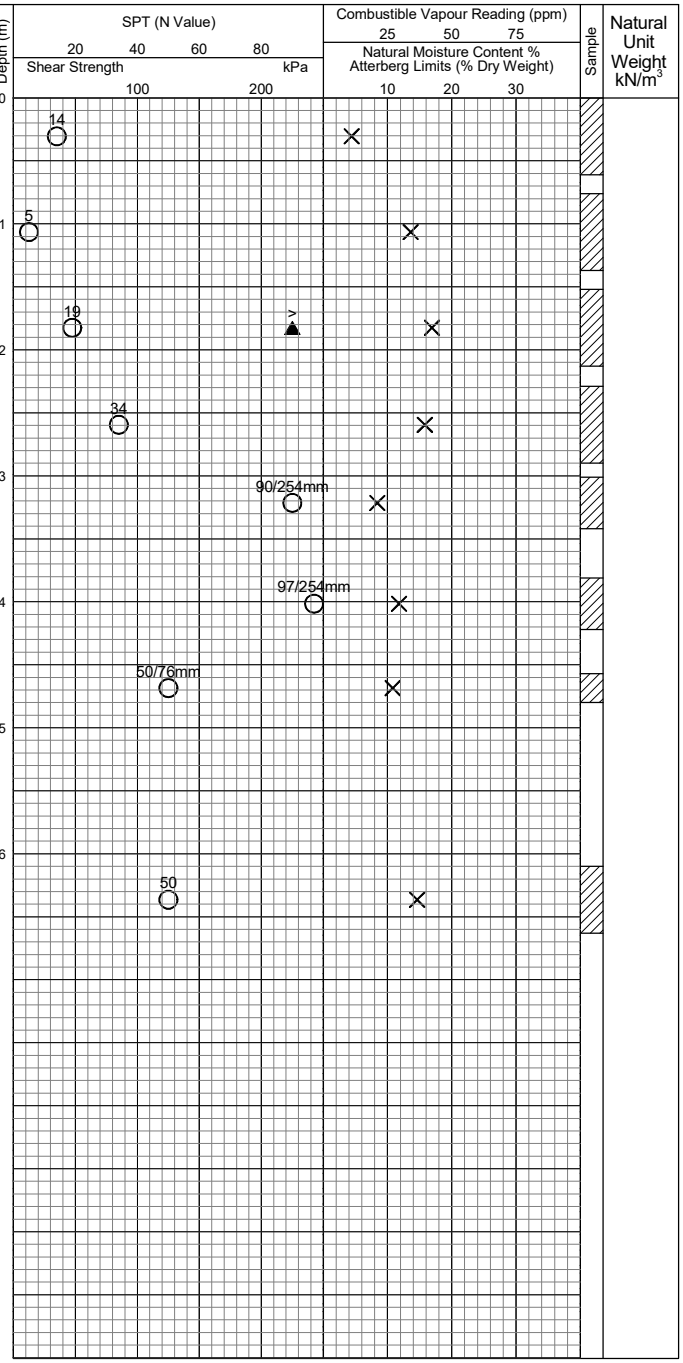
Drill Type: Solid Stem Auger

Datum: Geodetic

Auger Sample ☒
SPT (N) Value ○ ▨
Dynamic Cone Test —
Shelby Tube ■
Field Vane Test S

Combustible Vapour Reading □
Natural Moisture ×
Plastic and Liquid Limit ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Penetrometer ▲

Soil Description	ELEV. m
	175.10
ASPHALTIC CONCRETE: ~ 100 mm	~175.0
GRANULAR: ~ 200 mm	~174.8
CLAYEY SILT TILL, trace gravel, trace to some sand, moist, firm to very dense	
	~172.9
SILT, some sand, to fine sandy silt, reddish brown, moist to wet, dense to very dense	
- trace clay	~168.5
END OF BOREHOLE	



Date	Water Level (m)	Hole Open to (m)
On Completion	1.2	
March 10, 2020	Dry	
March 16, 2020	Dry	
March 19, 2020	Dry	

EXPLOGBRAMPTON BOREHOLE LOGS_MAR25.GPJ NEW.GDT 3/26/20

Log of Borehole BH 20

Project No. BRM-00257769-A1 Drawing No. 21

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: 5100 Erin Mills Parkway

Erin Mills Town Centre

Date Drilled: March 5, 2020

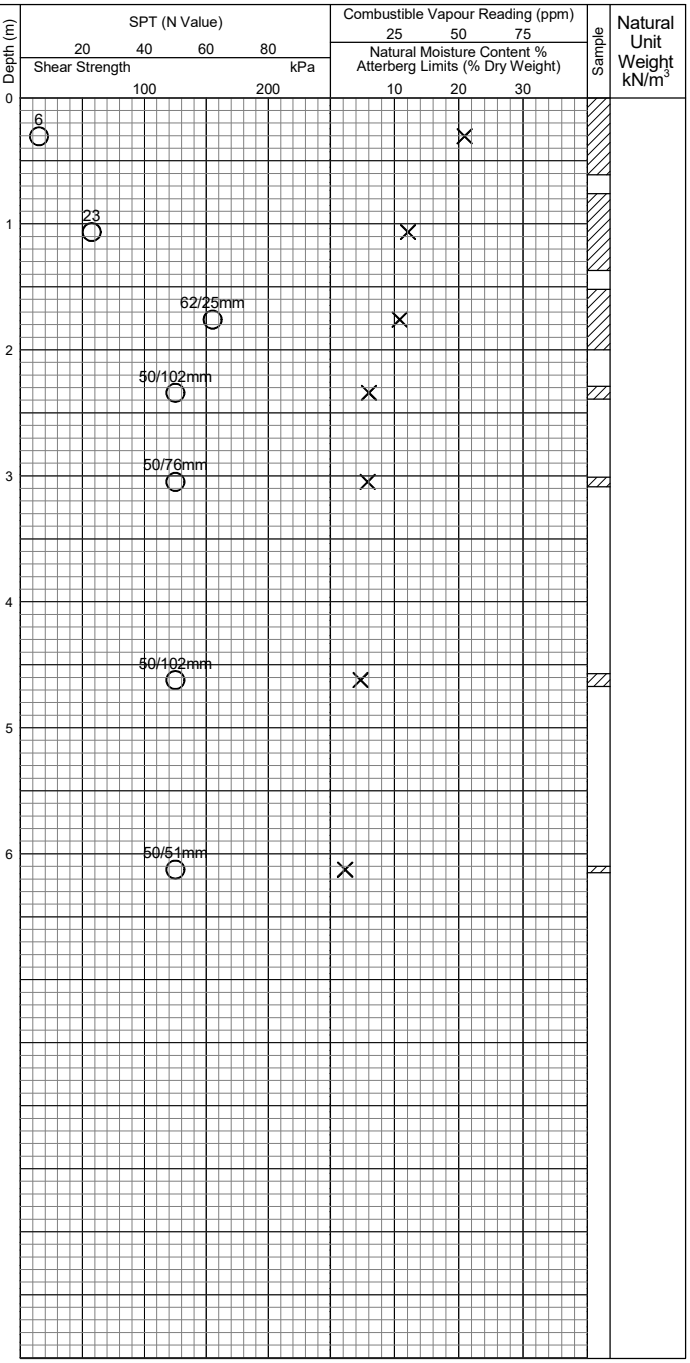
Drill Type: Solid Stem Auger

Datum: Geodetic

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

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

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m
		TOPSOIL: ~ 100 mm	177.19 ~177.1
		CLAYEY SILT TILL, trace sand, trace gravel, trace shale fragments, reddish brown, moist, very stiff to hard	
			~175.4
		Inferred Queenston Shale Bedrock, completely weathered.	
			~171.0
		END OF BOREHOLE	



Date	Water Level (m)	Hole Open to (m)
On Completion	Dry	5.8
March 10, 2020	Dry	
March 16, 2020	Dry	
March 19, 2020	Dry	

EXPLOGBRAMPTON BOREHOLE LOGS_MAR25.GPJ NEW.GDT 3/26/20

Log of Borehole 101

Project No. GTR-00257769-G0 | Drawing No. 2

Project: Geotechnical Investigation | Sheet No. 1 of 2

Location: 5100 Erin Mills Parkway

Date Drilled: Oct 24, 2022

Drill Type: Hollow Stem Auger

Datum: Geodetic

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

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

Soil Description	ELEV. m	Depth (m)
	175.11	0
ASPHALTIC CONCRETE: ~100 mm	~175.0	
GRANULAR: ~360 mm	~174.7	
FILL: clayey silt, trace sand, trace gravel, containing shale fragments, reddish brown, moist, stiff.		1
	~173.0	2
SANDY SILT TO SILTY SAND: trace gravel, containing shale fragments, reddish brown, moist, dense to very dense.		3
	~169.4	4
becoming wet		5
	~166.6	6
CLAYEY SILT TILL/SHALE COMPLEX: trace sand, trace gravel, containing shale fragments, reddish brown, moist, hard		7
		8
		9
		10

SPT (N Value): Shear Strength 20 40 60 80 kPa; 100 200

Combustible Vapour Reading (ppm): 25 50 75

Natural Moisture Content % Atterberg Limits (% Dry Weight): 10 20 30

Sample

Natural Unit Weight kN/m³

12
14
14
32
90/280mm
50/127mm
50/127mm
50/127mm
50/140mm

Continued Next Page

Elapsed Time	Water Level (m)	Hole Open to (m)
Upon completion	~10.3m	
Oct 31, 2022	5.75	

ROCK CORE LOG

BH 212

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	14A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
171.9			See Borehole Log for Details															
171.5			**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	74	95	Red
171.1	5		Shale with interbedded siltstone, and clay layers.															
171.0			Shale (71%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.7 m and between moderately weathered and unweathered below.						NC	20 mm								
170.7																		
170.7																		
170.5																		
170.4				1	B	F	C C	RP RP						2	100	100	100	Red
170.0	6		Limestone (3%) fine grained, grey, medium strength, unweathered															
170.0																		
169.6			Siltstone (25%) fine grained, grey, medium strength, unweathered.		F	V												
169.5									NC	20 mm								
169.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.						NC	60 mm								
169.3																		
169.3	7																	
169.1			Vertical fractures were noted at ~6.6 m, 7.1 m, 7.6 m, 9.1 m and 10.2 m.		F	V												
169.0				1	B	F	C C	RP SU						3	100	74	100	Red
168.7			A Clay (1%) layers, heavily weathered, very low strength were noted at ~5.4 m, 6.6 m and 6.8 m.															
168.7					F	V												
168.6																		
168.5																		
168.3	8																	
168.1																		
167.6																		
167.6																		
167.2				1	B	F	W M	SU SP						4	100	89	100	Red
167.2	9																	
167.1					F	V												
166.9																		
166.8																		
166.7																		
166.5																		
166.0	10				F	V												
165.7				1	B	F	M W	SP SP						5	100	91	100	Red
165.1	11																	
165.0																		
164.9																		
164.7																		
	12			1	B	F	W W	SP SP						6	100	100	100	Red

ROCK CORE LOG

BH 212

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	14A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
163.9			**QUEENSTON FORMATION**															
163.7			Shale with interbedded siltstone, and clay layers.															
163.4	13		Shale (71%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.7 m and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
163.0			Limestone (3%) fine grained, grey, medium strength, unweathered															
162.0	14		Siltstone (25%) fine grained, grey, medium strength, unweathered.															
161.9			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
161.1	15		Vertical fractures were noted at ~6.6 m, 7.1 m, 7.6 m, 9.1 m and 10.2 m.	1	B	F	W W	SP SP						8	100	100	100	Red
160.9			A Clay (1%) layers, heavily weathered, very low strength were noted at ~5.4 m, 6.6 m and 6.8 m.															
160.7			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 201

Project No. GTR-00257769-H0 Drawing No. 2

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

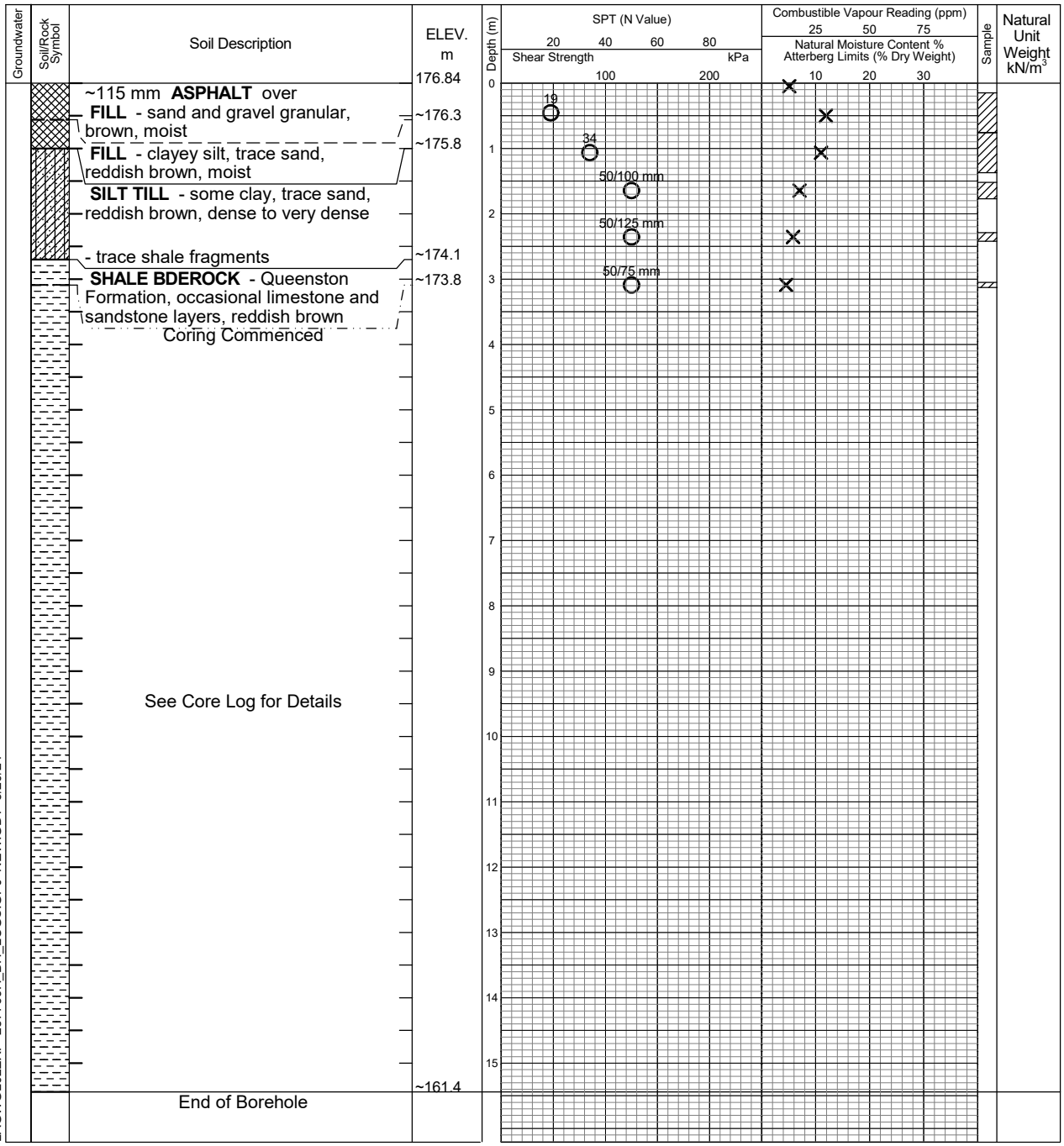
Date Drilled: January 19 - 22, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



Notes:
1. Borehole advanced to completion at ~15.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 201

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	2A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
174.3																		
			See Borehole Log for Details															
173.8	3		**QUEENSTON FORMATION**		F	V												
173.7				1	B	F	C	RU						1	100	75	95	Red
173.7							C	RU										
173.3			Shale with interbedded siltstone, and clay layers.															
173.3																		
173.0			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~7.2 and between moderately weathered and unweathered below.															
172.9	4			1	B	F	C	RU						2	100	91	100	Red
172.4					F	V	M	RP										
172.4			Limestone (6%) fine grained, grey, medium strength, unweathered		F	V												
172.4																		
172.3			Siltstone (14%) fine grained, grey, medium strength, unweathered.															
171.8	5																	
171.8			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.5									SO	180 mm								
171.3			Vertical fractures were noted at ~3.1 m, 4.4 m, 4.5 m, 6.3 m and 6.5 m.															
171.2				1	B	F	VC	RP						3	100	56	90	Red
171.1							VC	RP	NC	20 mm								
171.0	6		Clay (2%) layers, heavily weathered, very low strength were noted at ~5.5 m, 5.9 m and 6.4 m.															
171.0					F	V												
170.9																		
170.8			Rubble layers, heavily weathered, very low strength were noted at ~5.1m (50 mm) and 6.3 m (40 mm).						NC	70 mm								
170.6					F	V												
170.5																		
170.4																		
170.4																		
170.3	7																	
170.3				1	B	F	C	RP						4	100	90	100	Red
170.1							M	SU										
170.1																		
169.6																		
169.6																		
169.5																		
169.3	8																	
169.0																		
168.9																		
168.7																		
168.5																		
168.1				1	B	F	W	SU						5	100	100	100	Red
168.0							W	SP										
167.7	9																	
167.6																		
167.2																		
167.1																		
166.8	10																	
166.8				1	B	F	W	SP						6	100	100	100	Red
							W	SP										

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 201

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	2A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
166.3			**QUEENSTON FORMATION**															
166.1																		
	11		Shale with interbedded siltstone, and clay layers.															
165.5																		
165.4			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~7.2 and between moderately weathered and unweathered															
165.1				1	B	F	W	SP						7	100	100	100	Red
165.1			below.				W	SP										
	12		Limestone (6%) fine grained, grey, medium strength, unweathered															
164.7																		
164.6			Siltstone (14%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
164.0																		
	13		Vertical fractures were noted at ~3.1 m, 4.4 m, 4.5 m, 6.3 m and 6.5 m.															
163.6																		
163.5				1	B	F	W	SP						8	100	100	100	Red
			Clay (2%) layers, heavily weathered, very low strength were noted at ~5.5 m, 5.9 m and 6.4 m.				W	SP										
163.1																		
163.0																		
	14		Rubble layers, heavily weathered, very low strength were noted at ~5.1m (50 mm) and 6.3 m (40 mm).															
162.6																		
162.6																		
				1	B	F	W	SP						9	100	100	100	Red
	15						W	SP										
161.7																		
161.6																		
161.4			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	

Log of Borehole 202

Project No. GTR-00257769-H0 Drawing No. 3

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

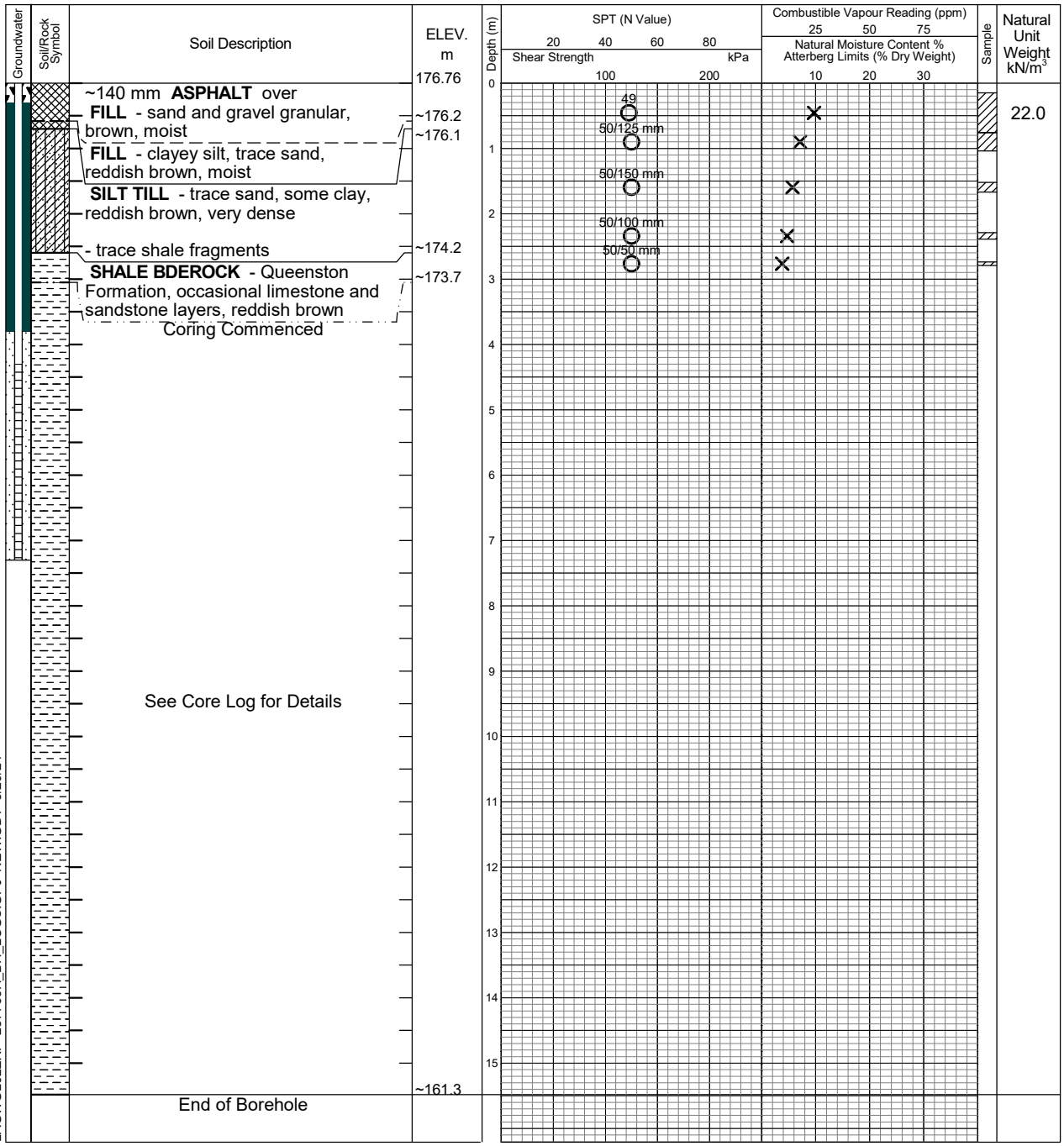
Date Drilled: January 17 - 18, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



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Notes:
1. Borehole advanced to completion at ~15.5 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.9	Well
February 4, 2024	~6.0	Well

ROCK CORE LOG

BH 202

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/18/23	01/18/23	D. Panchal	3A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
174.3			See Borehole Log for Details															
173.7	3		**QUEENSTON FORMATION**		F	V												
173.6				1	F	V	C	RU						1	100	76	95	Red
173.6					B	F	C	RU										
173.5			Shale with interbedded siltstone, and clay layers.															
173.4																		
173.3			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.0 m and between moderately weathered and unweathered below.															
173.2																		
172.6	4																	
172.5				1	B	F	C	RU						2	98	94	100	Red
			Limestone (9%) fine grained, grey, medium strength, unweathered				C	RP										
171.9																		
171.8	5		Siltstone (13%) fine grained, grey, medium strength, unweathered.															
171.5																		
171.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.0																		
170.9	6		Vertical fractures were noted at ~3.2 m, 3.3 m and 8.0 m.	1	B	F	C	RP						3	100	100	100	Red
170.7							M	SU										
170.6																		
170.1																		
169.9																		
169.8	7																	
169.7																		
169.6				1	B	F	M	SU						4	100	98	100	Red
							C	SU										
169.1																		
168.8	8				F	V												
168.8																		
168.6																		
168.4																		
167.8	9			1	B	F	W	SU						5	100	100	100	Red
167.7							W	SP										
167.4																		
167.3																		
166.8	10																	
166.7																		
166.5																		
166.5				1	B	F	W	SP						6	100	100	100	Red

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 202

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/18/23	01/18/23	D. Panchal	3A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
166.1			**QUEENSTON FORMATION**				W	SP										
165.9	11		Shale with interbedded siltstone, and clay layers.															
165.3			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.0 m and between moderately weathered and unweathered below.															
165.3																		
165.0																		
164.9	12			1	B	F	W	SP						7	100	100	100	Red
			Limestone (9%) fine grained, grey, medium strength, unweathered				W	SP										
164.4																		
164.4			Siltstone (13%) fine grained, grey, medium strength, unweathered.															
163.9	13		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.6			Vertical fractures were noted at ~3.2 m, 3.3 m and 8.0 m.															
163.5																		
163.3				1	B	F	W	SP						8	100	100	100	Red
163.1							W	SP										
162.9	14																	
162.2																		
162.1																		
161.7	15			1	B	F	W	SP						9	100	100	100	Red
161.6							W	SP										
161.3			End of Borehole at 15.5 m															
	16																	
	17																	
	18																	

Log of Borehole 203

Project No. GTR-00257769-H0 | Drawing No. 4

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

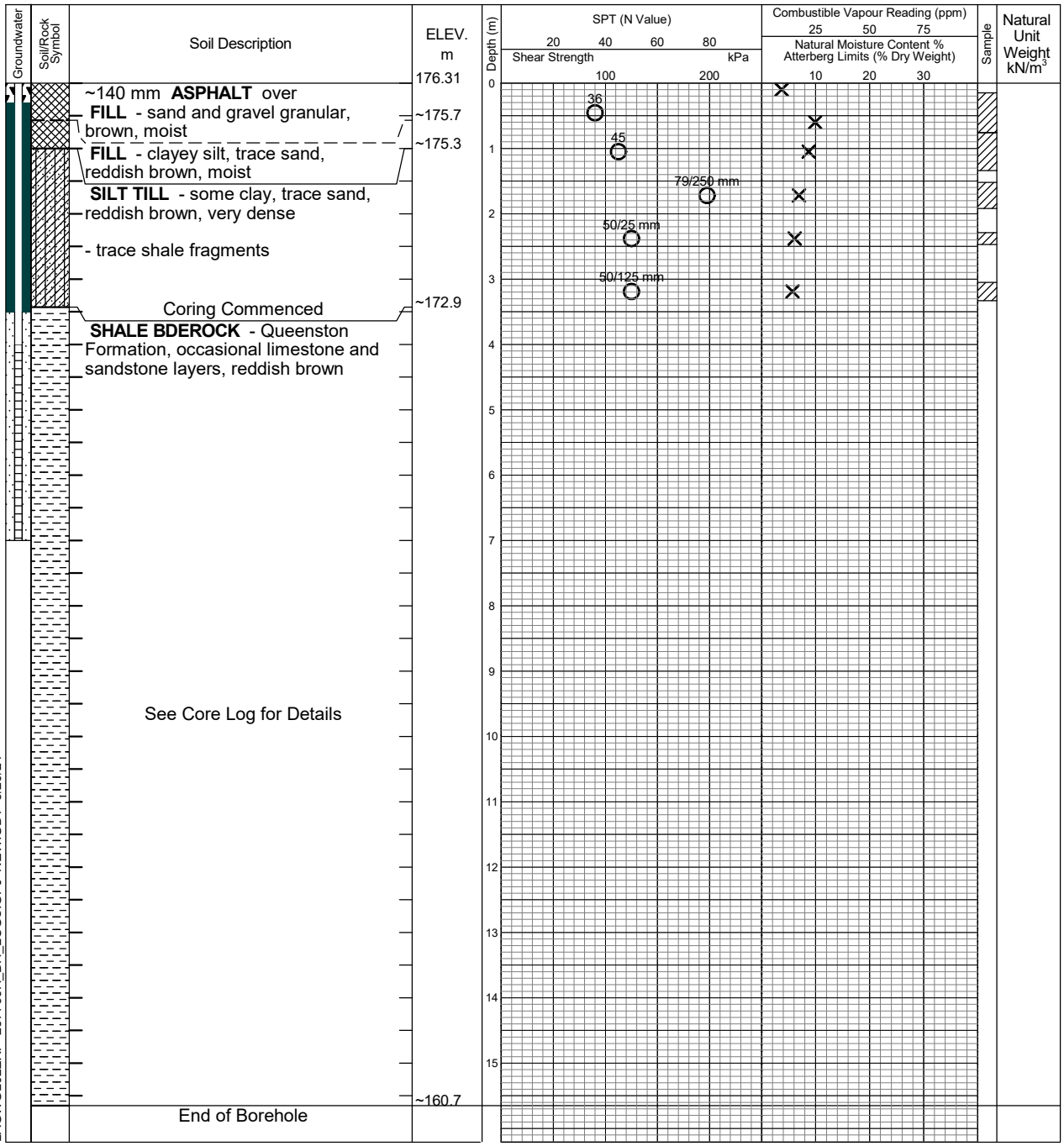
Date Drilled: January 17 - 19, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~6.5	Well
February 4, 2024	~6.2	Well

ROCK CORE LOG

BH 203

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.3	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/19/23	01/19/23	D. Panchal	4A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
173.3	3		See Borehole Log for Details															
172.9			**QUEENSTON FORMATION**	1	B	F	C	RU						1	100	0	95	Red
172.8							C	RU										
172.6																		
172.6	4		Shale with interbedded siltstone, and clay layers.															
			Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.	1	B	F	M	RU						2	98	87	95	Red
							C	RP										
171.7																		
171.6			Limestone (6%) fine grained, grey, medium strength, unweathered															
171.3	5				F	V												
171.2			Siltstone (19%) fine grained, grey, medium strength, unweathered.		F	V												
171.2																		
171.1					F	V												
171.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
170.9																		
	6		Vertical fractures were noted at ~5.1 m, 5.2 m, 5.4 m, 6.4 m, 6.8 m, 7.0 m, 7.2 m, 8.4 m, 11.6 m and 13.4 m.	1	B	F	C	RP						3	100	90	100	Red
							C	RP										
170.0																		
169.9																		
169.7																		
169.6					F	V												
169.4					F	V												
169.3	7																	
169.1					F	V												
169.0																		
168.9				1	B	F	C	RP						4	100	62	100	Red
168.8							M	SU										
168.8																		
168.6																		
168.5	8																	
168.0					F	V												
167.9																		
167.6																		
167.6																		
167.3	9			1	B	F	C	SU						5	95	94	100	Red
167.3							W	SP										
167.1																		
167.0																		
166.5																		
166.4	10																	
166.2																		
166.2																		
				1	B	F	W	SP						6	100	100	100	Red
							W	SP										
165.4																		

ROCK CORE LOG

BH 203

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.3	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/19/23	01/19/23	D. Panchal	4A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 75 - Truck	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
165.3	11																	
165.1			**QUEENSTON FORMATION**															
165.0					F	V												
164.8			Shale with interbedded siltstone, and clay layers.															
164.7																		
164.5																		
164.5	12		Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.	1	B	F	C W	SP SP						7	100	97	100	Red
164.3																		
164.0			Limestone (6%) fine grained, grey, medium strength, unweathered															
163.5																		
163.5	13		Siltstone (19%) fine grained, grey, medium strength, unweathered.															
163.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.		F	V												
162.9				1	B	F	M	SP						8	100	98	100	Red
162.7							M	SP										
162.6			Vertical fractures were noted at ~5.1 m, 5.2 m, 5.4 m, 6.4 m, 6.8 m, 7.0 m, 7.2 m, 8.4 m, 11.6 m and 13.4 m.															
162.5																		
162.4	14																	
161.7																		
161.6																		
161.3	15			1	B	F	W W	SP SP						9	100	100	100	Red
161.1																		
161.0																		
160.7			End of Borehole at 15.7 m															
	16																	
	17																	
	18																	

Log of Borehole 204

Project No. GTR-00257769-H0 | Drawing No. 5

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 19 - 22, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)
		~140 mm **ASPHALT** over	176.51	0
		FILL - sand and gravel granular, brown, moist	~175.8	
		FILL - clayey silt, trace sand, reddish brown, moist	~175.5	1
		SILT TILL - some clay, trace sand, reddish brown, very dense		2
		- trace shale fragments		3
		Coring Commenced	~173.2	
		SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		4
		See Core Log for Details		5
				6
				7
				8
				9
				10
				11
				12
				13
				14
				15
		End of Borehole	~160.8	

SPT (N Value): 20 40 60 80
Shear Strength: 100 200 kPa
Combustible Vapour Reading (ppm): 25 50 75
Natural Moisture Content % Atterberg Limits (% Dry Weight): 10 20 30
Sample
Natural Unit Weight kN/m³

51
89
50/75 mm
65/75 mm
50/125 mm

Notes:
1. Borehole advanced to completion at ~15.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

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ROCK CORE LOG

BH 204

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	5A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
174.0																		
	3		See Borehole Log for Details															
173.2			**QUEENSTON FORMATION**	1	B	F	C	RU						1	100	0	95	Red
173.1					F	V	C	RU										
173.1																		
173.0																		
172.9			Shale with interbedded siltstone, and clay layers.		F	V												
172.9	4																	
172.6			Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.9 and between moderately weathered and unweathered below.															
172.6				1	B	F	M	RU						2	100	90	100	Red
172.3					F	V	C	RP										
172.2																		
			Limestone (3%) fine grained, grey, medium strength, unweathered		F	V												
171.7																		
171.6	5																	
171.5			Siltstone (22%) fine grained, grey, medium strength, unweathered.		F	V												
171.4																		
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.0																		
171.0																		
170.8			Vertical fractures were noted at ~ 3.5 m, 3.9 m, 4.3 m, 4.8 m, 5.1 m, 6.5 m, 7.0 m, 9.6 m and 10.5 m.															
170.7				1	B	F	C	RP						3	100	92	100	Red
170.4	6						C	RP										
170.4			A Rubble layers, heavily weathered, low strength was noted at ~10.1 m (110 mm).															
170.3																		
170.2					F	V												
170.1																		
170.0																		
169.8					F	V												
169.5	7																	
169.1				1	B	F	C	RP						4	100	83	100	Red
169.0							C	SU										
168.7																		
168.7																		
168.4	8																	
168.4																		
168.0																		
167.9																		
167.6				1	B	F	M	SU						5	100	100	100	Red
167.5	9						M	SP										
167.5																		
167.4																		
167.3																		
167.2																		
166.9					F	V												
166.8																		
166.8	10																	
166.7																		
166.5																		
166.4				1	B	F	M	SP						6	100	97	100	Red

exp.

ROCK CORE LOG

BH 204

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/22/23	01/22/23	D. Panchal	5A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
166.3			**QUEENSTON FORMATION**		F	V	M	SP										
166.1																		
166.0																		
166.0	11		Shale with interbedded siltstone, and clay layers.															
165.5																		
165.4			Shale (74%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.9 and between moderately weathered and unweathered below.															
165.1																		
165.0																		
164.7																		
164.6	12		Limestone (3%) fine grained, grey, medium strength, unweathered	1	B	F	W	SP						7	100	100	100	Red
164.5							W	SP										
164.2			Siltstone (22%) fine grained, grey, medium strength, unweathered.															
163.9			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.6																		
163.5	13		Vertical fractures were noted at ~ 3.5 m, 3.9 m, 4.3 m, 4.8 m, 5.1 m, 6.5 m, 7.0 m, 9.6 m and 10.5 m.															
163.5																		
163.3																		
163.2			A Rubble layers, heavily weathered, low strength was noted at ~10.1 m (110 mm).	1	B	F	M	SP						8	100	97	100	Red
162.8							M	SP										
162.8																		
162.4	14																	
162.3																		
161.7																		
161.7	15			1	B	F	W	SP						9	100	100	100	Red
161.3							W	SP										
161.1																		
160.8			End of Borehole at 15.7 m															
	16																	
	17																	
	18																	

Log of Borehole 205

Project No. GTR-00257769-H0 | Drawing No. 6

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

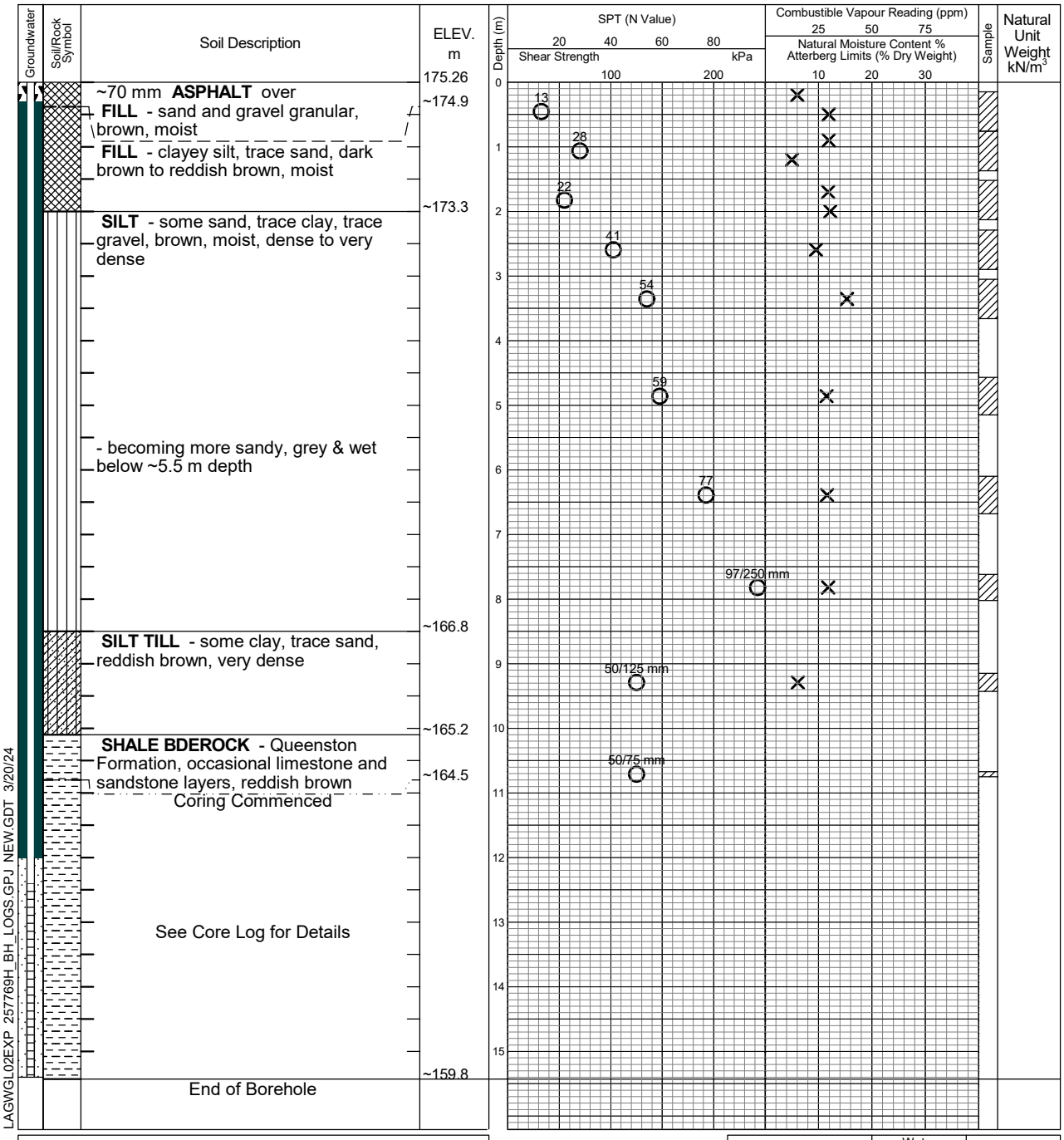
Date Drilled: January 12, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



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Notes:
1. Borehole advanced to completion at ~15.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.3	Well
February 4, 2024	~5.6	Well

ROCK CORE LOG

BH 205

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	175.3	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/12/23	01/12/23	D. Panchal	6A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 1

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
165.0																		
			See Borehole Log for Details															
164.5																		
164.4	11		**QUEENSTON FORMATION**	1	B	F	VC	RU						1	92	0	90	Red
164.1					F	V	C	RP										
164.0			Shale with interbedded siltstone, and clay layers.															
163.8																		
163.6			Shale (62%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~11.7 m and between moderately weathered and unweathered below.		F	V												
163.6				1	B	F	C	RP						2	100	78	100	Red
163.1	12						C	SU										
163.0			Limestone (11%) fine grained, grey, medium strength, unweathered															
162.8					F	V												
162.7			Siltstone (26%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
162.1	13																	
161.9			Vertical fractures were noted at ~ 11.0 m, 11.6 m, 12.5 m, 13.4 m and 14.2 m.	1	F	V	M	SU						3	100	87	100	Red
161.8					B	F	M	SP	NC	50 mm								
161.7			A Clay (1%) layer, heavily weathered, very low strength was noted at ~13.5 m.															
161.6																		
161.2	14		A Rubble layer, heavily weathered, low strength was noted at ~10.8 m (80 mm).															
161.2																		
161.1					F	V												
161.0																		
160.9																		
160.7																		
160.6				1	B	F	VC	SP						4	100	71	100	Red
160.5	15						C	SP										
159.9																		
159.8			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	

Log of Borehole 206

Project No. GTR-00257769-H0 Drawing No. 7

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

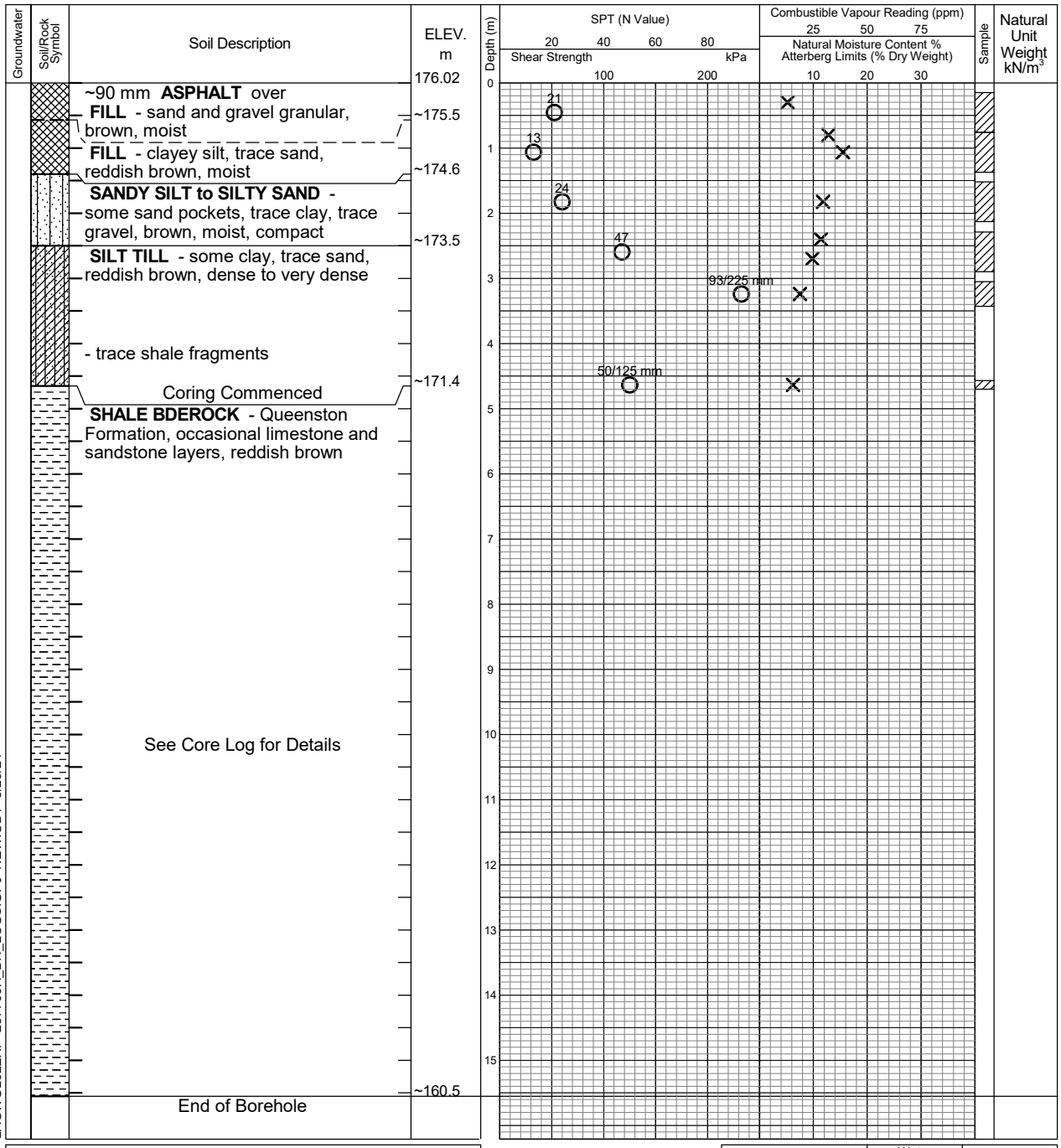
Date Drilled: January 11, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.6 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

ROCK CORE LOG

BH 206

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/12/23	D. Panchal	7A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
171.8			See Borehole Log for Details															
171.4			**QUEENSTON FORMATION**															
171.1				1	B	F	VC	RU						1	100	88	95	
171.1	5						C	RP										
170.9			Shale with interbedded siltstone, and clay layers.															
170.9																		
170.7			Shale (86%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.5 m and between moderately weathered and unweathered below.															
170.6																		
170.1				1	B	F	C	RP						2	100	73	100	
	6				F	V	C	RP										
169.9			Limestone (4%) fine grained, grey, medium strength, unweathered		F	V												
169.8																		
169.6			Siltstone (8%) fine grained, grey, medium strength, unweathered.		F	V												
169.5																		
169.4			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
169.3					F	V												
169.1	7																	
			Vertical fractures were noted at ~6.0 m, 6.2 m, 6.5 m, 6.9 m, 7.2 m, 7.4 m, 8.2 m, 10.1 m and 12.1 m.		F	V												
				1	B	F	C	RP						3	100	70	100	
					F	V	C	RP										
168.4			Rubble layers, heavily weathered, very low strength were noted at ~9.9 m (80 mm) and 10.3 m (160 mm).															
168.4																		
168.0	8																	
168.0					F	V												
167.9																		
167.8																		
167.4																		
167.3																		
				1	B	F	C	RP						4	100	97	100	
	9						M	SU										
166.9																		
166.8																		
166.1																		
166.1	10				F	V												
165.8																		
165.7				1	B	F	C	SU						5	100	73	100	
							M	SU										
165.4																		
165.3																		
165.0	11																	
164.9																		
164.7																		
164.6																		
164.4																		
164.2					F	V								6	100	92	100	
164.1	12			1	B	F	M	SU										

exp.

ROCK CORE LOG

BH 206

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/12/23	D. Panchal	7A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
163.8			**QUEENSTON FORMATION**				M	SP										
163.7																		
163.6			Shale with interbedded siltstone, and clay layers.															
	13		Shale (86%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.5 m and between moderately weathered and unweathered below.	1	B	F	W	SP						7	100	100	100	
162.5							W	SP										
162.4			Limestone (4%) fine grained, grey, medium strength, unweathered															
162.2																		
162.1	14		Siltstone (8%) fine grained, grey, medium strength, unweathered.															
161.8																		
161.6			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
161.5																		
161.4			Vertical fractures were noted at ~6.0 m, 6.2 m, 6.5 m, 6.9 m, 7.2 m, 7.4 m, 8.2 m, 10.1 m and 12.1 m.	1	B	F	W	SP						8	100	100	100	
161.0	15						W	SP										
160.9			Rubble layers, heavily weathered, very low strength were noted at ~9.9 m (80 mm) and 10.3 m (160 mm).															
160.5			End of Borehole at 15.6 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 207

Project No. GTR-00257769-H0 | Drawing No. 8

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

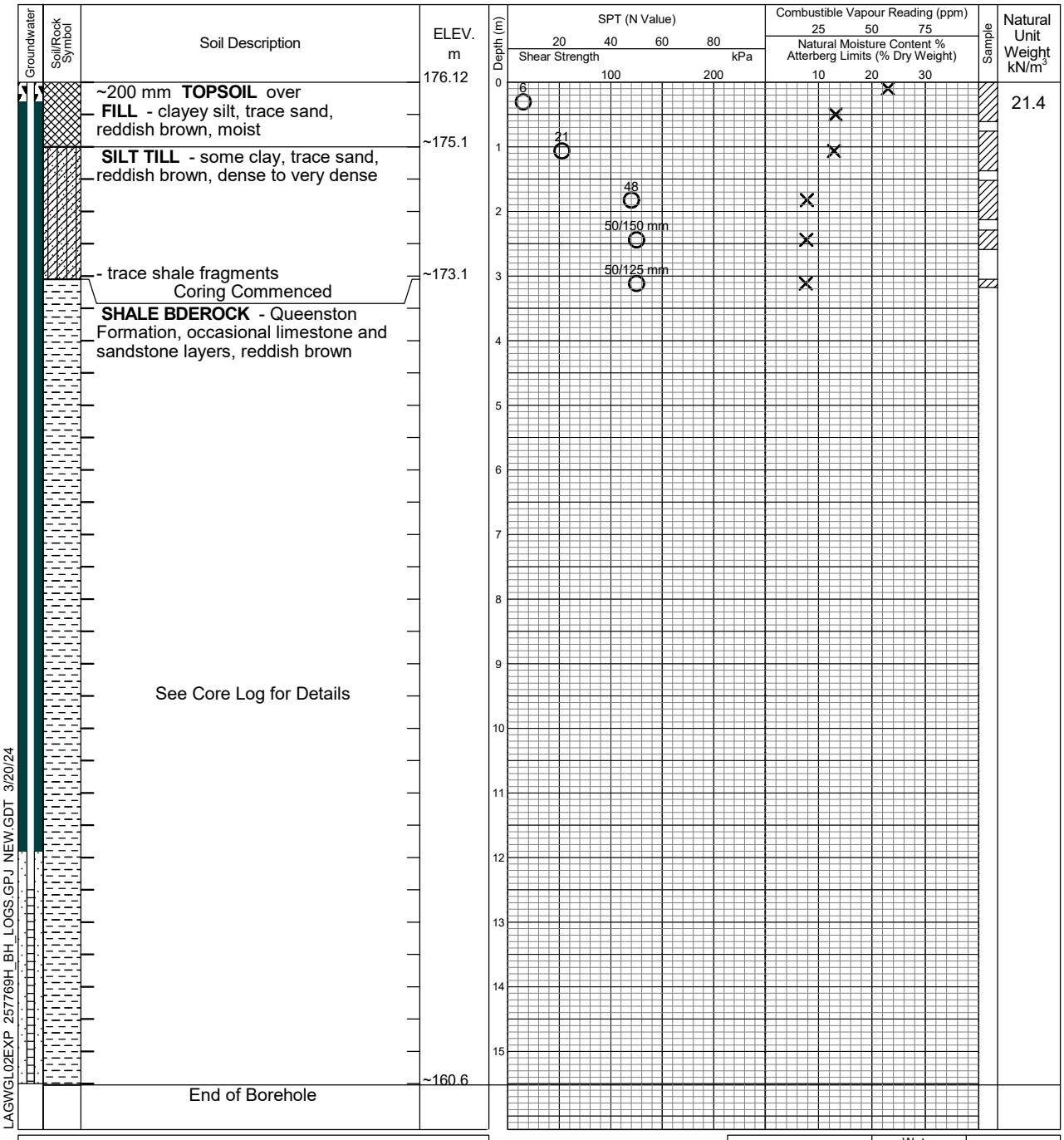
Date Drilled: January 10 - 11, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



Notes:
1. Borehole advanced to completion at ~15.5 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~6.1	Well
February 4, 2024	~7.4	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 207

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/11/23	D. Panchal	8A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
173.6																		
			See Borehole Log for Details															
173.1	3		**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	100	95	Red
			Shale with interbedded siltstone, and clay layers.															
	4		Shale (73%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~3.4 m and between moderately weathered and unweathered below.	1	B	F	C C	RP RP						2	100	82	100	Red
171.8																		
171.8			Limestone (3%) fine grained, grey, medium strength, unweathered		F	V												
171.7																		
171.6																		
171.4			Siltstone (24%) fine grained, grey, medium strength, unweathered.		F	V												
171.3	5				F	V												
171.2			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
170.8					F	V												
170.6			Vertical fractures were noted at ~4.5 m, 4.8 m, 5.0 m, 5.3 m, 5.6 m, 6.8 m, 9.2 m, 12.4 m, 13.4 m and 14.8 m.		F	V												
170.4				1	B	F	C C	RP SU						3	100	85	100	Red
170.0	6																	
170.0																		
169.8																		
169.6																		
169.4					F	V												
169.2	7																	
169.0																		
168.9																		
168.8				1	B	F	C M	SU SU						4	100	93	100	Red
168.6																		
168.5																		
168.4																		
168.0	8																	
167.9																		
167.5																		
167.5				1	B	F	W M	SU SP						5	100	97	100	Red
167.2																		
167.1	9																	
167.0					F	V												
166.9																		
166.7																		
166.7																		
166.2																		
166.2	10																	
165.9																		
165.8				1	B	F	W	SP						6	100	100	100	Red

exp.

ROCK CORE LOG

BH 207

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/11/23	01/11/23	D. Panchal	8A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			QUEENSTON FORMATION				W	SP										
	11		Shale with interbedded siltstone, and clay layers.															
164.9			Shale (73%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~3.4 m and between moderately weathered and unweathered below.															
164.8																		
164.5																		
164.4																		
164.3				1	B	F	W	SP						7	100	93	100	Red
164.1	12		Limestone (3%) fine grained, grey, medium strength, unweathered				C	SU										
164.0																		
163.9																		
163.8			Siltstone (24%) fine grained, grey, medium strength, unweathered.															
163.8																		
163.7			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.5																		
163.4	13		Vertical fractures were noted at ~4.5 m, 4.8 m, 5.0 m, 5.3 m, 5.6 m, 6.8 m, 9.2 m, 12.4 m, 13.4 m and 14.8 m.															
162.8				1	B	F	M	SU						8	100	93	100	Red
162.7					F	V	M	SP										
162.6																		
	14																	
161.7																		
161.5																		
161.4					F	V												
161.3				1	B	F	M	SP						9	100	95	100	Red
161.0	15						M	SP										
160.9																		
160.6			End of Borehole at 15.5 m															
	16																	
	17																	
	18																	

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

Log of Borehole 208

Project No. GTR-00257769-H0 Drawing No. 9

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

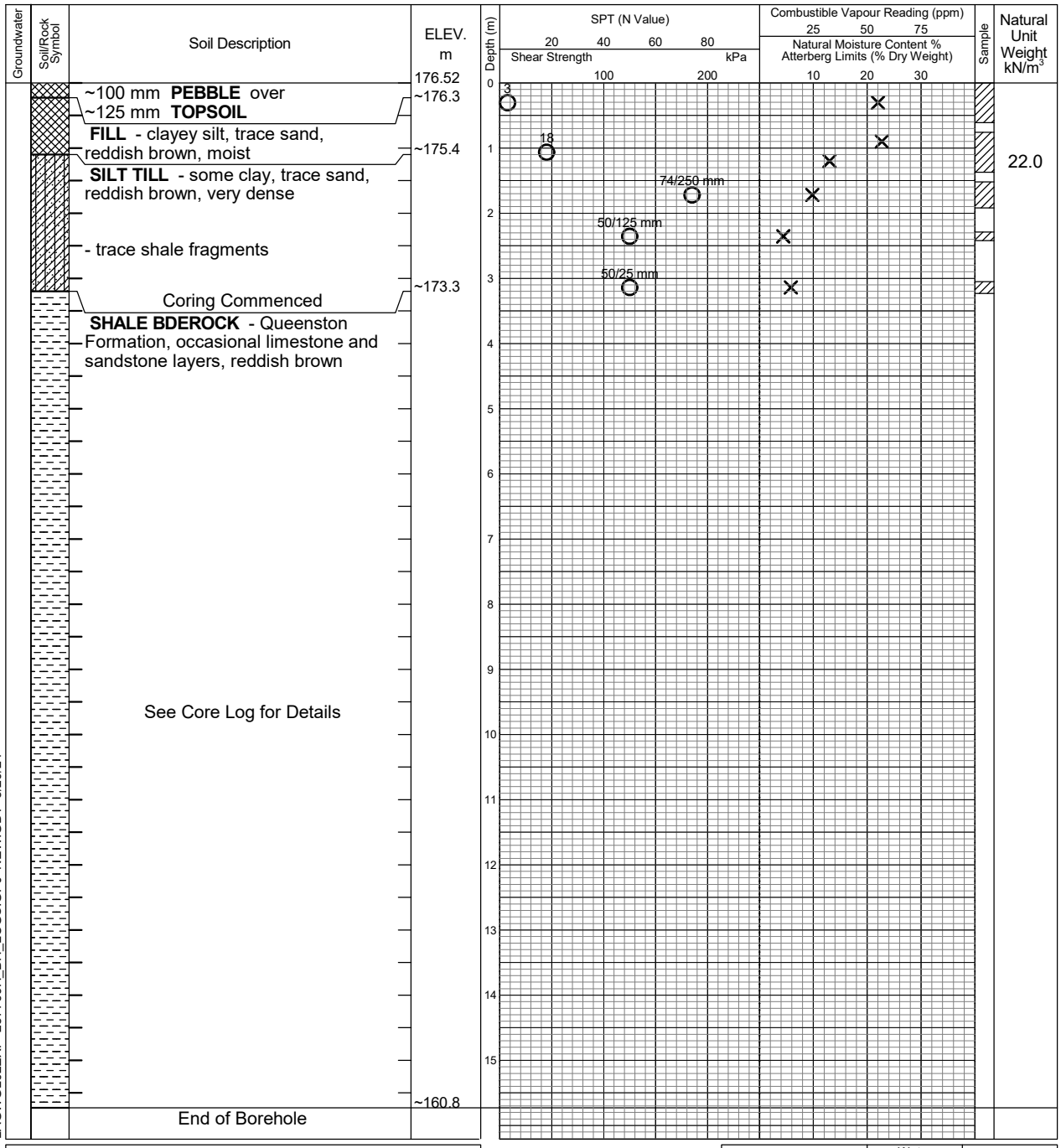
Date Drilled: January 10, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



Notes:
1. Borehole advanced to completion at ~15.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 208

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/10/23	01/10/23	D. Panchal	9A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
173.8																		
	3		See Borehole Log for Details															
173.3			**QUEENSTON FORMATION**															
173.2				1	B	F	C	RU						1	100	53	100	Red
173.2							C	RU										
172.9			Shale with interbedded siltstone, and clay layers.															
172.8																		
172.5	4		Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.1 m and between moderately weathered and unweathered below.															
172.5																		
172.4				1	B	F	C	RU						2	100	88	100	Red
172.3					F	V	C	RP										
171.9			Limestone (3%) fine grained, grey, medium strength, unweathered		F	V												
171.9																		
171.7																		
171.6	5		Siltstone (9%) fine grained, grey, medium strength, unweathered.															
171.3																		
171.2			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
170.9																		
170.8			Vertical fractures were noted at ~4.4 m, 4.7 m, 6.4 m, 7.1 m, 8.4 m, 10.8 m and 14.6 m.	1	B	F	M	RP						3	100	93	100	Red
170.5	6		A Clay (1%) layer, heavily weathered, very low strength was noted at ~15.7 m.				C	RP										
170.4																		
170.1					F	V												
170.1																		
169.8																		
169.6	7				F	V												
169.2				1	B	F	C	RP						4	100	70	100	Red
169.1							M	SU										
169.0																		
168.9																		
168.8																		
168.8	8																	
168.7																		
168.1					F	V												
168.0																		
167.8				1	B	F	C	SU						5	100	95	100	Red
167.6	9						M	SP										
167.3																		
167.3																		
166.5	10																	
166.3				1	B	F	W	SP						6	100	97	100	Red
							M	SP										

ROCK CORE LOG

BH 208

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.5	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/10/23	01/10/23	D. Panchal	9A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
165.8			**QUEENSTON FORMATION**		F	V												
165.7	11																	
165.4			Shale with interbedded siltstone, and clay layers.															
165.2			Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.1 m and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
164.4	12		Limestone (3%) fine grained, grey, medium strength, unweathered															
164.2			Siltstone (9%) fine grained, grey, medium strength, unweathered.															
163.8			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.7																		
163.5	13		Vertical fractures were noted at ~4.4 m, 4.7 m, 6.4 m, 7.1 m, 8.4 m, 10.8 m and 14.6 m.															
163.4																		
163.2																		
163.1			A Clay (1%) layer, heavily weathered, very low strength was noted at ~15.7 m.	1	B	F	W W	SP SP						8	100	100	100	Red
162.7																		
162.6	14																	
					F	V												
161.6	15			1	B	F	M VC	SP SU						9	100	93	100	Red
161.5																		
161.4																		
161.3																		
161.2																		
161.1																		
160.9									NC	50 mm								
160.9			End of Borehole at 15.7 m															
160.8	16																	
160.8																		
	17																	
	18																	

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

Log of Borehole 209D

Project No. GTR-00257769-H0 | Drawing No. 10

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 15, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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

Soil Description	ELEV. m	Depth (m)
~115 mm **ASPHALT** over	176.87	0
FILL - sand and gravel granular, brown, moist	~176.3	
FILL - clayey silt, trace sand, reddish brown, moist	~175.9	1
SILT TILL - some clay, trace sand, reddish brown, dense to very dense		2
- trace shale fragments	~173.8	3
Coring Commenced		
SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		4
See Core Log for Details		5 – 14
End of Borehole	~161.6	15

SPT (N Value): 19, 22, 38, 50/125 mm, 50/100 mm

Shear Strength (kPa): 100 – 200

Combustible Vapour Reading (ppm): 25 – 50 – 75

Natural Moisture Content % / Atterberg Limits (% Dry Weight): 10 – 20 – 30

Sample

Natural Unit Weight kN/m³: 21.6, 21.8

Notes:
1. Borehole advanced to completion at ~15.3 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp. Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~7.9	Well
February 4, 2024	~8.0	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

ROCK CORE LOG

BH 209D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/15/23	01/15/23	D. Panchal	10A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
174.4																		
			See Borehole Log for Details															
173.8	3		**QUEENSTON FORMATION**															
173.7				1	F	V	VC	RU						1	100	68	95	Red
173.7					B	F	C	RU										
173.4			Shale with interbedded siltstone, and clay layers.		F	V												
173.3																		
173.0			Shale (98%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.4 m and between moderately weathered and unweathered below.															
173.0	4																	
172.7					F	V												
172.6				1	B	F	C	RU						2	100	92	100	Red
			Limestone (1%) fine grained, grey, medium strength, unweathered				M	RP										
			Siltstone (1%) fine grained, grey, medium strength, unweathered.															
	5		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.5																		
171.4			Vertical fractures were noted at ~3.2 m, 3.5 m, 4.2 m, 6.2 m and 6.7 m.															
171.1																		
171.0	6			1	B	F	M	RP						3	100	98	100	Red
170.7							C	RP										
170.6					F	V												
170.5																		
170.4																		
170.2					F	V												
170.0	7													4	100	97	100	Red
169.6				1	B	F	C	RP										
169.4							C	SU										
169.0																		
168.9	8																	
168.9																		
168.8																		
168.7																		
168.5																		
168.3																		
168.3														5	100	100	100	Red
	9			1	B	F	W	SU										
							W	SP										
167.5																		
167.3																		
167.1																		
167.1																		
166.8	10																	
166.8																		
166.5				1	B	F	M	SP						6	100	100	100	Red

exp.

ROCK CORE LOG

BH 209D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/15/23	01/15/23	D. Panchal	10A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
166.4			**QUEENSTON FORMATION**				M	SP										
166.2																		
166.1																		
165.9	11																	
165.7			Shale with interbedded siltstone, and clay layers.															
165.5																		
165.4			Shale (98%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.4 m and between moderately weathered and unweathered below.															
165.1																		
165.0	12			1	B	F	M	SP						7	100	97	100	Red
			Limestone (1%) fine grained, grey, medium strength, unweathered				M	SP										
164.6																		
164.5			Siltstone (1%) fine grained, grey, medium strength, unweathered.															
164.3																		
164.1			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.9	13																	
163.7			Vertical fractures were noted at ~3.2 m, 3.5 m, 4.2 m, 6.2 m and 6.7 m.															
163.3				1	B	F	W	SP						8	100	100	100	Red
							W	SP										
163.1	14																	
162.6																		
162.5																		
162.4																		
162.3				1	B	F	W	SP						9	100	100	100	Red
	15						W	SP										
161.6			End of Borehole at 15.3 m															
	16																	
	17																	
	18																	

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

Log of Borehole 209S

Project No. GTR-00257769-H0 | Drawing No. 11

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 15, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

Auger Sample ☒
SPT (N) Value ○ ▨
Dynamic Cone Test ——
Shelby Tube ■
Field Vane Test S

Combustible Vapour Reading □
Natural Moisture ×
Plastic and Liquid Limit ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Penetrometer ▲

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)	SPT (N Value) 20 40 60 80 / Shear Strength 100 200 kPa	Combustible Vapour Reading (ppm) 25 50 75 / Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30	Sample	Natural Unit Weight kN/m³
		176.87		0				
		See Log of Borehole 209D for Details		1				
				2				
				3				
				4				
				5				
			~170.8	6				
		End of Borehole						

Notes:
1. Borehole advanced to completion at ~6.1 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	No Free Water	Well
February 4, 2024	No Free Water	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Log of Borehole 210

Project No. GTR-00257769-H0 Drawing No. 12

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

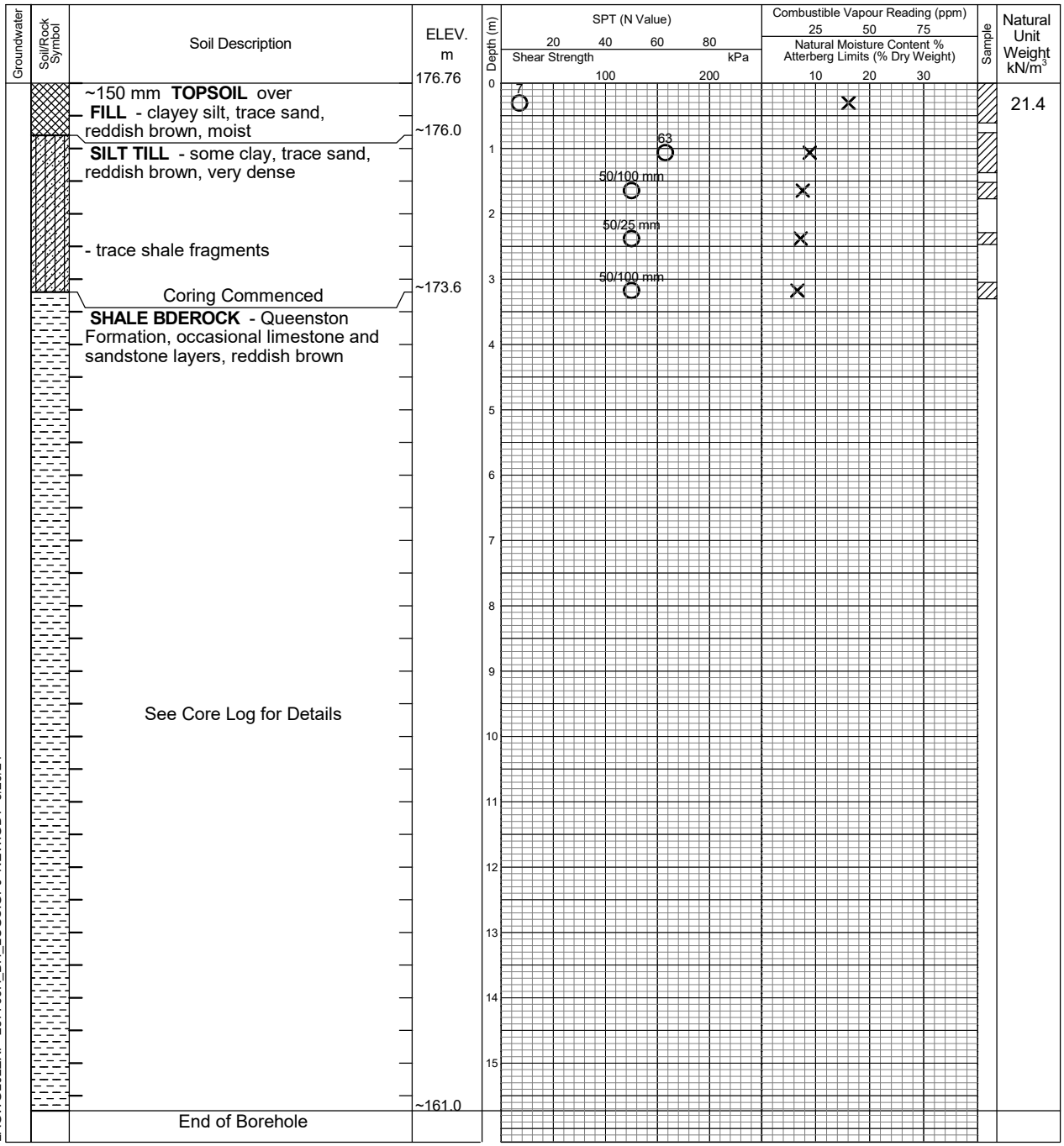
Date Drilled: January 8 - 9, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.7 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

ROCK CORE LOG

BH 210

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/09/23	01/09/23	D. Panchal	12A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
174.3																		
	3		See Borehole Log for Details															
173.6			**QUEENSTON FORMATION**															
173.5				1	B	F	C	RU						1	100	100	95	Red
173.4							C	RP										
173.4					F	V												
173.3			Shale with interbedded siltstone, and clay layers.															
173.1																		
172.8	4		Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.															
172.7				1	B	F	C	RP						2	100	100	100	Red
							M	SU										
			Limestone (7%) fine grained, grey, medium strength, unweathered															
171.9																		
171.7	5		Siltstone (15%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.3																		
171.2			Vertical fractures were noted at ~3.6 m and 13.5 m.															
				1	B	F	M	SU						3	100	100	100	Red
							M	SP										
170.8	6																	
170.7																		
170.0																		
169.9																		
169.8	7																	
169.7				1	B	F	M	SP						4	100	100	100	Red
							W	SP										
169.3																		
169.0																		
168.7	8																	
168.7																		
168.5																		
168.4																		
				1	B	F	W	SP						5	100	100	100	Red
							W	SP										
167.8	9																	
167.7																		
167.1																		
167.1																		
167.0																		
166.9	10																	
				1	B	F	W	SP						6	100	100	100	Red
166.4							W	SP										

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 210

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.8	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/09/23	01/09/23	D. Panchal	12A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
166.3			**QUEENSTON FORMATION**															
165.9																		
165.9	11		Shale with interbedded siltstone, and clay layers.															
165.2			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~4.5 m and between moderately weathered and unweathered below.	1	B	F	W	SP						7	100	100	100	Red
165.2							W	SP										
164.9			Limestone (7%) fine grained, grey, medium strength, unweathered															
164.8	12		Siltstone (15%) fine grained, grey, medium strength, unweathered.		F	V												
164.0			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.8	13		Vertical fractures were noted at ~3.6 m and 13.5 m.															
163.3				1	B	F	M	SP						8	100	100	100	Red
163.2							M	SP										
163.1																		
162.6	14																	
162.2																		
162.1				1	B	F	W	SP						9	100	100	100	Red
161.6	15						W	SP										
161.4																		
161.0			End of Borehole at 15.7 m															
	16																	
	17																	
	18																	

Log of Borehole 211

Project No. GTR-00257769-H0 Drawing No. 13

Project: Geotechnical Investigation Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 8, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)	SPT (N Value) / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	Sample	Natural Unit Weight kN/m³
		~150 mm **TOPSOIL** over **FILL** - clayey silt, trace sand, reddish brown, moist	176.86	0	8			21.4
		SILT TILL - some clay, trace sand, reddish brown, very dense	~175.9	1	55			
				1	50/150 mm			
				2	50/100 mm			
		- trace shale fragments		2				
		Coring Commenced	~173.7	3	50/150 mm			
		SHALE BDEROCK - Queenston Formation, occasional limestone and sandstone layers, reddish brown		3				
				4				
				5				
				6				
				7				
				8				
		See Core Log for Details		9				
				10				
				11				
				12				
				13				
				14				
				15				
		End of Borehole	~161.5					

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

ROCK CORE LOG

BH 211

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/08/23	01/08/23	D. Panchal	13A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
174.4																		
			See Borehole Log for Details															
173.7	3		**QUEENSTON FORMATION**															
173.6				1	B	F	C	RU						1	94	94	90	Red
173.5							C	RP										
173.3			Shale with interbedded siltstone, and clay layers.		F	V												
173.1			Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.8 and between moderately weathered and unweathered below.		F	V												
	4			1	B	F	C	RP						2	100	90	100	Red
							M	SU										
			Limestone (6%) fine grained, grey, medium strength, unweathered															
			Siltstone (7%) fine grained, grey, medium strength, unweathered.															
	5		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
171.2			Vertical fractures were noted at ~3.6 m, 4.2 m and 6.9 m.															
171.2				1	B	F	M	SU						3	100	97	100	Red
	6						C	SU										
170.0					F	V												
169.9	7																	
169.4				1	B	F	M	SU						4	100	100	100	Red
169.2							M	SP										
169.0																		
168.9	8																	
168.3																		
168.3				1	B	F	W	SP						5	100	100	100	Red
	9						W	SP										
167.7																		
167.6																		
167.3																		
167.2																		
	10																	
166.7																		
166.7																		
166.4														6	100	100	100	Red

ROCK CORE LOG

BH 211

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.9	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/08/23	01/08/23	D. Panchal	13A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
166.2			**QUEENSTON FORMATION**	1	B	F	W	SP										
							W	SP										
165.9																		
165.8	11		Shale with interbedded siltstone, and clay layers.															
			Shale (87%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.8 and between moderately weathered and unweathered below.															
165.2																		
165.1																		
164.8	12			1	B	F	W	SP						7	100	100	100	Red
164.8			Limestone (6%) fine grained, grey, medium strength, unweathered				W	SP										
			Siltstone (7%) fine grained, grey, medium strength, unweathered.															
164.1			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
163.8	13		Vertical fractures were noted at ~3.6 m, 4.2 m and 6.9 m.															
163.4				1	B	F	W	SP						8	100	100	100	Red
163.2							W	SP										
162.8	14																	
162.8																		
162.3																		
162.2				1	B	F	W	SP						9	100	100	100	Red
161.9	15						W	SP										
161.8																		
161.5			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	

Log of Borehole 212

Project No. GTR-00257769-H0 | Drawing No. 14

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

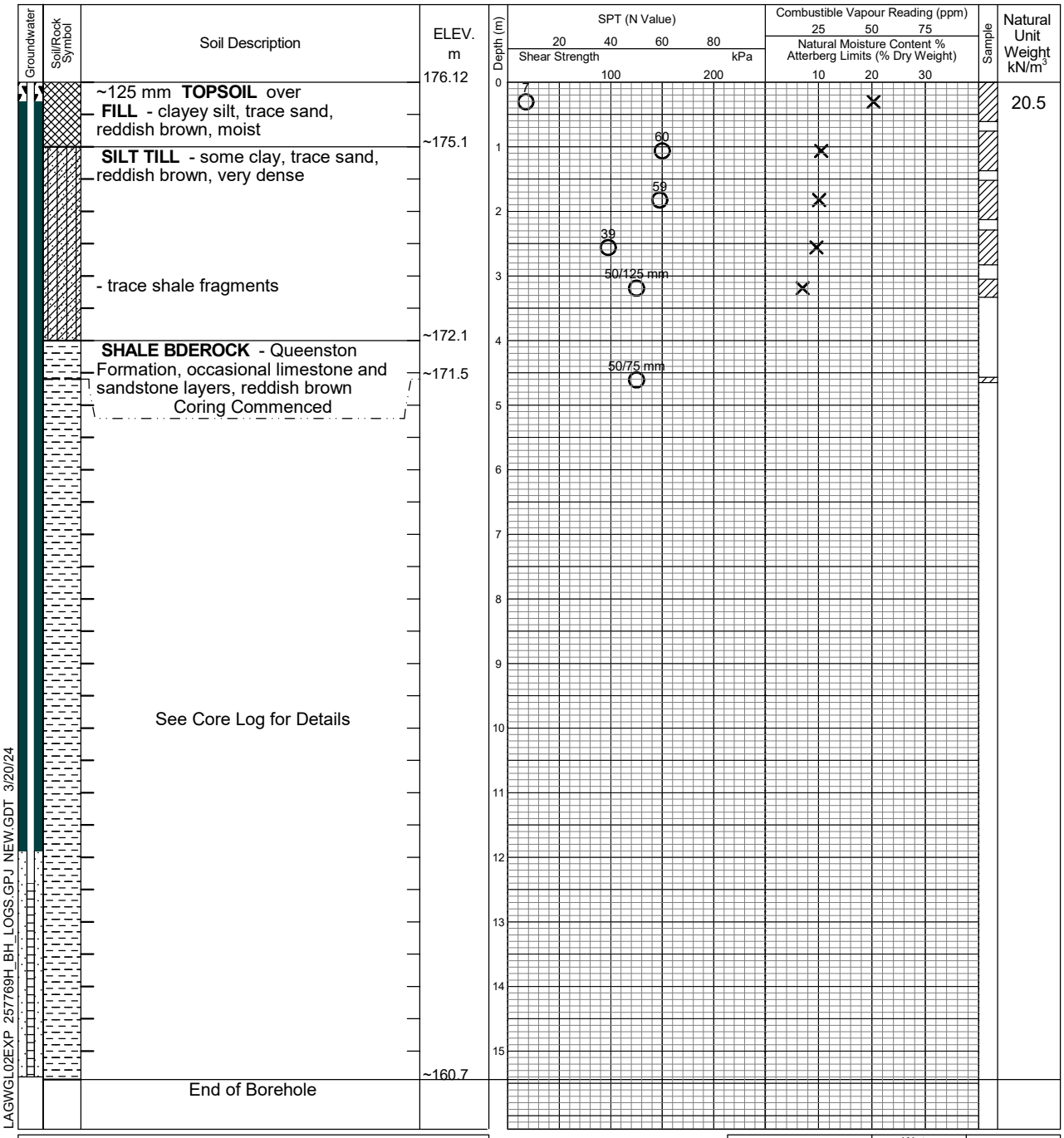
Date Drilled: January 5, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



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Notes:
1. Borehole advanced to completion at ~15.4 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.7	Well
February 4, 2024	~5.8	Well

ROCK CORE LOG

BH 212

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	14A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
171.9			See Borehole Log for Details															
171.5			**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	74	95	Red
171.1	5		Shale with interbedded siltstone, and clay layers.															
171.0			Shale (71%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.7 m and between moderately weathered and unweathered below.						NC	20 mm								
170.7																		
170.7																		
170.5																		
170.4				1	B	F	C C	RP RP						2	100	100	100	Red
170.0	6		Limestone (3%) fine grained, grey, medium strength, unweathered															
170.0																		
169.6			Siltstone (25%) fine grained, grey, medium strength, unweathered.		F	V												
169.5									NC	20 mm								
169.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.						NC	60 mm								
169.3																		
169.3	7																	
169.1			Vertical fractures were noted at ~6.6 m, 7.1 m, 7.6 m, 9.1 m and 10.2 m.		F	V												
169.0				1	B	F	C C	RP SU						3	100	74	100	Red
168.7			A Clay (1%) layers, heavily weathered, very low strength were noted at ~5.4 m, 6.6 m and 6.8 m.															
168.7					F	V												
168.6																		
168.5																		
168.3	8																	
168.1																		
167.6																		
167.6																		
167.2				1	B	F	W M	SU SP						4	100	89	100	Red
167.2	9																	
167.1					F	V												
166.9																		
166.8																		
166.7																		
166.5																		
166.0	10				F	V												
165.7				1	B	F	M W	SP SP						5	100	91	100	Red
165.1	11																	
165.0																		
164.9																		
164.7																		
	12			1	B	F	W W	SP SP						6	100	100	100	Red

ROCK CORE LOG

BH 212

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.1	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	14A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
163.9			**QUEENSTON FORMATION**															
163.7			Shale with interbedded siltstone, and clay layers.															
163.4	13		Shale (71%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.7 m and between moderately weathered and unweathered below.	1	B	F	W W	SP SP						7	100	100	100	Red
163.0			Limestone (3%) fine grained, grey, medium strength, unweathered															
162.0	14		Siltstone (25%) fine grained, grey, medium strength, unweathered.															
161.9			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
161.1	15		Vertical fractures were noted at ~6.6 m, 7.1 m, 7.6 m, 9.1 m and 10.2 m.	1	B	F	W W	SP SP						8	100	100	100	Red
160.9			A Clay (1%) layers, heavily weathered, very low strength were noted at ~5.4 m, 6.6 m and 6.8 m.															
160.7			End of Borehole at 15.4 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 213

Project No. GTR-00257769-H0 | Drawing No. 15

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

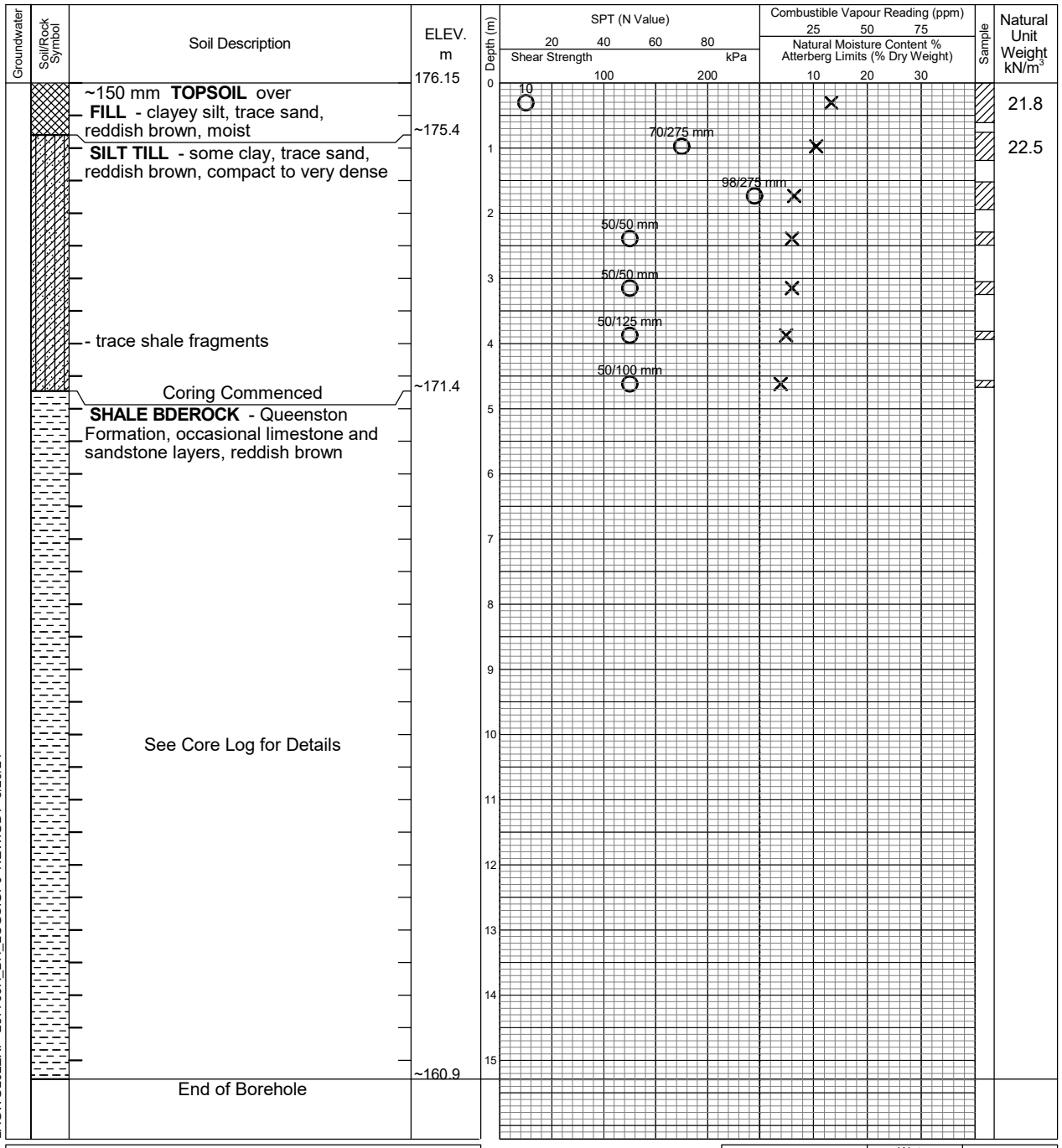
Date Drilled: January 4 - 5, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



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Notes:
1. Borehole advanced to completion at ~15.3 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)

ROCK CORE LOG

BH 213

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.2	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	15A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
172.0			See Borehole Log for Details															
171.4	5		**QUEENSTON FORMATION** Shale with interbedded siltstone, and clay layers.	1	B	F	M M	RU RP						1	100	100	95	Red
170.9 170.9 170.7 170.6 170.4			Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.6 and between moderately weathered and unweathered below.		F	V			NC	20 mm								
170.4 170.2 170.2 169.8 169.7	6		Limestone (2%) fine grained, grey, medium strength, unweathered Siltstone (20%) fine grained, grey, medium strength, unweathered.	1	B	F	C M	RP SU	NC	20 mm				2	100	97	100	Red
169.1 169.1 169.0 168.9 168.9 168.8 168.7 168.6 168.4	7 8		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals. A Vertical fracture was noted at ~5.3 m. Clay (1%) layers, heavily weathered, very low strength were noted at ~5.8 m, 5.9 m and 7.0 m.	1	B	F	C M	SU SP	NC	20 mm				3	100	90	100	Red
167.5 167.3 167.0 166.9	9			1	B	F	W W	SP SP						4	100	100	100	Red
166.3 166.2 165.7 165.6	10 11			1	B	F	W W	SP SP						5	100	100	100	Red
164.5 164.4	12			1	B	F	W	SP						6	100	100	100	Red

EXP_ROCKCORE 257769H_ROCK_LOGS.GPJ CORE_LOG.GDT 3/20/24

exp.

ROCK CORE LOG

BH 213

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.2	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/05/23	01/05/23	D. Panchal	15A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
163.9			**QUEENSTON FORMATION**				W	SP										
163.8																		
163.6			Shale with interbedded siltstone, and clay layers.															
163.2	13		Shale (78%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~5.6 and between moderately weathered and unweathered below.															
162.9																		
162.7																		
			Limestone (2%) fine grained, grey, medium strength, unweathered	1	B	F	M	SP						7	100	100	100	Red
162.4							W	SP										
162.3	14		Siltstone (20%) fine grained, grey, medium strength, unweathered.															
			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to very close intervals.															
			A Vertical fracture was noted at ~5.3 m.	1	B	F	M	SP						8	100	100	100	Red
161.3							M	SP										
161.2	15		Clay (1%) layers, heavily weathered, very low strength were noted at ~5.8 m, 5.9 m and 7.0 m.															
160.9			End of Borehole at 15.3 m															
	16																	
	17																	
	18																	
	19																	
	20																	

Log of Borehole 214D

Project No. GTR-00257769-H0 | Drawing No. 16

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

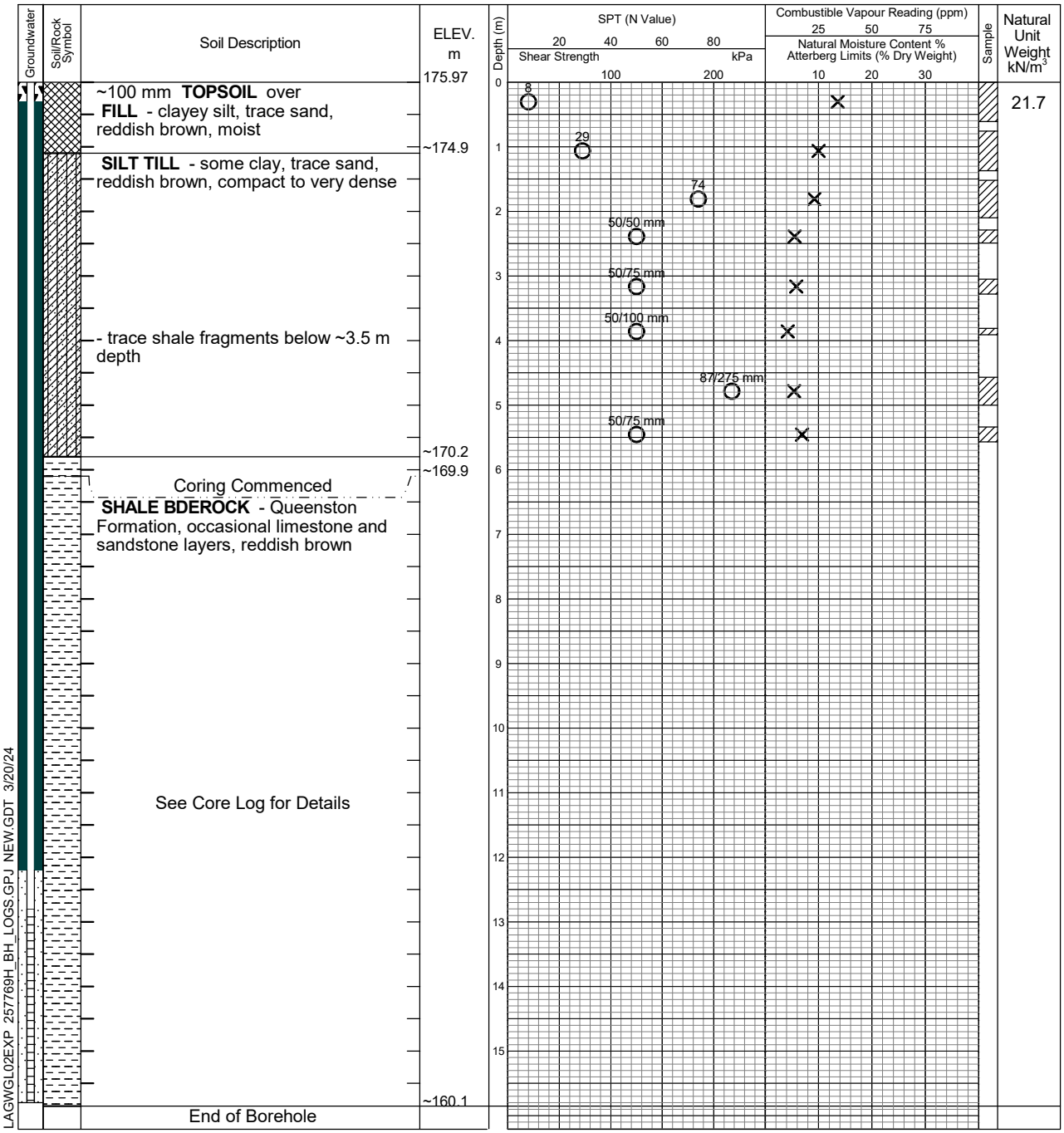
Date Drilled: January 4, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

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

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



LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Notes:
1. Borehole advanced to completion at ~15.9 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~6.1	Well
February 4, 2024	~6.3	Well

ROCK CORE LOG

BH 214D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/04/23	01/04/23	D. Panchal	16A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	1 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
170.3			See Borehole Log for Details															
	6																	
169.9			**QUEENSTON FORMATION**	1	B	F	C C	RU RP						1	100	88	95	Red
			Shale with interbedded siltstone, and clay layers.															
169.0	7		Shale (91%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~6.6 and between moderately weathered and unweathered below.															
168.9																		
168.8																		
168.7				1	B	F	M	RP						2	100	97	100	Red
168.6			Limestone (1%) fine grained, grey, medium strength, unweathered				M	SP										
168.4																		
168.1			Siltstone (8%) fine grained, grey, medium strength, unweathered.															
168.1	8		Discontinuities: bedding joints are rough planar to smooth undulating and at wide to close intervals.															
167.0	9			1	B	F	W	SU						3	100	100	100	Red
166.9							W	SP										
166.6																		
166.5																		
	10																	
				1	B	F	W	SP						4	100	100	100	Red
165.3							W	SP										
165.2																		
	11																	
164.5																		
164.4																		
164.0	12			1	B	F	W	SP						5	100	100	100	Red
163.9							W	SP										
163.7																		
163.6																		
163.0	13																	
162.8				1	B	F	W	SP						6	100	100	100	Red

ROCK CORE LOG

BH 214D

PROJECT	ORIENTATION	ELEVATION (m)	DATUM	PROJECT NUMBER
Geotechnical Investigation	Vertical	176.0	Geodetic	GTR-00257769-H0
LOCATION	**DATE STARTED**	**COMPLETED**	**LOGGED BY**	**DRAWING NUMBER**
5100 Erin Mills Parkway, Mississauga, Ontario	01/04/23	01/04/23	D. Panchal	16A
CLIENT	**DRILLER**	**DRILL TYPE**	**CORE BARREL**	**SHEET**
The Muzzo Group of COmpanies	Davis Drilling	CME 55 - Track	HQ	2 of 2

ELEVATION (m)	DEPTH (m)	SYMBOL	GENERAL DESCRIPTION	JOINT CHARACTERISTICS: NO. OF SETS	JOINT TYPE	ORIENTATION	SPACING	ROUGHNESS	FILLING	APERTURE (mm)	WEATHERING	STRENGTH	FRACTURE FREQUENCY	RUN NUMBER	RECOVERY (%)	RQD	WATER RECOVERY (%)	WATER COLOUR
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
162.0	14		**QUEENSTON FORMATION**				W	SP										
161.9			Shale with interbedded siltstone, and clay layers.															
161.6			Shale (91%) thinly bedded or laminated, red, low strength, alternating between heavily and slightly weathered to ~6.6 and between moderately weathered and unweathered below.															
161.6	15		Limestone (1%) fine grained, grey, medium strength, unweathered	1	B	F	W	SP						7	100	100	100	Red
160.7			Siltstone (8%) fine grained, grey, medium strength, unweathered.				W	SP										
160.5			Discontinuities: bedding joints are rough planar to smooth undulating and at wide to close intervals.															
160.3																		
160.1			End of Borehole at 15.9 m															
	16																	
	17																	
	18																	
	19																	
	20																	
	21																	

Log of Borehole 214S

Project No. GTR-00257769-H0 | Drawing No. 17

Project: Geotechnical Investigation | Sheet No. 1 of 1

Location: Erin Mills Town Centre, 5100 Erin Mills Parkway, MIssissauga, Ontario

Date Drilled: January 4, 2024

Drill Type: Hollow Stem Augers

Datum: Geodetic

Auger Sample ☒
SPT (N) Value ○ ▨
Dynamic Cone Test —
Shelby Tube ■
Field Vane Test S

Combustible Vapour Reading □
Natural Moisture ×
Plastic and Liquid Limit ⊢○
Undrained Triaxial at % Strain at Failure ⊕
Penetrometer ▲

Groundwater	Soil/Rock Symbol	Soil Description	ELEV. m	Depth (m)	SPT (N Value) 20 40 60 80 / Shear Strength 100 200 kPa	Combustible Vapour Reading (ppm) 25 50 75 / Natural Moisture Content % Atterberg Limits (% Dry Weight) 10 20 30	Sample	Natural Unit Weight kN/m³
		See Log of Borehole 214D for Details	175.97	0				
				1				
				2				
				3				
				4				
				5				
			~169.9	6				
		End of Borehole						

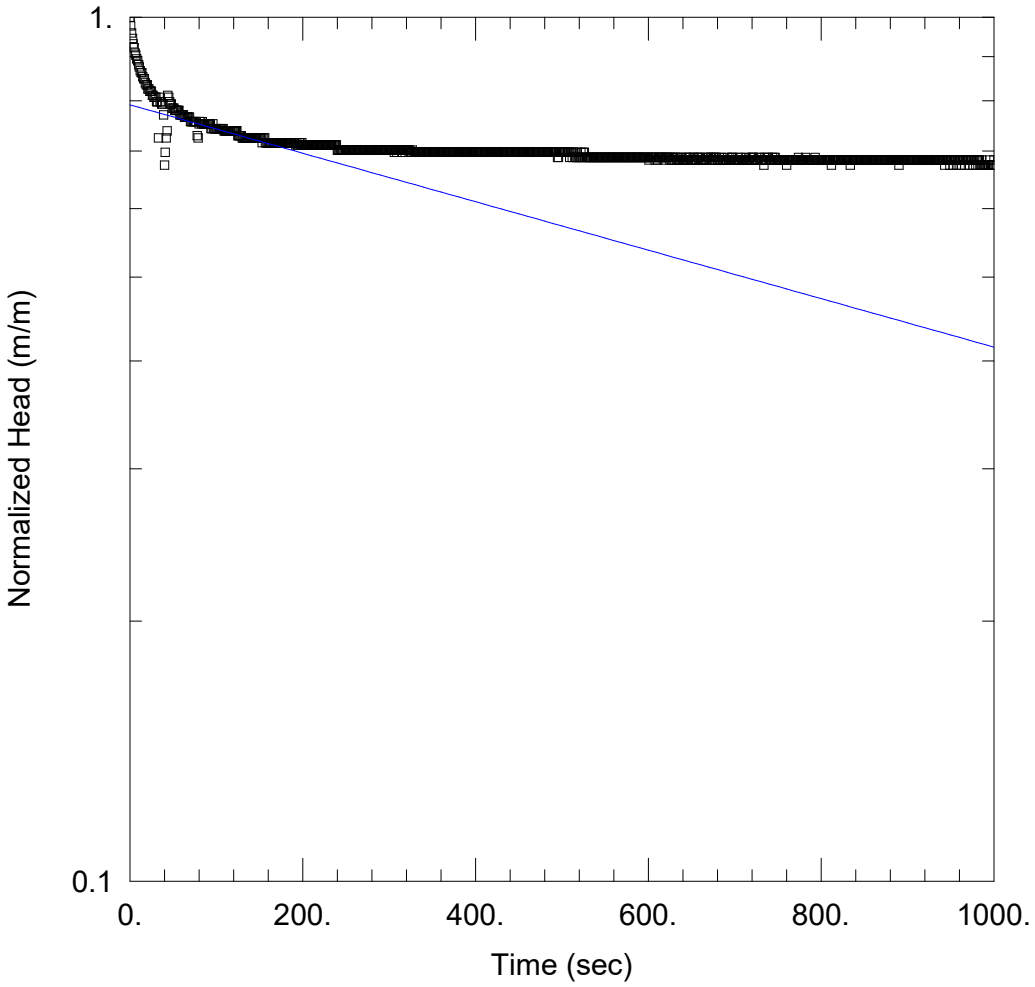
Notes:
1. Borehole advanced to completion at ~6.1 m depth by conventional soil sampling methods using a specialist drilling subcontractor. For borehole definitions, see notes prior to logs.
2. This drawing forms part of and must be read in conjunction with the subject report (Ref. No.: GTR-00257769-H0); borehole data requires interpretation assistance by exp professional staff before use by others.

exp.
Brampton

Elapsed Time	Water Level (m)	Hole Open to (m)
January 29, 2024	~5.9	Well
February 4, 2024	~6.0	Well

LAGWGL02EXP 257769H_BH_LOGS.GPJ NEW.GDT 3/20/24

Appendix C – SWRT Procedures and Results



BH 20 RISING HEAD

Data Set: \...\BH 20 RH.aqt
Date: 11/01/22 Time: 11:26:00

PROJECT INFORMATION

Company: EXP Services Inc
Client: Muzzo Group
Project: GTR-00257769-G0
Location: 5100 Erin Mills Parkway
Test Well: BH 20 Rising Head
Test Date: October 31, 2022

AQUIFER DATA

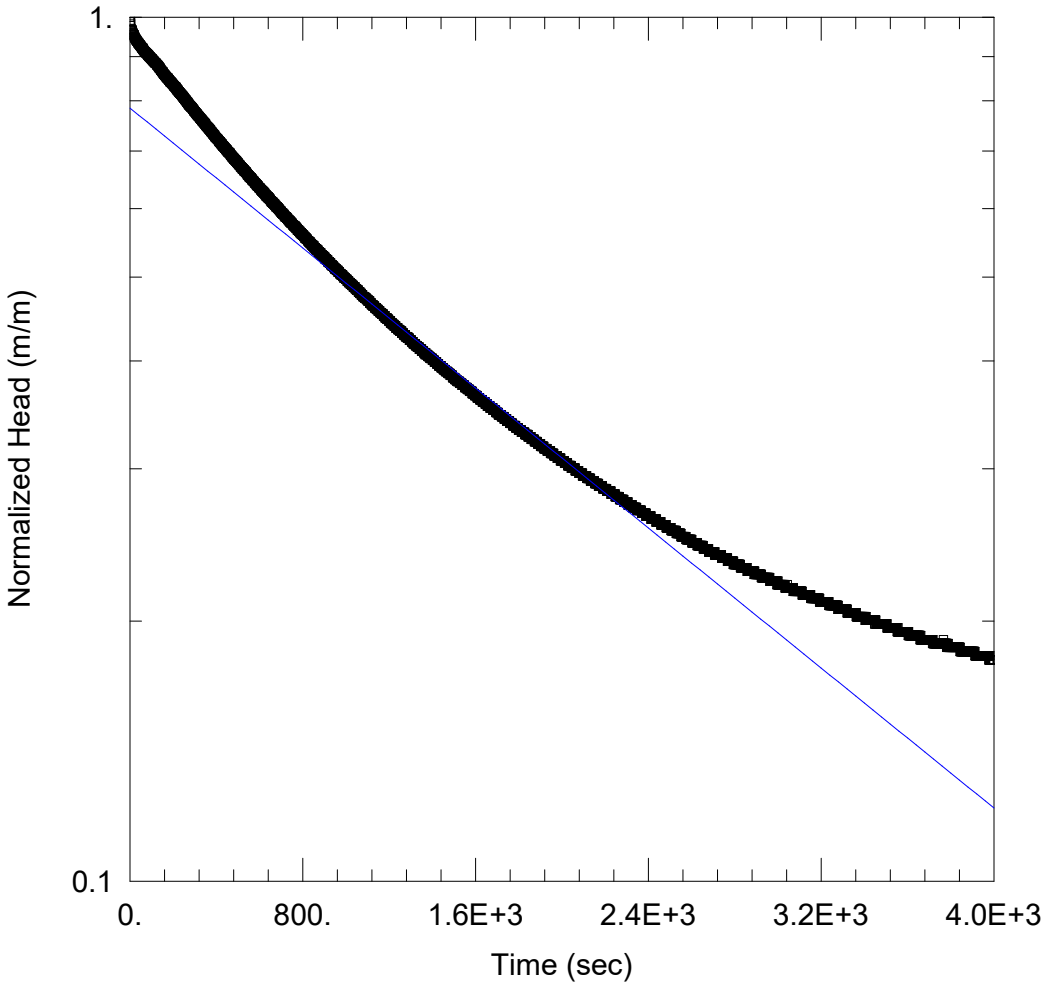
Saturated Thickness: 0.89 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH 20 Rising Head)

Initial Displacement: 0.218 m
Total Well Penetration Depth: 3. m
Casing Radius: 0.025 m
Static Water Column Height: 0.89 m
Screen Length: 3. m
Well Radius: 0.025 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 1.201E-6 m/sec
y0 = 0.1726 m



BH 101 FALLING HEAD

Data Set: C:\...\BH 101 FH.aqt
Date: 10/31/22 Time: 23:00:40

PROJECT INFORMATION

Company: EXP Services Inc
Client: Muzzo Group
Project: GTR-00257769-G0
Location: 5100 Erin Mills Parkway
Test Well: BH 101 Falling Head
Test Date: October 31, 2022

AQUIFER DATA

Saturated Thickness: 6.305 m Anisotropy Ratio (Kz/Kr): 1.

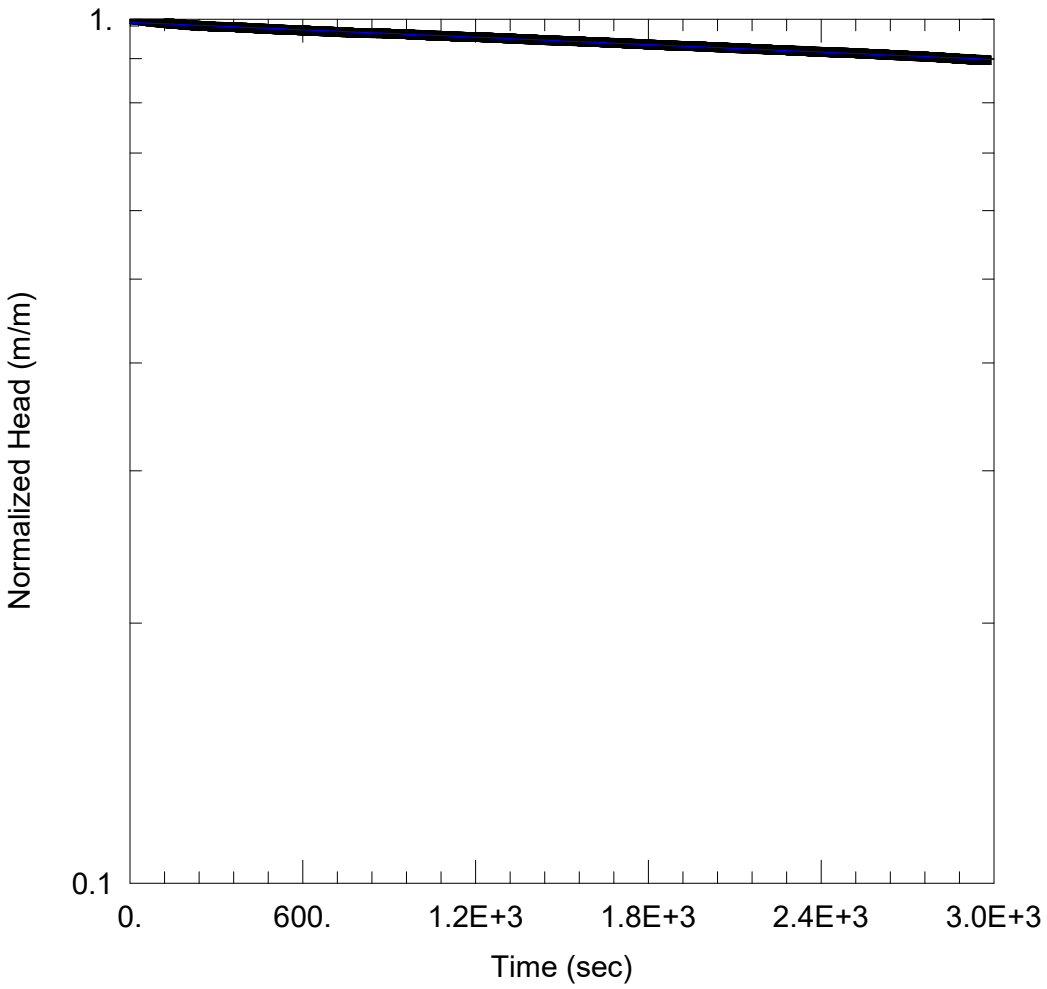
WELL DATA (BH 101 Falling Head)

Initial Displacement: 1.497 m
Total Well Penetration Depth: 6.305 m
Casing Radius: 0.025 m
Static Water Column Height: 6.305 m
Screen Length: 3. m
Well Radius: 0.025 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

K = 2.663E-7 m/sec y0 = 1.175 m



BH/MW 202 RISING HEAD

Data Set: E:\...\BH 202 Rising Head.aqt
Date: 02/13/24 Time: 12:09:01

PROJECT INFORMATION

Company: EXP Services Inc.
Client: The Muzzo Group of Companies
Project: GTR-00257769-H0
Location: 5100 Erin Mills Parkway
Test Well: BH/MW 202 Rising Head
Test Date: February 2, 2024

AQUIFER DATA

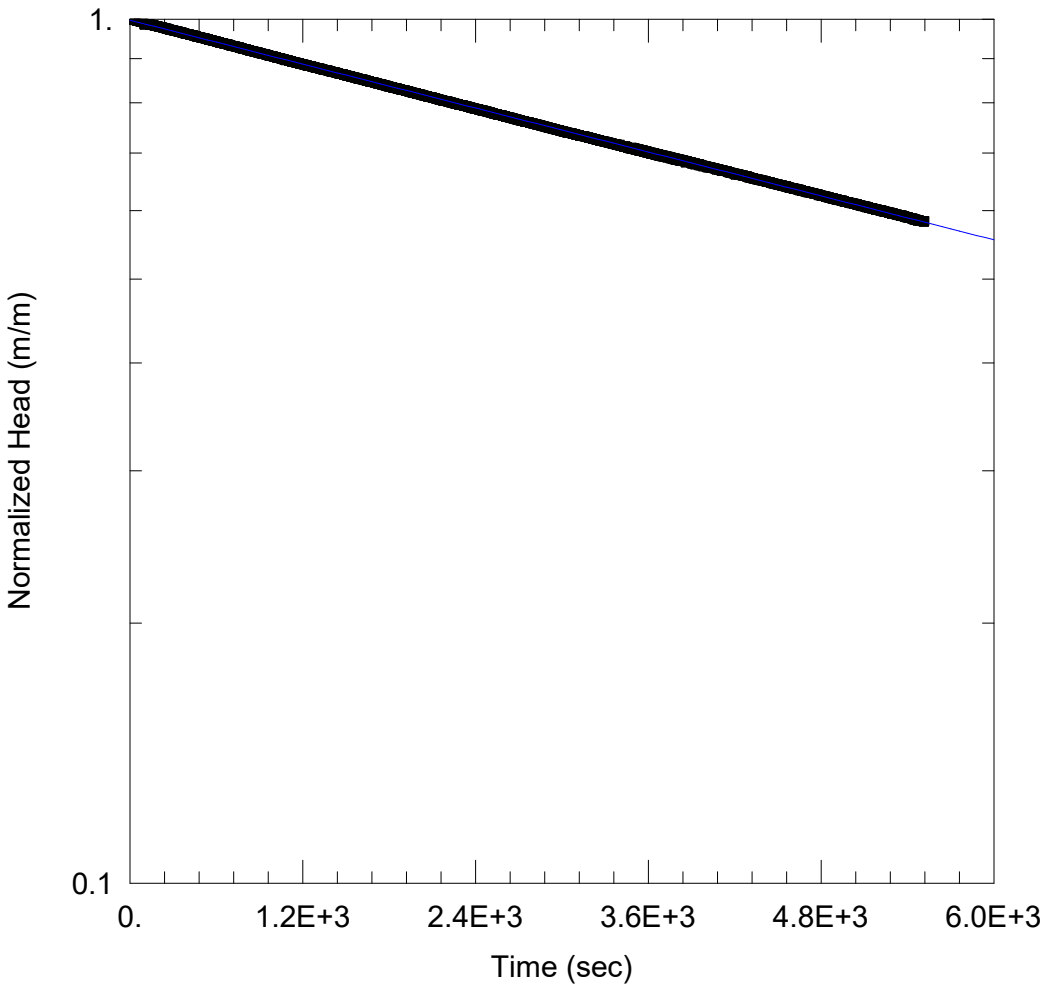
Saturated Thickness: 1.24 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 202 Rising Head)

Initial Displacement: 3.993 m
Total Well Penetration Depth: 3. m
Casing Radius: 0.0254 m
Static Water Column Height: 1.24 m
Screen Length: 3. m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 4.555E-8 m/sec
y0 = 3.959 m



BH/MW 205 RISING HEAD

Data Set: E:\...\BH 205 Rising Head.aqt
Date: 02/13/24 Time: 12:22:27

PROJECT INFORMATION

Company: EXP Services Inc.
Client: The Muzzo Group of Companies
Project: GTR-00257769-H0
Location: 5100 Erin Mills Parkway
Test Well: BH/MW 205 Rising Head
Test Date: February 2, 2024

AQUIFER DATA

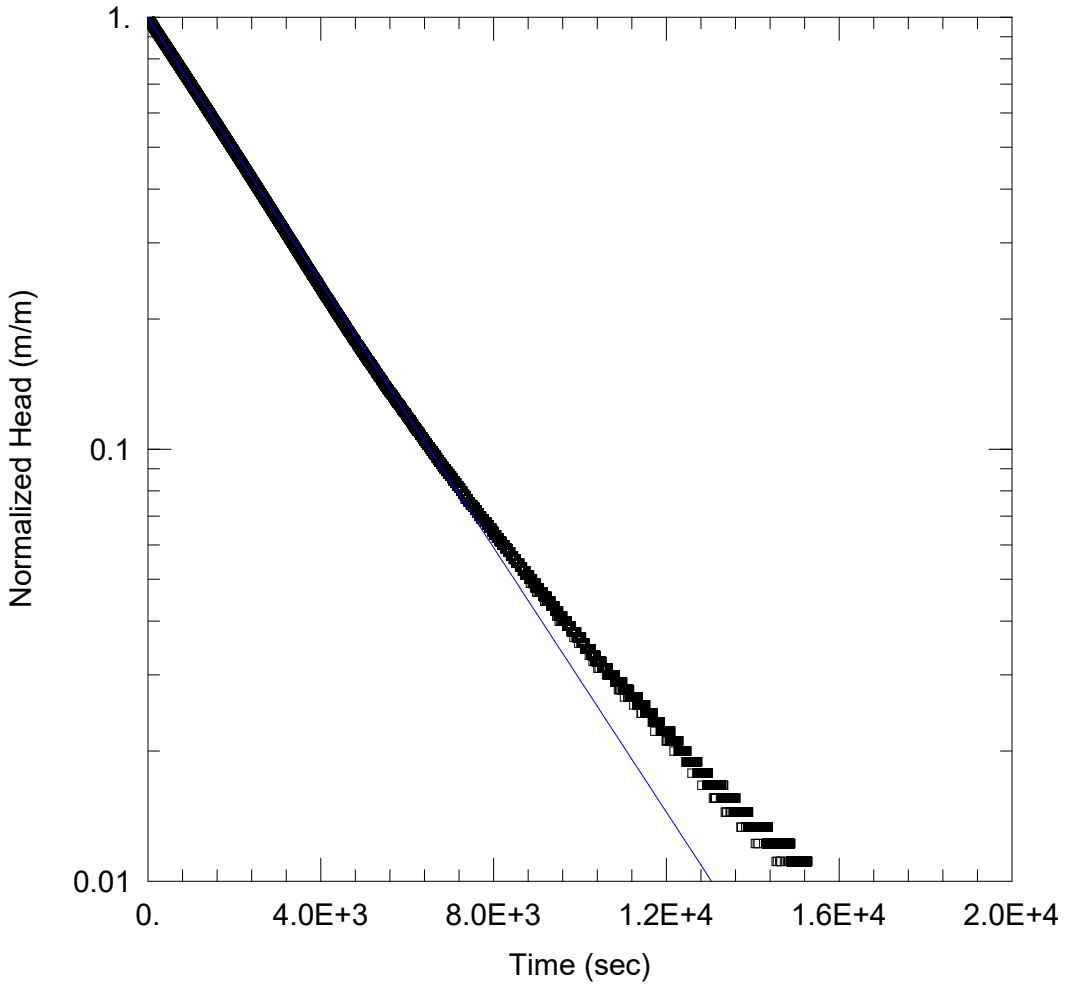
Saturated Thickness: 9.75 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 205 Rising Head)

Initial Displacement: 3.327 m
Total Well Penetration Depth: 9.75 m
Casing Radius: 0.0254 m
Static Water Column Height: 9.75 m
Screen Length: 3. m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 5.733E-8 m/sec
y0 = 3.318 m



BH/MW 207 RISING HEAD

Data Set: E:\...\BH 207 Rising Head.aqt
Date: 02/13/24 Time: 12:26:25

PROJECT INFORMATION

Company: EXP Services Inc.
Client: The Muzzo Group of Companies
Project: GTR-00257769-H0
Location: 5100 Erin Mills Parkway
Test Well: BH/MW 207 Rising Head
Test Date: February 2, 2024

AQUIFER DATA

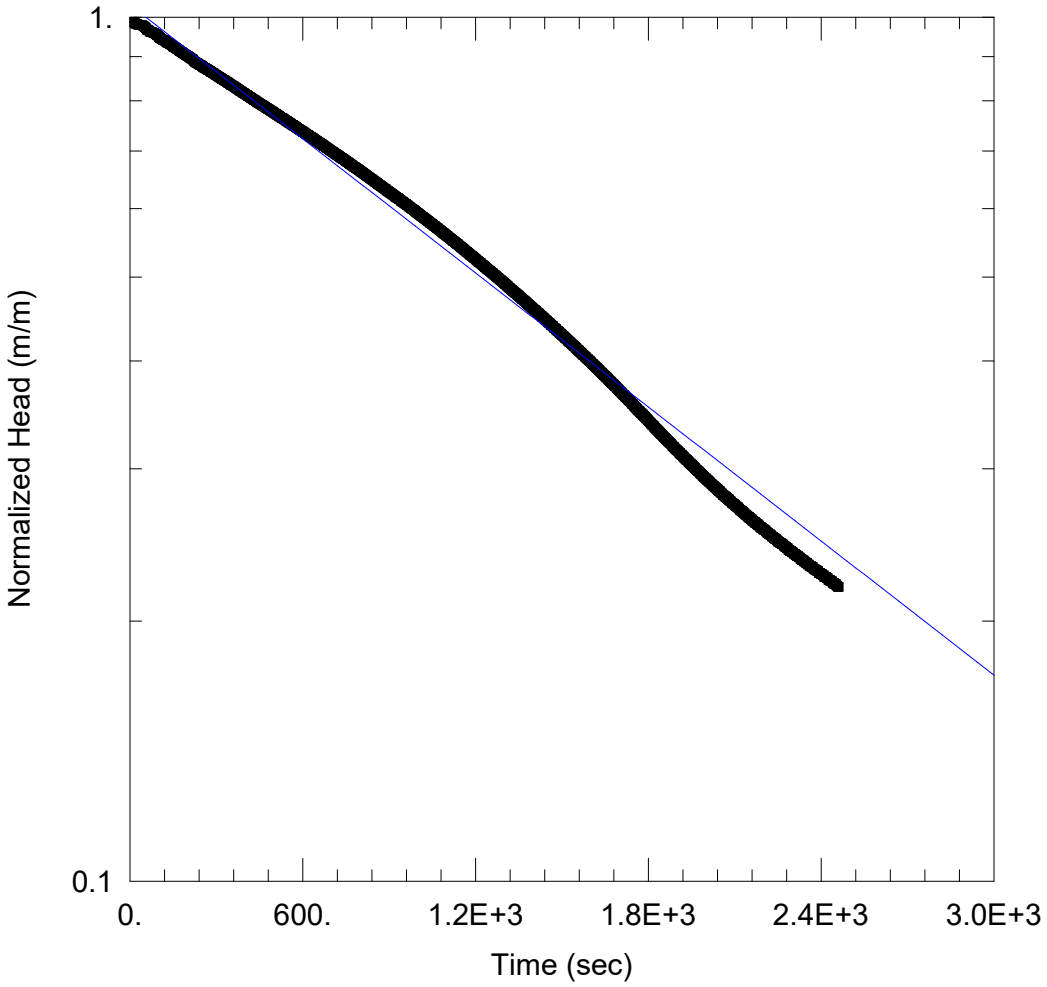
Saturated Thickness: 8.06 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 207 Rising Head)

Initial Displacement: 2.7 m
Total Well Penetration Depth: 8.06 m
Casing Radius: 0.0254 m
Static Water Column Height: 8.06 m
Screen Length: 3. m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 1.808E-7 m/sec
y0 = 2.678 m



BH/MW 209D RISING HEAD

Data Set: E:\...\BH 209D Rising Head.aqt
Date: 02/13/24 Time: 12:30:05

PROJECT INFORMATION

Company: EXP Services Inc.
Client: The Muzzo Group of Companies
Project: GTR-00257769-H0
Location: 5100 Erin Mills Parkway
Test Well: BH/MW 209D Rising Head
Test Date: February 2, 2024

AQUIFER DATA

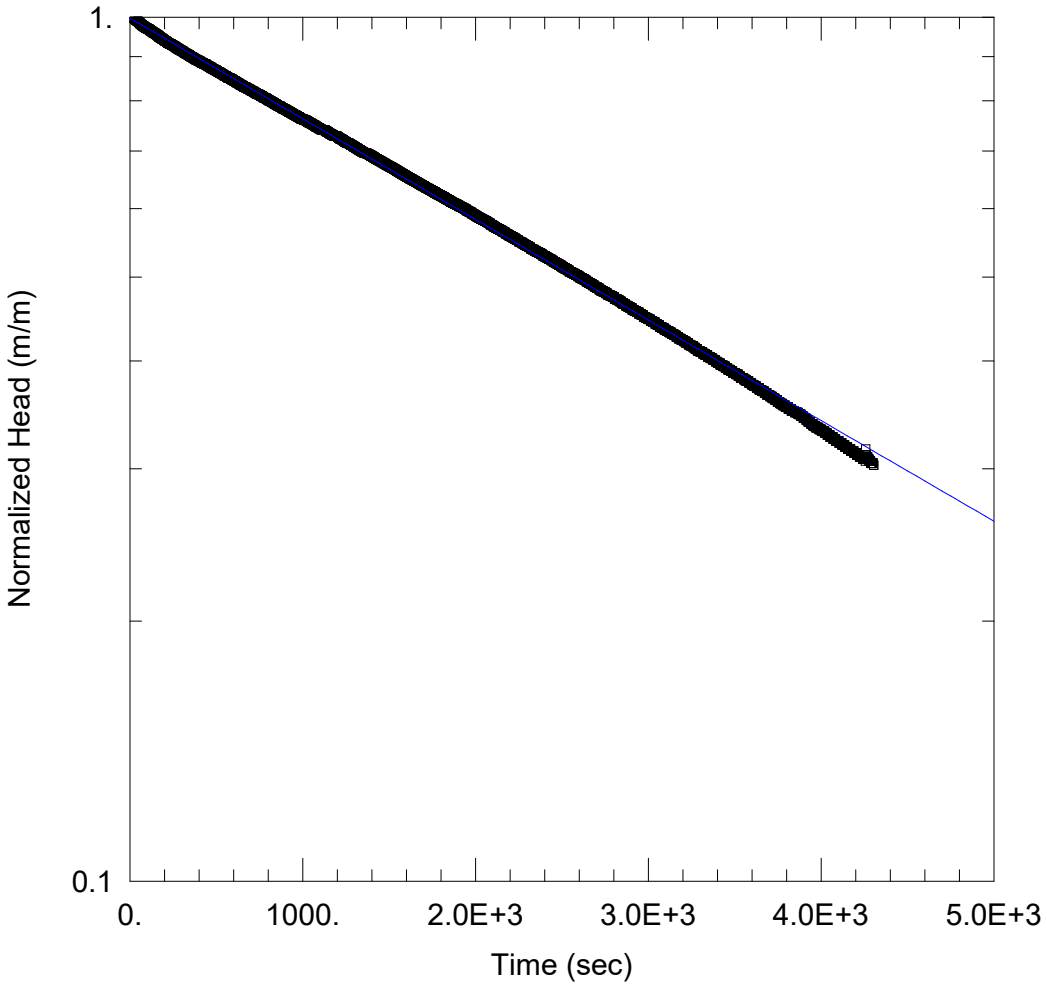
Saturated Thickness: 6.63 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 209D Rising Head)

Initial Displacement: 3.534 m
Total Well Penetration Depth: 6.63 m
Casing Radius: 0.0254 m
Static Water Column Height: 6.63 m
Screen Length: 3. m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 3.499E-7 m/sec
y0 = 3.652 m



BH/MW 212 FALLING HEAD

Data Set: E:\...\BH 212 Falling Head.aqt
Date: 02/13/24 Time: 12:36:23

PROJECT INFORMATION

Company: EXP Services Inc.
Client: The Muzzo Group of Companies
Project: GTR-00257769-H0
Location: 5100 Erin Mills Parkway
Test Well: BH/MW 212 Falling Head
Test Date: February 2, 2024

AQUIFER DATA

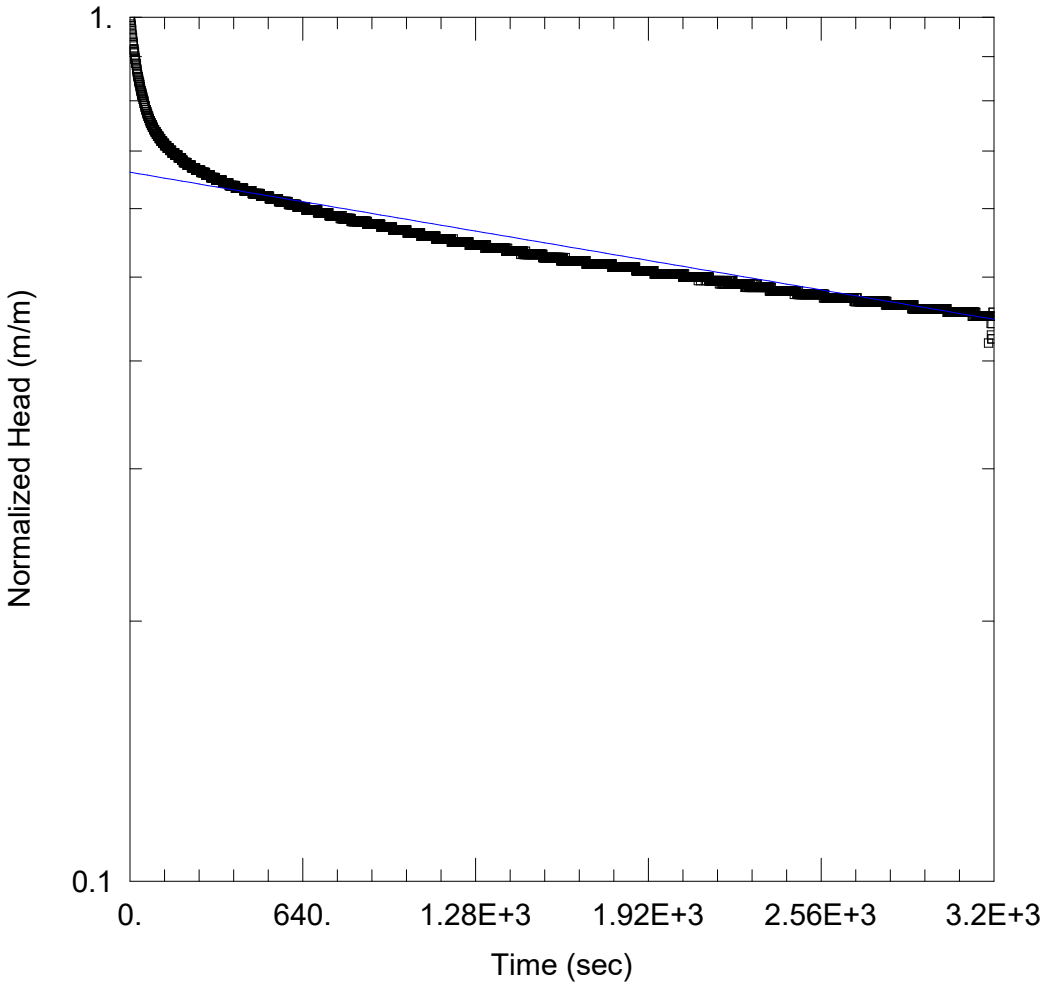
Saturated Thickness: 9.28 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 212 Falling Head)

Initial Displacement: 1.773 m
Total Well Penetration Depth: 9.28 m
Casing Radius: 0.0254 m
Static Water Column Height: 9.28 m
Screen Length: 3. m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 1.576E-7 m/sec
y0 = 1.768 m



BH/MW 214D RISING HEAD

Data Set: E:\...\BH 214D Rising Head.aqt
Date: 02/13/24 Time: 12:40:59

PROJECT INFORMATION

Company: EXP Services Inc.
Client: The Muzzo Group of Companies
Project: GTR-00257769-H0
Location: 5100 Erin Mills Parkway
Test Well: BH/MW 214D Rising Head
Test Date: February 2, 2024

AQUIFER DATA

Saturated Thickness: 0.16 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH/MW 214D Rising Head)

Initial Displacement: 0.672 m
Total Well Penetration Depth: 3. m
Casing Radius: 0.0254 m
Static Water Column Height: 0.16 m
Screen Length: 3. m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Hvorslev

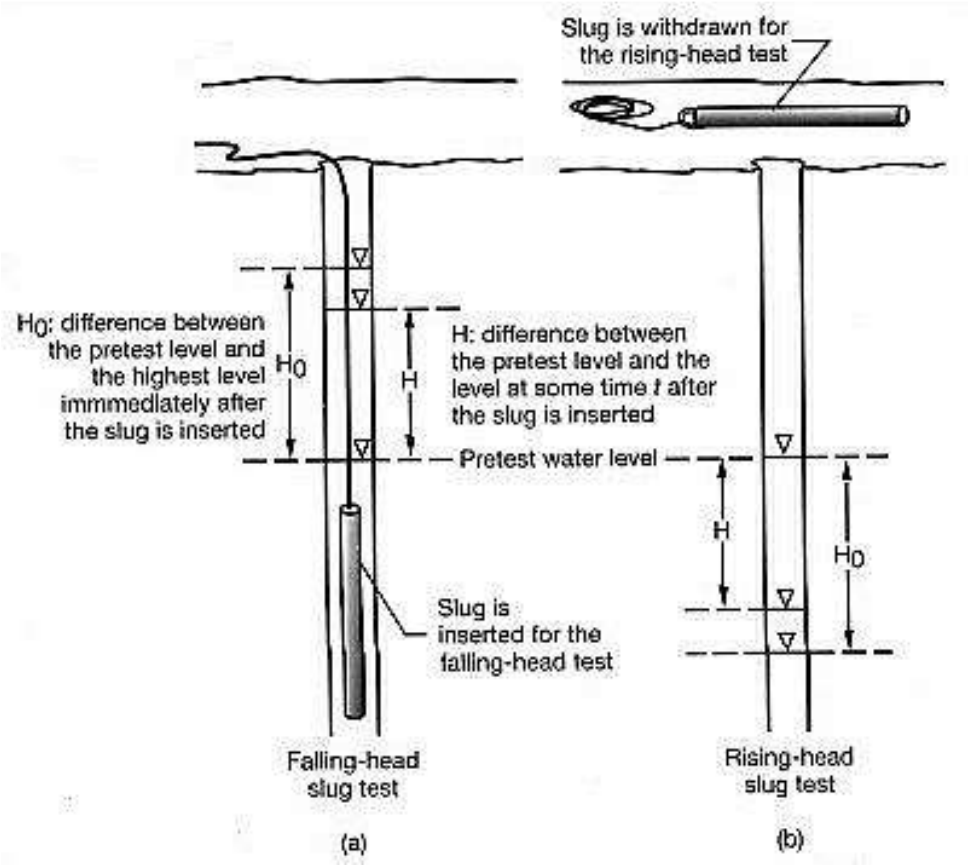
K = 1.309E-6 m/sec y0 = 0.4445 m

Single Well Response Test Procedure

A Single Well Response Test (SWRT), also known as a bail test or a slug test, is conducted in order to determine the saturated hydraulic conductivity (K) of an aquifer. The method of the SWRT is to characterize the change of groundwater level in a well or borehole over time.

In order to ensure consistency and repeatability, all **exp** employees are to follow the procedure outlined in this document when conducting SWRTs.

The figure below depicts a schematic of a slug and bail test and the respective water level changes.



Initials ___

Slug Test Procedure

Equipment Required

- Copy of a signed health and safety plan
- Copy of the work program
- PPE as required by Site-Specific HASP
- Copy of the monitoring well location plan/site plan
- Waterproof pen and bound field note book
- SWRT field data Entry form
- Disposable gloves
- Duct tape
- Deionized water
- Alconox (phosphate free detergent)
- Spray bottles
- Electronic water level meter and spare batteries
- Solid PVC or stainless steel slug of known volume or clean water
- String (nylon)
- Water pressure transducer (data logger) and baro-logger
- Watch or stop watch with second hand
- Plastic sheeting

Testing Procedure

1. Remove cap from well and collect static water level
2. Remove waterra tubing/bailer and place in garbage bag. Record static water level measurement again.
3. Lower the slug into the well and record the dynamic water level.
4. Record the drawdown (for the slug test) at set five (5) second intervals for the first five (5) minutes, then reduce to every one (1) minute.
5. Continue recording the drawdown until 95% recovery is reached. To calculate this value: Find the difference between the dynamic water level and the static water level, then multiply by 95% (.95). Add the resulting value to the dynamic water level.

   (Static Water Level – Dynamic Water Level).95 + Static Water Level = 95% Recovery Value
6. Once complete, replace the waterra tubing/bailer and re-secure the well cap.

Note: If the well is deep, more than one slug may be inserted by attaching the slugs to a series.

Slugs must be washed with methanol, then lab grade soap, and then rinsed with de-ionized water after each use.

Based on the recorded observations, the hydraulic conductivity (in m/s) of the aquifer will be determined. In order to determine the hydraulic conductivity; the well diameter, radius of the borehole and length of the screen will also be required.

Bail Test Procedure

Equipment Required

- 20 L (5 gal) Graduated pail
- Stop watch or watch with seconds
- Garbage bags
- Water level meter
- Field sheets/log book
- Latex Gloves
- Bailer and Rope

Procedure

1. Remove cap from well and collect static water level.
2. If using a **bailer**:
    a. Affix the rope to the bailer.
    b. Remove the waterra tubing and place in garbage bag
    c. Record static water level measurement again.
    d. Record how much water was removed by either counting the number of full bailers or emptying removed water into a container.
    e. Quickly lower the bailer into the well and remove.
    f. Continue this process until the water level will reduce no further.
    g. Record the dynamic water level.
3. If using **waterra** to bail the water:
    a. Pump the water into graduated bucket until the water level will reduce no further.
    b. Record how much water has been removed.
    c. Record the dynamic water level.
4. Record the recovery at set five (5) second intervals for the first (5) minutes, then reduce to every one (1) minute.
5. Continue recording the drawdown/recovery until 95% recovery is reached.
6. Once complete, replace any waterra tubing that may have been removed from the well and re-secure the well cap.

Appendix D – Laboratory's Certificates of Analysis

Your P.O. #: ENV – BRM
Your Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your C.O.C. #: 904630-01-01

Attention: Francois Chartier

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2022/11/15
Report #: R7388943
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2V6314
Received: 2022/10/28, 16:56

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ABN Compounds in Water by GC/MS	1	2022/10/31	2022/11/01	CAM SOP-00301	EPA 8270 m
Carbonaceous BOD	1	2022/10/29	2022/11/03	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2022/10/31	2022/10/31	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2022/10/31	2022/11/03	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2022/10/29	2022/10/31	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	N/A	2022/11/03	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2022/10/28	CAM SOP-00552	
Total Nonylphenol in Liquids by HPLC	1	2022/11/01	2022/11/02	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2022/11/01	2022/11/02	CAM SOP-00313	Bureau Veritas
Animal and Vegetable Oil and Grease	1	N/A	2022/11/05	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2022/11/05	2022/11/05	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl in Water	1	2022/11/01	2022/11/02	CAM SOP-00309	EPA 8082A m
pH	1	2022/10/31	2022/11/03	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2022/11/04	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Colourimetry	1	N/A	2022/11/07	CAM SOP-00464	EPA 375.4 m
Total Kjeldahl Nitrogen in Water	1	2022/11/02	2022/11/03	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2022/11/05	2022/11/05	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2022/11/01	2022/11/02	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2022/11/05	CAM SOP-00228	EPA 8260C m

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.

Your P.O. #: ENV – BRM
Your Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your C.O.C. #: 904630-01-01

Attention: Francois Chartier

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2022/11/15
Report #: R7388943
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C2V6314
Received: 2022/10/28, 16:56

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) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Patricia Legette
Project Manager
15 Nov 2022 13:43:41

Please direct all questions regarding this Certificate of Analysis to:
Patricia Legette, Project Manager
Email: Patricia.Legette@bureauveritas.com
Phone# (905)817-5799
==========

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

Bureau Veritas Job #: C2V6314
Report Date: 2022/11/15

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID			UDN173			UDN173		
Sampling Date			2022/10/28 14:45			2022/10/28 14:45		
COC Number			904630-01-01			904630-01-01		
	UNITS	Criteria	BH-101	RDL	QC Batch	BH-101 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	-	2.0	0.50	8311791			
Inorganics								
Total Carbonaceous BOD	mg/L	-	ND	2	8314278	ND	2	8314278
Fluoride (F-)	mg/L	-	0.32	0.10	8317666			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	1.5	0.10	8321895			
pH	pH	6:9	7.78		8317668			
Phenols-4AAP	mg/L	0.008	ND	0.0010	8326699			
Total Suspended Solids	mg/L	15	**27**	10	8317203	**29**	10	8317203
Dissolved Sulphate (SO4)	mg/L	-	26	1.0	8317818			
Total Cyanide (CN)	mg/L	0.02	ND	0.0050	8315904	ND	0.0050	8315904
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	-	2.0	0.50	8328693			
Total Oil & Grease Mineral/Synthetic	mg/L	-	ND	0.50	8328696			
Miscellaneous Parameters								
Nonylphenol Ethoxylate (Total)	mg/L	-	ND	0.025	8318084			
Nonylphenol (Total)	mg/L	-	ND	0.001	8318078			
Metals								
Mercury (Hg)	mg/L	0.0004	ND	0.00010	8314675			
Total Aluminum (Al)	ug/L	1000	580	4.9	8320768			
Total Antimony (Sb)	ug/L	-	ND	0.50	8320768			
Total Arsenic (As)	ug/L	20	5.0	1.0	8320768			
Total Cadmium (Cd)	ug/L	8	ND	0.090	8320768			
Total Chromium (Cr)	ug/L	80	ND	5.0	8320768			
Total Cobalt (Co)	ug/L	-	1.1	0.50	8320768			
Total Copper (Cu)	ug/L	40	1.1	0.90	8320768			
Total Lead (Pb)	ug/L	120	ND	0.50	8320768			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID			UDN173			UDN173		
Sampling Date			2022/10/28 14:45			2022/10/28 14:45		
COC Number			904630-01-01			904630-01-01		
	UNITS	Criteria	BH-101	RDL	QC Batch	BH-101 Lab-Dup	RDL	QC Batch
Total Manganese (Mn)	ug/L	2000	370	2.0	8320768			
Total Molybdenum (Mo)	ug/L	-	7.3	0.50	8320768			
Total Nickel (Ni)	ug/L	80	2.3	1.0	8320768			
Total Phosphorus (P)	ug/L	400	ND	100	8320768			
Total Selenium (Se)	ug/L	20	ND	2.0	8320768			
Total Silver (Ag)	ug/L	120	ND	0.090	8320768			
Total Tin (Sn)	ug/L	-	1.1	1.0	8320768			
Total Titanium (Ti)	ug/L	-	22	5.0	8320768			
Total Zinc (Zn)	ug/L	200	7.5	5.0	8320768			
Semivolatile Organics								
Bis(2-ethylhexyl)phthalate	ug/L	-	ND	2.0	8316914			
Di-N-butyl phthalate	ug/L	-	ND	2.0	8316914			
Volatile Organics								
Benzene	ug/L	2	0.44	0.40	8316663			
Chloroform	ug/L	-	ND	0.40	8316663			
1,2-Dichlorobenzene	ug/L	5.6	ND	0.80	8316663			
1,4-Dichlorobenzene	ug/L	6.8	ND	0.80	8316663			
cis-1,2-Dichloroethylene	ug/L	-	ND	1.0	8316663			
trans-1,3-Dichloropropene	ug/L	-	ND	0.80	8316663			
Ethylbenzene	ug/L	2	ND	0.40	8316663			
Methylene Chloride(Dichloromethane)	ug/L	5.2	ND	4.0	8316663			
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	ND	20	8316663			
Styrene	ug/L	-	ND	0.80	8316663			
1,1,2,2-Tetrachloroethane	ug/L	17	ND	0.80	8316663			
Tetrachloroethylene	ug/L	4.4	ND	0.40	8316663			
Toluene	ug/L	2	ND	0.40	8316663			
Trichloroethylene	ug/L	7.6	ND	0.40	8316663			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/15

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID			UDN173			UDN173		
Sampling Date			2022/10/28 14:45			2022/10/28 14:45		
COC Number			904630-01-01			904630-01-01		
	UNITS	Criteria	BH-101	RDL	QC Batch	BH-101 Lab-Dup	RDL	QC Batch
p+m-Xylene	ug/L	-	ND	0.40	8316663			
o-Xylene	ug/L	-	ND	0.40	8316663			
Total Xylenes	ug/L	4.4	ND	0.40	8316663			
PCBs								
Total PCB	ug/L	0.4	ND	0.05	8318695			
Microbiological								
Escherichia coli	CFU/100mL	200	<10	10	8313975			
Surrogate Recovery (%)								
2,4,6-Tribromophenol	%	-	2.0 (1)		8316914			
2-Fluorobiphenyl	%	-	56		8316914			
2-Fluorophenol	%	-	0.70 (1)		8316914			
D14-Terphenyl	%	-	97		8316914			
D5-Nitrobenzene	%	-	91		8316914			
D5-Phenol	%	-	7.3 (1)		8316914			
Decachlorobiphenyl	%	-	71		8318695			
4-Bromofluorobenzene	%	-	89		8316663			
D4-1,2-Dichloroethane	%	-	114		8316663			
D8-Toluene	%	-	90		8316663			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
(1) Surrogate recovery was below our acceptance limit. Since the surrogate standard is not relevant to the analysis of the required phthalate esters, it has been evaluated as having no significant effect on the data reported.

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exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

TEST SUMMARY

Bureau Veritas ID: UDN173
Sample ID: BH-101
Matrix: Water

Collected: 2022/10/28
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in Water by GC/MS	GC/MS	8316914	2022/10/31	2022/11/01	Anh Lieu
Carbonaceous BOD	DO	8314278	2022/10/29	2022/11/03	Gurjot Kaur
Total Cyanide	SKAL/CN	8315904	2022/10/31	2022/10/31	Prgya Panchal
Fluoride	ISE	8317666	2022/10/31	2022/11/03	Kien Tran
Mercury in Water by CVAA	CV/AA	8314675	2022/10/29	2022/10/31	Japneet Gill
Total Metals Analysis by ICPMS	ICP/MS	8320768	N/A	2022/11/03	Rupinder Gill
E.coli, (CFU/100mL)	PL	8313975	N/A	2022/10/28	Farhana Rahman
Total Nonylphenol in Liquids by HPLC	LC/FLU	8318078	2022/11/01	2022/11/02	Furneesh Kumar
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	8318084	2022/11/01	2022/11/02	Furneesh Kumar
Animal and Vegetable Oil and Grease	BAL	8311791	N/A	2022/11/05	Automated Statchk
Total Oil and Grease	BAL	8328693	2022/11/05	2022/11/05	Maulik Jashubhai Patel
Polychlorinated Biphenyl in Water	GC/ECD	8318695	2022/11/01	2022/11/02	Li Peng
pH	AT	8317668	2022/10/31	2022/11/03	Kien Tran
Phenols (4AAP)	TECH/PHEN	8326699	N/A	2022/11/04	Mandeep Kaur
Sulphate by Automated Colourimetry	KONE	8317818	N/A	2022/11/07	Samuel Law
Total Kjeldahl Nitrogen in Water	SKAL	8321895	2022/11/02	2022/11/03	Rajni Tyagi
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8328696	2022/11/05	2022/11/05	Maulik Jashubhai Patel
Total Suspended Solids	BAL	8317203	2022/11/01	2022/11/02	Masood Siddiqui
Volatile Organic Compounds in Water	GC/MS	8316663	N/A	2022/11/05	Mariana Cojocar

Bureau Veritas ID: UDN173 Dup
Sample ID: BH-101
Matrix: Water

Collected: 2022/10/28
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8314278	2022/10/29	2022/11/03	Gurjot Kaur
Total Cyanide	SKAL/CN	8315904	2022/10/31	2022/10/31	Prgya Panchal
Total Suspended Solids	BAL	8317203	2022/11/01	2022/11/02	Masood Siddiqui

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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/15

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

GENERAL COMMENTS

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

Package 1	13.3°C

Revised Report (2022/11/15): Mississauga Storm criteria policy has been included in this CofA as per Peyman Sayyah's request.

Sample UDN173 [BH-101] : VOC Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			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
8316663	4-Bromofluorobenzene	2022/11/05	101	70 - 130	102	70 - 130	97	%				
8316663	D4-1,2-Dichloroethane	2022/11/05	103	70 - 130	100	70 - 130	111	%				
8316663	D8-Toluene	2022/11/05	108	70 - 130	107	70 - 130	90	%				
8316914	2,4,6-Tribromophenol	2022/11/01	98	10 - 130	95	10 - 130	67	%				
8316914	2-Fluorobiphenyl	2022/11/01	71	30 - 130	63	30 - 130	69	%				
8316914	2-Fluorophenol	2022/11/01	62	10 - 130	51	10 - 130	43	%				
8316914	D14-Terphenyl	2022/11/01	98	30 - 130	93	30 - 130	85	%				
8316914	D5-Nitrobenzene	2022/11/01	105	30 - 130	83	30 - 130	80	%				
8316914	D5-Phenol	2022/11/01	43	10 - 130	34	10 - 130	29	%				
8318695	Decachlorobiphenyl	2022/11/02	72	60 - 130	81	60 - 130	72	%				
8314278	Total Carbonaceous BOD	2022/11/03					ND,RDL=2	mg/L	NC	30	94	85 - 115
8314675	Mercury (Hg)	2022/10/31	91	75 - 125	95	80 - 120	ND, RDL=0.00010	mg/L	NC	20		
8315904	Total Cyanide (CN)	2022/10/31	97	80 - 120	99	80 - 120	ND, RDL=0.0050	mg/L	NC	20		
8316663	1,1,2,2-Tetrachloroethane	2022/11/05	100	70 - 130	90	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	1,2-Dichlorobenzene	2022/11/05	99	70 - 130	93	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	1,4-Dichlorobenzene	2022/11/05	112	70 - 130	109	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	Benzene	2022/11/05	95	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	Chloroform	2022/11/05	99	70 - 130	95	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	cis-1,2-Dichloroethylene	2022/11/05	102	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30		
8316663	Ethylbenzene	2022/11/05	96	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	Methyl Ethyl Ketone (2-Butanone)	2022/11/05	110	60 - 140	103	60 - 140	ND, RDL=10	ug/L	NC	30		
8316663	Methylene Chloride(Dichloromethane)	2022/11/05	91	70 - 130	95	70 - 130	ND, RDL=2.0	ug/L	NC	30		
8316663	o-Xylene	2022/11/05	95	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	p+m-Xylene	2022/11/05	103	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	Styrene	2022/11/05	111	70 - 130	111	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	Tetrachloroethylene	2022/11/05	90	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L	5.8	30		
8316663	Toluene	2022/11/05	101	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30		

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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
8316663	Total Xylenes	2022/11/05					ND, RDL=0.20	ug/L	NC	30		
8316663	trans-1,3-Dichloropropene	2022/11/05	115	70 - 130	103	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	Trichloroethylene	2022/11/05	97	70 - 130	99	70 - 130	ND, RDL=0.20	ug/L	11	30		
8316914	Bis(2-ethylhexyl)phthalate	2022/11/01	105	30 - 130	104	30 - 130	ND, RDL=2.0	ug/L	NC	40		
8316914	Di-N-butyl phthalate	2022/11/01	101	30 - 130	107	30 - 130	ND, RDL=2.0	ug/L	NC	40		
8317203	Total Suspended Solids	2022/11/02					ND, RDL=10	mg/L	7.1	25	96	85 - 115
8317666	Fluoride (F-)	2022/11/03	100	80 - 120	101	80 - 120	ND, RDL=0.10	mg/L	3.8	20		
8317668	pH	2022/11/03			102	98 - 103			0.30	N/A		
8317818	Dissolved Sulphate (SO4)	2022/11/07	NC	75 - 125	108	80 - 120	ND, RDL=1.0	mg/L	0.84	20		
8318078	Nonylphenol (Total)	2022/11/02	97	50 - 130	79	50 - 130	ND, RDL=0.001	mg/L	NC	40		
8318084	Nonylphenol Ethoxylate (Total)	2022/11/02	112	50 - 130	98	50 - 130	ND, RDL=0.025	mg/L	NC	40		
8318695	Total PCB	2022/11/02	67	60 - 130	82	60 - 130	ND, RDL=0.05	ug/L	NC	40		
8320768	Total Aluminum (Al)	2022/11/03	97	80 - 120	95	80 - 120	ND, RDL=4.9	ug/L	0.020	20		
8320768	Total Antimony (Sb)	2022/11/03	114	80 - 120	112	80 - 120	ND, RDL=0.50	ug/L				
8320768	Total Arsenic (As)	2022/11/03	103	80 - 120	104	80 - 120	ND, RDL=1.0	ug/L				
8320768	Total Cadmium (Cd)	2022/11/03	105	80 - 120	105	80 - 120	ND, RDL=0.090	ug/L	NC	20		
8320768	Total Chromium (Cr)	2022/11/03	95	80 - 120	96	80 - 120	ND, RDL=5.0	ug/L	NC	20		
8320768	Total Cobalt (Co)	2022/11/03	96	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L				
8320768	Total Copper (Cu)	2022/11/03	97	80 - 120	97	80 - 120	ND, RDL=0.90	ug/L	0.50	20		
8320768	Total Lead (Pb)	2022/11/03	99	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	NC	20		
8320768	Total Manganese (Mn)	2022/11/03	95	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L				
8320768	Total Molybdenum (Mo)	2022/11/03	102	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L				
8320768	Total Nickel (Ni)	2022/11/03	95	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L	NC	20		
8320768	Total Phosphorus (P)	2022/11/03	99	80 - 120	104	80 - 120	ND, RDL=100	ug/L				
8320768	Total Selenium (Se)	2022/11/03	106	80 - 120	108	80 - 120	ND, RDL=2.0	ug/L				
8320768	Total Silver (Ag)	2022/11/03	102	80 - 120	102	80 - 120	ND, RDL=0.090	ug/L				

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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
8320768	Total Tin (Sn)	2022/11/03	106	80 - 120	105	80 - 120	ND, RDL=1.0	ug/L				
8320768	Total Titanium (Ti)	2022/11/03	96	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L				
8320768	Total Zinc (Zn)	2022/11/03	102	80 - 120	106	80 - 120	ND, RDL=5.0	ug/L	4.3	20		
8321895	Total Kjeldahl Nitrogen (TKN)	2022/11/04	101	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	NC	20	101	80 - 120
8326699	Phenols-4AAP	2022/11/04	102	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	11	20		
8328693	Total Oil & Grease	2022/11/05			99	85 - 115	ND, RDL=0.50	mg/L	0.25	25		
8328696	Total Oil & Grease Mineral/Synthetic	2022/11/05			97	85 - 115	ND, RDL=0.50	mg/L	0.52	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).

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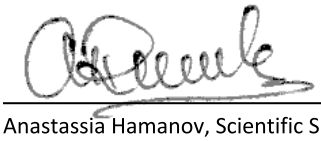
Bureau Veritas Job #: C2V6314
Report Date: 2022/11/15

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

VALIDATION SIGNATURE PAGE

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



Anastassia Hamanov, Scientific Specialist

Farhana Rahman, Senior Analyst

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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Page 1 of 1

MICRO

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#30554 exp Services Inc	Company Name:	EXP Services Inc	Quotation #:	C20374	Bureau Veritas Job #:	Bottle Order #: 904830
Attention:	Accounts Payable	Attention:	Francois Chartier	P.O. #:	ENV – BRM		
Address:	1595 Clark Blvd Brampton ON L6T 4V1	Address:	Peyman.Sayyah@exp.com Thabiso.Modise@exp.com	Project:	BRM-00257769-D0	COC #: C#904630-01-01	Project Manager: Patricia Legette
Tel:	(905) 793-9800 Fax: (905) 793-0641	Tel:	(905) 793-9800 Ext: 2523 Fax:	Project Name:			
Email:	AP@exp.com; Karen.Burke@exp.com	Email:	Francois.Chartier@exp.com	Site #:	Erin Mills Town Centre – 5100		
				Sampled By:	Thabiso Modise		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☑ Sanitary Sewer Bylaw
- ☐ Reg 558 ☑ Storm Sewer Bylaw
- ☐ MISA Municipality PEEL REGION
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Peel Sanitary & Storm Sewer (53-2019)									# of Bottles	Comments
1		BH-101	22/10/Hour	14:45	GW	NO	✓									17	PLEASE INCLUDE COC IN COA
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

28-Oct-22 16:56
Patricia Legette
C2V6314
DSG ENV-1487

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
Thabiso Modise	22/10/23	17:55		COMMING	16:56		Time Sensitive	Temperature (°C) on Recei 13 | 4 | 13	Custody Seal Present	Yes	No
									Intact		✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

ON ice

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C2V6314
Report Date: 2022/11/15

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

Exceedance Summary Table – Mississauga Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH-101	UDN173-06	Total Suspended Solids	15	27	10	mg/L
BH-101	UDN173-06-Lab Dup	Total Suspended Solids	15	29	10	mg/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.

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Your P.O. #: ENV-BRM
Your Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your C.O.C. #: 974246-01-01

Attention: Francois Chartier

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2024/02/12
Report #: R8025151
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C433501
Received: 2024/02/02, 16:15

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ABN Compounds in Water by GC/MS	1	2024/02/05	2024/02/06	CAM SOP-00301	EPA 8270 m
Biochemical Oxygen Demand (BOD)	1	2024/02/03	2024/02/08	CAM SOP-00427	SM 24 5210B m
Carbonaceous BOD	1	2024/02/03	2024/02/08	CAM SOP-00427	SM 24 5210B m
Total Residual Chlorine	1	2024/02/05	2024/02/05	CAM SOP 00425	SM 24 4500-CL G m
Chromium (VI) in Water	1	N/A	2024/02/06	CAM SOP-00436	EPA 7199 m
Total Cyanide	1	2024/02/05	2024/02/07	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2024/02/03	2024/02/03	CAM SOP-00449	SM 24 4500-F C m
Mercury in Water by CVAA	1	2024/02/06	2024/02/08	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	2024/02/07	2024/02/07	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2024/02/02	CAM SOP-00552	MECP E3371
Total Nonylphenol in Liquids by HPLC	1	2024/02/06	2024/02/07	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2024/02/06	2024/02/07	CAM SOP-00313	Bureau Veritas
Animal and Vegetable Oil and Grease	1	N/A	2024/02/06	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2024/02/06	2024/02/06	CAM SOP-00326	EPA1664B m,SM5520B m
PAH Compounds in Water by GC/MS (SIM)	1	2024/02/05	2024/02/06	CAM SOP-00318	EPA 8270E
Polychlorinated Biphenyl in Water	1	2024/02/06	2024/02/07	CAM SOP-00309	EPA 8082A m
Phenols (4AAP)	1	N/A	2024/02/05	CAM SOP-00444	OMOE E3179 m
pH	1	2024/02/03	2024/02/05	CAM SOP-00413	SM 24th-4500H+ B
Sulphate by Automated Turbidimetry	1	N/A	2024/02/05	CAM SOP-00464	SM 24 4500-SO42- E m
Total Kjeldahl Nitrogen in Water	1	2024/02/05	2024/02/08	CAM SOP-00938	OMOE E3516 m
Total PAHs: Barrie/Mississauga Sewer Use (1)	1	N/A	2024/02/07	CAM SOP - 00301	
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2024/02/06	2024/02/06	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2024/02/05	2024/02/06	CAM SOP-00428	SM 24 2540D m
Volatile Organic Compounds in Water	1	N/A	2024/02/07	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, EPA, APHA or the Quebec Ministry of Environment.

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

Your P.O. #: ENV-BRM
Your Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your C.O.C. #: 974246-01-01

Attention: Francois Chartier

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2024/02/12
Report #: R8025151
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C433501
Received: 2024/02/02, 16:15

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.
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

Christine Gripton
Senior Project Manager
12 Feb 2024 16:18:18

Please direct all questions regarding this Certificate of Analysis to:
Patricia Legette, Project Manager
Email: Patricia.Legette@bureauveritas.com
Phone# (905)817-5799

==========

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MISSISSAUGA STORM SEWER BYLAW (46-2022)

Bureau Veritas ID			YHA068			YHA068		
Sampling Date			2024/02/02 14:40			2024/02/02 14:40		
COC Number			974246-01-01			974246-01-01		
	UNITS	Criteria	BH205	RDL	QC Batch	BH205 Lab-Dup	RDL	QC Batch
Inorganics								
Total BOD	mg/L	15	3	2	9200177			
Total Chlorine	mg/L	1.0	0.1	0.1	9202574	0.1	0.1	9202574
Metals								
Chromium (VI)	ug/L	40	ND	0.50	9201991			
Calculated Parameters								
Total PAHs	ug/L	2	ND	0.28	9199903			
Polyaromatic Hydrocarbons								
Acenaphthene	ug/L	-	ND	0.050	9202403			
Acenaphthylene	ug/L	-	ND	0.050	9202403			
Anthracene	ug/L	-	ND	0.050	9202403			
Benzo(a)anthracene	ug/L	-	ND	0.050	9202403			
Benzo(a)pyrene	ug/L	-	ND	0.0090	9202403			
Benzo(g,h,i)perylene	ug/L	-	ND	0.050	9202403			
Benzo(k)fluoranthene	ug/L	-	ND	0.050	9202403			
Chrysene	ug/L	-	ND	0.050	9202403			
Dibenzo(a,h)anthracene	ug/L	-	ND	0.050	9202403			
Fluoranthene	ug/L	-	ND	0.050	9202403			
Fluorene	ug/L	-	ND	0.050	9202403			
Indeno(1,2,3-cd)pyrene	ug/L	-	ND	0.050	9202403			
1-Methylnaphthalene	ug/L	-	ND	0.050	9202403			
2-Methylnaphthalene	ug/L	-	ND	0.050	9202403			
Naphthalene	ug/L	-	ND	0.050	9202403			
Phenanthrene	ug/L	-	ND	0.030	9202403			
Pyrene	ug/L	-	ND	0.050	9202403			
Benzo(b)fluoranthene	ug/L	-	ND	0.030	9202403			
Surrogate Recovery (%)								
D10-Anthracene	%	-	89		9202403			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Bureau Veritas Job #: C433501
Report Date: 2024/02/12

exp Services Inc
Client Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your P.O. #: ENV-BRM
Sampler Initials: RA

MISSISSAUGA STORM SEWER BYLAW (46-2022)

Bureau Veritas ID			YHA068			YHA068		
Sampling Date			2024/02/02 14:40			2024/02/02 14:40		
COC Number			974246-01-01			974246-01-01		
	UNITS	Criteria	BH205	RDL	QC Batch	BH205 Lab-Dup	RDL	QC Batch
D14-Terphenyl (FS)	%	-	78		9202403			
D8-Acenaphthylene	%	-	79		9202403			

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

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 #: C433501
Report Date: 2024/02/12

exp Services Inc
Client Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your P.O. #: ENV-BRM
Sampler Initials: RA

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID			YHA068			YHA068		
Sampling Date			2024/02/02 14:40			2024/02/02 14:40		
COC Number			974246-01-01			974246-01-01		
	UNITS	Criteria	BH205	RDL	QC Batch	BH205 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	-	1.3	0.50	9198519			
Inorganics								
Total Carbonaceous BOD	mg/L	-	ND	2	9200181			
Fluoride (F-)	mg/L	-	0.92	0.10	9200566	0.91	0.10	9200566
Total Kjeldahl Nitrogen (TKN)	mg/L	-	2.3	0.10	9201743			
pH	pH	6:9	7.84		9200551	7.85		9200551
Phenols-4AAP	mg/L	0.008	ND	0.0010	9201380			
Total Suspended Solids	mg/L	15	**27**	10	9201247			
Dissolved Sulphate (SO4)	mg/L	-	38	1.0	9200625			
Total Cyanide (CN)	mg/L	0.02	ND	0.0050	9201193			
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	-	1.8	0.50	9203900			
Total Oil & Grease Mineral/Synthetic	mg/L	-	0.50	0.50	9203904			
Miscellaneous Parameters								
Nonylphenol Ethoxylate (Total)	mg/L	-	ND	0.025	9204456			
Nonylphenol (Total)	mg/L	-	ND	0.001	9204438			
Metals								
Mercury (Hg)	mg/L	0.0004	ND	0.00010	9204585			
Total Aluminum (Al)	ug/L	1000	450	4.9	9206140			
Total Antimony (Sb)	ug/L	-	ND	0.50	9206140			
Total Arsenic (As)	ug/L	20	5.6	1.0	9206140			
Total Cadmium (Cd)	ug/L	8	ND	0.090	9206140			
Total Chromium (Cr)	ug/L	80	6.7	5.0	9206140			
Total Cobalt (Co)	ug/L	-	0.55	0.50	9206140			
Total Copper (Cu)	ug/L	40	3.1	0.90	9206140			
Total Lead (Pb)	ug/L	120	0.64	0.50	9206140			
Total Manganese (Mn)	ug/L	2000	82	2.0	9206140			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID			YHA068			YHA068		
Sampling Date			2024/02/02 14:40			2024/02/02 14:40		
COC Number			974246-01-01			974246-01-01		
	UNITS	Criteria	BH205	RDL	QC Batch	BH205 Lab-Dup	RDL	QC Batch
Total Molybdenum (Mo)	ug/L	-	21	0.50	9206140			
Total Nickel (Ni)	ug/L	80	5.1	1.0	9206140			
Total Phosphorus (P)	ug/L	400	ND	100	9206140			
Total Selenium (Se)	ug/L	20	ND	2.0	9206140			
Total Silver (Ag)	ug/L	120	ND	0.090	9206140			
Total Tin (Sn)	ug/L	-	ND	1.0	9206140			
Total Titanium (Ti)	ug/L	-	12	5.0	9206140			
Total Zinc (Zn)	ug/L	200	16	5.0	9206140			
Semivolatile Organics								
Bis(2-ethylhexyl)phthalate	ug/L	-	ND	2.0	9202240			
Di-N-butyl phthalate	ug/L	-	ND	2.0	9202240			
Volatile Organics								
Benzene	ug/L	2	ND	0.20	9203242			
Chloroform	ug/L	-	0.59	0.20	9203242			
1,2-Dichlorobenzene	ug/L	5.6	ND	0.40	9203242			
1,4-Dichlorobenzene	ug/L	6.8	ND	0.40	9203242			
cis-1,2-Dichloroethylene	ug/L	-	ND	0.50	9203242			
trans-1,3-Dichloropropene	ug/L	-	ND	0.40	9203242			
Ethylbenzene	ug/L	2	ND	0.20	9203242			
Methylene Chloride(Dichloromethane)	ug/L	5.2	ND	2.0	9203242			
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	ND	10	9203242			
Styrene	ug/L	-	ND	0.40	9203242			
1,1,2,2-Tetrachloroethane	ug/L	17	ND	0.40	9203242			
Tetrachloroethylene	ug/L	4.4	ND	0.20	9203242			
Toluene	ug/L	2	ND	0.20	9203242			
Trichloroethylene	ug/L	7.6	ND	0.20	9203242			
p+m-Xylene	ug/L	-	ND	0.20	9203242			
o-Xylene	ug/L	-	ND	0.20	9203242			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Bureau Veritas Job #: C433501
Report Date: 2024/02/12

exp Services Inc
Client Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your P.O. #: ENV-BRM
Sampler Initials: RA

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID			YHA068			YHA068		
Sampling Date			2024/02/02 14:40			2024/02/02 14:40		
COC Number			974246-01-01			974246-01-01		
	UNITS	Criteria	BH205	RDL	QC Batch	BH205 Lab-Dup	RDL	QC Batch
Total Xylenes	ug/L	4.4	ND	0.20	9203242			
PCBs								
Total PCB	ug/L	0.4	ND	0.05	9204315	ND	0.05	9204315
Microbiological								
Escherichia coli	CFU/100mL	200	<10	10	9199983			
Surrogate Recovery (%)								
2,4,6-Tribromophenol	%	-	62		9202240			
2-Fluorobiphenyl	%	-	51		9202240			
2-Fluorophenol	%	-	22		9202240			
D14-Terphenyl	%	-	87		9202240			
D5-Nitrobenzene	%	-	55		9202240			
D5-Phenol	%	-	14		9202240			
Decachlorobiphenyl	%	-	116		9204315	108		9204315
4-Bromofluorobenzene	%	-	105		9203242			
D4-1,2-Dichloroethane	%	-	114		9203242			
D8-Toluene	%	-	84		9203242			

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
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Bureau Veritas Job #: C433501
Report Date: 2024/02/12

exp Services Inc
Client Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your P.O. #: ENV-BRM
Sampler Initials: RA

TEST SUMMARY

Bureau Veritas ID: YHA068
Sample ID: BH205
Matrix: Water

Collected: 2024/02/02
Shipped:
Received: 2024/02/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in Water by GC/MS	GC/MS	9202240	2024/02/05	2024/02/06	Kathy Horvat
Biochemical Oxygen Demand (BOD)	DO	9200177	2024/02/03	2024/02/08	Amrutha Anilkumar
Carbonaceous BOD	DO	9200181	2024/02/03	2024/02/08	Amrutha Anilkumar
Total Residual Chlorine	SPEC	9202574	2024/02/05	2024/02/05	Taslima Aktar
Chromium (VI) in Water	IC	9201991	N/A	2024/02/06	Surleen Kaur Romana
Total Cyanide	SKAL/CN	9201193	2024/02/05	2024/02/07	Jency Sara Johnson
Fluoride	ISE	9200566	2024/02/03	2024/02/03	Nachiketa Gohil
Mercury in Water by CVAA	CV/AA	9204585	2024/02/06	2024/02/08	Aswathy Neduveli Suresh
Total Metals Analysis by ICPMS	ICP/MS	9206140	2024/02/07	2024/02/07	Azita Fazaeli
E.coli, (CFU/100mL)	PL	9199983	N/A	2024/02/02	Yizhou Han
Total Nonylphenol in Liquids by HPLC	LC/FLU	9204438	2024/02/06	2024/02/07	Dennis Boodram
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	9204456	2024/02/06	2024/02/07	Dennis Boodram
Animal and Vegetable Oil and Grease	BAL	9198519	N/A	2024/02/06	Automated Statchk
Total Oil and Grease	BAL	9203900	2024/02/06	2024/02/06	Kishan Patel
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9202403	2024/02/05	2024/02/06	Mitesh Raj
Polychlorinated Biphenyl in Water	GC/ECD	9204315	2024/02/06	2024/02/07	Svitlana Shaula
Phenols (4AAP)	TECH/PHEN	9201380	N/A	2024/02/05	Chloe Pollock
pH	AT	9200551	2024/02/03	2024/02/05	Nachiketa Gohil
Sulphate by Automated Turbidimetry	SKAL	9200625	N/A	2024/02/05	Massarat Jan
Total Kjeldahl Nitrogen in Water	SKAL	9201743	2024/02/05	2024/02/08	Kruti Jitesh Patel
Total PAHs: Barrie/Mississauga Sewer Use	CALC	9199903	N/A	2024/02/07	Automated Statchk
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	9203904	2024/02/06	2024/02/06	Kishan Patel
Total Suspended Solids	BAL	9201247	2024/02/05	2024/02/06	Darshan Patel
Volatile Organic Compounds in Water	GC/MS	9203242	N/A	2024/02/07	Gabriella Morrone

Bureau Veritas ID: YHA068 Dup
Sample ID: BH205
Matrix: Water

Collected: 2024/02/02
Shipped:
Received: 2024/02/02

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Residual Chlorine	SPEC	9202574	2024/02/05	2024/02/05	Taslima Aktar
Fluoride	ISE	9200566	2024/02/03	2024/02/03	Nachiketa Gohil
Polychlorinated Biphenyl in Water	GC/ECD	9204315	2024/02/06	2024/02/07	Svitlana Shaula
pH	AT	9200551	2024/02/03	2024/02/05	Nachiketa Gohil

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GENERAL COMMENTS

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

Package 1	8.3°C

Revised report (2023/02/12): Includes Mississauga Storm Sewer Use By-law criteria.

Results relate only to the items tested.

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Bureau Veritas Job #: C433501
Report Date: 2024/02/12

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your P.O. #: ENV-BRM
Sampler Initials: RA

			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
9202240	2,4,6-Tribromophenol	2024/02/06	127	10 - 130	110	10 - 130	80	%				
9202240	2-Fluorobiphenyl	2024/02/06	71	30 - 130	72	30 - 130	83	%				
9202240	2-Fluorophenol	2024/02/06	13	10 - 130	54	10 - 130	37	%				
9202240	D14-Terphenyl	2024/02/06	108	30 - 130	103	30 - 130	98	%				
9202240	D5-Nitrobenzene	2024/02/06	85	30 - 130	85	30 - 130	86	%				
9202240	D5-Phenol	2024/02/06	14	10 - 130	36	10 - 130	24	%				
9202403	D10-Anthracene	2024/02/06	94	50 - 130	99	50 - 130	99	%				
9202403	D14-Terphenyl (FS)	2024/02/06	92	50 - 130	96	50 - 130	98	%				
9202403	D8-Acenaphthylene	2024/02/06	83	50 - 130	87	50 - 130	85	%				
9203242	4-Bromofluorobenzene	2024/02/07	104	70 - 130	101	70 - 130	109	%				
9203242	D4-1,2-Dichloroethane	2024/02/07	105	70 - 130	102	70 - 130	99	%				
9203242	D8-Toluene	2024/02/07	102	70 - 130	104	70 - 130	84	%				
9204315	Decachlorobiphenyl	2024/02/06	118	60 - 130	107	60 - 130	92	%				
9200177	Total BOD	2024/02/08					ND,RDL=2	mg/L	2.4	30	96	80 - 120
9200181	Total Carbonaceous BOD	2024/02/08					ND,RDL=2	mg/L	2.8	30	99	80 - 120
9200551	pH	2024/02/05			102	98 - 103			0.18	N/A		
9200566	Fluoride (F-)	2024/02/03	102	80 - 120	100	80 - 120	ND, RDL=0.10	mg/L	0.48	20		
9200625	Dissolved Sulphate (SO4)	2024/02/05	NC	75 - 125	95	80 - 120	ND, RDL=1.0	mg/L	0.32	20		
9201193	Total Cyanide (CN)	2024/02/08	65 (1)	80 - 120	99	80 - 120	ND, RDL=0.0050	mg/L	NC	20		
9201247	Total Suspended Solids	2024/02/06			100	80 - 120	ND, RDL=10	mg/L	15	20		
9201380	Phenols-4AAP	2024/02/05	104	80 - 120	101	80 - 120	ND, RDL=0.0010	mg/L	NC	20		
9201743	Total Kjeldahl Nitrogen (TKN)	2024/02/07	98	80 - 120	97	80 - 120	ND, RDL=0.10	mg/L	2.0	20	97	80 - 120
9201991	Chromium (VI)	2024/02/06	104	80 - 120	103	80 - 120	ND, RDL=0.50	ug/L	1.2	20		
9202240	Bis(2-ethylhexyl)phthalate	2024/02/06	111	30 - 130	112	30 - 130	ND, RDL=2.0	ug/L	NC	40		
9202240	Di-N-butyl phthalate	2024/02/06	120	30 - 130	120	30 - 130	ND, RDL=2.0	ug/L	NC	40		
9202403	1-Methylnaphthalene	2024/02/06	58	50 - 130	79	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	2-Methylnaphthalene	2024/02/06	50	50 - 130	67	50 - 130	ND, RDL=0.050	ug/L	NC	30		

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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
9202403	Acenaphthene	2024/02/06	71	50 - 130	90	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Acenaphthylene	2024/02/06	70	50 - 130	89	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Anthracene	2024/02/06	85	50 - 130	102	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Benzo(a)anthracene	2024/02/06	85	50 - 130	101	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Benzo(a)pyrene	2024/02/06	83	50 - 130	97	50 - 130	ND, RDL=0.0090	ug/L	NC	30		
9202403	Benzo(b)fluoranthene	2024/02/06	89	50 - 130	101	50 - 130	ND, RDL=0.030	ug/L				
9202403	Benzo(g,h,i)perylene	2024/02/06	83	50 - 130	118	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Benzo(k)fluoranthene	2024/02/06	87	50 - 130	101	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Chrysene	2024/02/06	79	50 - 130	96	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Dibenzo(a,h)anthracene	2024/02/06	88	50 - 130	106	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Fluoranthene	2024/02/06	85	50 - 130	107	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Fluorene	2024/02/06	75	50 - 130	94	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Indeno(1,2,3-cd)pyrene	2024/02/06	92	50 - 130	113	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Naphthalene	2024/02/06	51	50 - 130	71	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202403	Phenanthrene	2024/02/06	81	50 - 130	97	50 - 130	ND, RDL=0.030	ug/L	NC	30		
9202403	Pyrene	2024/02/06	87	50 - 130	102	50 - 130	ND, RDL=0.050	ug/L	NC	30		
9202574	Total Chlorine	2024/02/05	103	85 - 115	102	85 - 115	ND, RDL=0.1	mg/L	9.5	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
9203242	1,1,2,2-Tetrachloroethane	2024/02/07	99	70 - 130	97	70 - 130	ND, RDL=0.40	ug/L				
9203242	1,2-Dichlorobenzene	2024/02/07	94	70 - 130	94	70 - 130	ND, RDL=0.40	ug/L				
9203242	1,4-Dichlorobenzene	2024/02/07	105	70 - 130	105	70 - 130	ND, RDL=0.40	ug/L				
9203242	Benzene	2024/02/07	94	70 - 130	86	70 - 130	ND, RDL=0.20	ug/L				
9203242	Chloroform	2024/02/07	105	70 - 130	95	70 - 130	ND, RDL=0.20	ug/L				
9203242	cis-1,2-Dichloroethylene	2024/02/07	102	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L				
9203242	Ethylbenzene	2024/02/07	84	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L				
9203242	Methyl Ethyl Ketone (2-Butanone)	2024/02/07	109	60 - 140	99	60 - 140	ND, RDL=10	ug/L				
9203242	Methylene Chloride(Dichloromethane)	2024/02/07	97	70 - 130	84	70 - 130	ND, RDL=2.0	ug/L				
9203242	o-Xylene	2024/02/07	76	70 - 130	83	70 - 130	ND, RDL=0.20	ug/L	NC	30		
9203242	p+m-Xylene	2024/02/07	91	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L	NC	30		
9203242	Styrene	2024/02/07	103	70 - 130	106	70 - 130	ND, RDL=0.40	ug/L				
9203242	Tetrachloroethylene	2024/02/07	96	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L				
9203242	Toluene	2024/02/07	95	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30		
9203242	Total Xylenes	2024/02/07					ND, RDL=0.20	ug/L	NC	30		
9203242	trans-1,3-Dichloropropene	2024/02/07	109	70 - 130	97	70 - 130	ND, RDL=0.40	ug/L				
9203242	Trichloroethylene	2024/02/07	102	70 - 130	94	70 - 130	ND, RDL=0.20	ug/L				
9203900	Total Oil & Grease	2024/02/06			98	80 - 110	ND, RDL=0.50	mg/L	0.51	25		
9203904	Total Oil & Grease Mineral/Synthetic	2024/02/06			96	65 - 130	ND, RDL=0.50	mg/L	1.6	25		
9204315	Total PCB	2024/02/07	84	60 - 130	84	60 - 130	ND, RDL=0.05	ug/L	NC	40		
9204438	Nonylphenol (Total)	2024/02/07	78	50 - 130	83	50 - 130	ND, RDL=0.001	mg/L	NC	40		
9204456	Nonylphenol Ethoxylate (Total)	2024/02/07	85	50 - 130	95	50 - 130	ND, RDL=0.025	mg/L	NC	40		
9204585	Mercury (Hg)	2024/02/08	104	75 - 125	110	80 - 120	ND, RDL=0.00010	mg/L	NC	20		
9206140	Total Aluminum (Al)	2024/02/07	NC	80 - 120	98	80 - 120	ND, RDL=4.9	ug/L	6.7	20		
9206140	Total Antimony (Sb)	2024/02/07	113	80 - 120	108	80 - 120	ND, RDL=0.50	ug/L				
9206140	Total Arsenic (As)	2024/02/07	107	80 - 120	104	80 - 120	ND, RDL=1.0	ug/L				
9206140	Total Cadmium (Cd)	2024/02/07	107	80 - 120	103	80 - 120	ND, RDL=0.090	ug/L	2.3	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
9206140	Total Chromium (Cr)	2024/02/07	101	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L	3.2	20		
9206140	Total Cobalt (Co)	2024/02/07	101	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L				
9206140	Total Copper (Cu)	2024/02/07	101	80 - 120	97	80 - 120	ND, RDL=0.90	ug/L	0.13	20		
9206140	Total Lead (Pb)	2024/02/07	102	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	4.7	20		
9206140	Total Manganese (Mn)	2024/02/07	103	80 - 120	98	80 - 120	ND, RDL=2.0	ug/L				
9206140	Total Molybdenum (Mo)	2024/02/07	110	80 - 120	104	80 - 120	ND, RDL=0.50	ug/L				
9206140	Total Nickel (Ni)	2024/02/07	101	80 - 120	98	80 - 120	ND, RDL=1.0	ug/L	7.6	20		
9206140	Total Phosphorus (P)	2024/02/07	110	80 - 120	98	80 - 120	ND, RDL=100	ug/L				
9206140	Total Selenium (Se)	2024/02/07	112	80 - 120	108	80 - 120	ND, RDL=2.0	ug/L				
9206140	Total Silver (Ag)	2024/02/07	101	80 - 120	98	80 - 120	ND, RDL=0.090	ug/L				
9206140	Total Tin (Sn)	2024/02/07	107	80 - 120	102	80 - 120	ND, RDL=1.0	ug/L				
9206140	Total Titanium (Ti)	2024/02/07	108	80 - 120	99	80 - 120	ND, RDL=5.0	ug/L				
9206140	Total Zinc (Zn)	2024/02/07	106	80 - 120	107	80 - 120	ND, RDL=5.0	ug/L	8.6	20		

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

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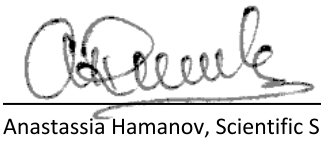
Bureau Veritas Job #: C433501
Report Date: 2024/02/12

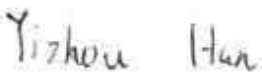
exp Services Inc
Client Project #: GTR-00257769-H0
Site Location: ERIN MILLS TOWN CENTRE
Your P.O. #: ENV-BRM
Sampler Initials: RA

VALIDATION SIGNATURE PAGE

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



Anastassia Hamanov, Scientific Specialist



Yizhou Han, Analyst 1

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

MICRO

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

CHAIN O

NONT-2024-02-203

of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:			
Company Name:	#9590 exp Services Inc	Company Name:	EXP Services Inc	Quotation #:	C31678 Stream 2	r #:	
Attention:	Accounts Payable	Attention:	Francois Chartier	P.O. #:	ENV-BRM		
Address:	1595 Clark Blvd	Address:	ryan.alexander@exp.com	Project:	GTR-00257769-H0	974246	
	Brampton ON L6T 4V1			Project Name:		COC #:	Project Manager:
Tel:	(905) 793-9800 Fax: (905) 793-0641	Tel:	(905) 793-9800 Ext: 2523 Fax:	Site #:	ERIN Mills Town Centre	C#974246-01-01	Patricia Legelte
Email:	AP@exp.com;Karen.Burke@exp.com	Email:	Francois.Chartier@exp.com, nicolas.sabo@exp.com	Sampled By:	BA		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☒ Sanitary Sewer Bylaw
- ☐ Reg 558 ☒ Storm Sewer Bylaw
- ☐ MISA Municipality Peel
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Yes

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Peel Sanitary & Storm Sewer (53-2010)	Mississauga Storm Sewer Bylaw (45-2022)							# of Bottles	Comments
1		BH 205	24/02/02	14:40	GW	NO	X	X							19	Please include COC
2																in final report
3																
4																
5																
6																
7																
8																
9																
10																

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
RYAN ALEXANDER	24/02/02	16:10	[illegible]	24/02/02	16:15	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	8/8/9	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

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

CHAIN OF CUSTODY RECO

02-Feb-24 16:15
Patricia Legette
C433501

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Lab
Company Name:	#30554 exp Services Inc	Company Name:	EXP Services Inc	Quotation #:	C31675 Stream 2	Bureau Veritas
Attention:	Accounts Payable	Attention:	Nicolas Sabo Francois Chartier	P.O. #:	ENV-BRM	
Address:	1595 Clark Blvd	Address:	Ryan.alexander@exp.com	Project:	~~HAM-230126-A0~~ GTR-00257769-H0	RUK ENV-1442
	Brampton ON L6T 4V1		Francois.Chartier@exp.com	Project Name:		COC #: / Project Manager:
Tel:	(905) 793-9800 Fax: (905) 793-0641	Tel:	Fax:	Site #:	ERIN Mills Town Centre	C#974011-02-01 / Patricia Legette
Email:	AP@exp.com; Karen.Burke@exp.com	Email:	nicolas.sabo@exp.com, ~~erwin.chessell@exp.com~~	Sampled By:	RA	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
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☐ Table ___

Other Regulations
☐ CCME ☒ Sanitary Sewer Bylaw
☐ Reg 558 ☒ Storm Sewer Bylaw
☐ MISA Municipality Peel
☐ PWQO ☐ Reg 406 Table
☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? YES

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
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Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Niagara Sanitary & Comb. Sewer (27-2014)	Total residual Chlorine	# of Bottles	Comments
1		BH 205	24/02/05	14:35	GW	NO		X	1	Please include COC in final report.
2										Please reference confirmation number C433501 to complete by-law.
3										
4										
5										
6										
7										
8										
9										
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
RYAN ALEXANDER	24/02/05	15:10		24/02/05	15:13	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Rec: 10/10/10 | Custody Seal Present / Intact: Yes ☑ / No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Exceedance Summary Table – Mississauga Storm Sewer

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH205	YHA068-06	Total Suspended Solids	15	27	10	mg/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.

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Your P.O. #: ENV – BRM
Your Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your C.O.C. #: 904630-01-01

Attention: Francois Chartier

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2022/11/08
Report #: R7378450
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2V6314
Received: 2022/10/28, 16:56

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ABN Compounds in Water by GC/MS	1	2022/10/31	2022/11/01	CAM SOP-00301	EPA 8270 m
Carbonaceous BOD	1	2022/10/29	2022/11/03	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2022/10/31	2022/10/31	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2022/10/31	2022/11/03	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2022/10/29	2022/10/31	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	N/A	2022/11/03	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2022/10/28	CAM SOP-00552	
Total Nonylphenol in Liquids by HPLC	1	2022/11/01	2022/11/02	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2022/11/01	2022/11/02	CAM SOP-00313	Bureau Veritas
Animal and Vegetable Oil and Grease	1	N/A	2022/11/05	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2022/11/05	2022/11/05	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl in Water	1	2022/11/01	2022/11/02	CAM SOP-00309	EPA 8082A m
pH	1	2022/10/31	2022/11/03	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2022/11/04	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Colourimetry	1	N/A	2022/11/07	CAM SOP-00464	EPA 375.4 m
Total Kjeldahl Nitrogen in Water	1	2022/11/02	2022/11/03	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2022/11/05	2022/11/05	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2022/11/01	2022/11/02	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2022/11/05	CAM SOP-00228	EPA 8260C m

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.

Your P.O. #: ENV – BRM
Your Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your C.O.C. #: 904630-01-01

Attention: Francois Chartier

exp Services Inc
1595 Clark Blvd
Brampton, ON
CANADA L6T 4V1

Report Date: 2022/11/08
Report #: R7378450
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2V6314
Received: 2022/10/28, 16:56

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) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
08 Nov 2022 10:22:43

Please direct all questions regarding this Certificate of Analysis to:
Patricia Legette, Project Manager
Email: Patricia.Legette@bureauveritas.com
Phone# (905)817-5799

==========

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 Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				UDN173			UDN173		
Sampling Date				2022/10/28 14:45			2022/10/28 14:45		
COC Number				904630-01-01			904630-01-01		
	UNITS	Criteria	Criteria-2	BH-101	RDL	QC Batch	BH-101 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Total Animal/Vegetable Oil and Grease	mg/L	-	150	2.0	0.50	8311791			
Inorganics									
Total Carbonaceous BOD	mg/L	15	300	ND	2	8314278	ND	2	8314278
Fluoride (F-)	mg/L	-	10	0.32	0.10	8317666			
Total Kjeldahl Nitrogen (TKN)	mg/L	1	100	**1.5**	0.10	8321895			
pH	pH	6.0:9.0	5.5:10.0	7.78		8317668			
Phenols-4AAP	mg/L	0.008	1	ND	0.0010	8326699			
Total Suspended Solids	mg/L	15	350	**27**	10	8317203	**29**	10	8317203
Dissolved Sulphate (SO4)	mg/L	-	1500	26	1.0	8317818			
Total Cyanide (CN)	mg/L	0.02	2	ND	0.0050	8315904	ND	0.0050	8315904
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	-	-	2.0	0.50	8328693			
Total Oil & Grease Mineral/Synthetic	mg/L	-	15	ND	0.50	8328696			
Miscellaneous Parameters									
Nonylphenol Ethoxylate (Total)	mg/L	-	0.2	ND	0.025	8318084			
Nonylphenol (Total)	mg/L	-	0.02	ND	0.001	8318078			
Metals									
Mercury (Hg)	mg/L	0.0004	0.01	ND	0.00010	8314675			
Total Aluminum (Al)	ug/L	-	50000	580	4.9	8320768			
Total Antimony (Sb)	ug/L	-	5000	ND	0.50	8320768			
Total Arsenic (As)	ug/L	20	1000	5.0	1.0	8320768			
Total Cadmium (Cd)	ug/L	8	700	ND	0.090	8320768			
Total Chromium (Cr)	ug/L	80	5000	ND	5.0	8320768			
Total Cobalt (Co)	ug/L	-	5000	1.1	0.50	8320768			

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: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Sanitary Sewer Discharge.
By-Law Number 53-2010.
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.

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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				UDN173			UDN173		
Sampling Date				2022/10/28 14:45			2022/10/28 14:45		
COC Number				904630-01-01			904630-01-01		
	UNITS	Criteria	Criteria-2	BH-101	RDL	QC Batch	BH-101 Lab-Dup	RDL	QC Batch
Total Copper (Cu)	ug/L	50	3000	1.1	0.90	8320768			
Total Lead (Pb)	ug/L	120	3000	ND	0.50	8320768			
Total Manganese (Mn)	ug/L	50	5000	**370**	2.0	8320768			
Total Molybdenum (Mo)	ug/L	-	5000	7.3	0.50	8320768			
Total Nickel (Ni)	ug/L	80	3000	2.3	1.0	8320768			
Total Phosphorus (P)	ug/L	-	10000	ND	100	8320768			
Total Selenium (Se)	ug/L	20	1000	ND	2.0	8320768			
Total Silver (Ag)	ug/L	120	5000	ND	0.090	8320768			
Total Tin (Sn)	ug/L	-	5000	1.1	1.0	8320768			
Total Titanium (Ti)	ug/L	-	5000	22	5.0	8320768			
Total Zinc (Zn)	ug/L	40	3000	7.5	5.0	8320768			
Semivolatile Organics									
Bis(2-ethylhexyl)phthalate	ug/L	8.8	12	ND	2.0	8316914			
Di-N-butyl phthalate	ug/L	15	80	ND	2.0	8316914			
Volatile Organics									
Benzene	ug/L	2	10	0.44	0.40	8316663			
Chloroform	ug/L	2	40	ND	0.40	8316663			
1,2-Dichlorobenzene	ug/L	5.6	50	ND	0.80	8316663			
1,4-Dichlorobenzene	ug/L	6.8	80	ND	0.80	8316663			
cis-1,2-Dichloroethylene	ug/L	5.6	4000	ND	1.0	8316663			
trans-1,3-Dichloropropene	ug/L	5.6	140	ND	0.80	8316663			
Ethylbenzene	ug/L	2	160	ND	0.40	8316663			
Methylene Chloride(Dichloromethane)	ug/L	5.2	2000	ND	4.0	8316663			
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	8000	ND	20	8316663			
Styrene	ug/L	-	200	ND	0.80	8316663			

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: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Sanitary Sewer Discharge.
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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				UDN173			UDN173		
Sampling Date				2022/10/28 14:45			2022/10/28 14:45		
COC Number				904630-01-01			904630-01-01		
	UNITS	Criteria	Criteria-2	BH-101	RDL	QC Batch	BH-101 Lab-Dup	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	17	1400	ND	0.80	8316663			
Tetrachloroethylene	ug/L	4.4	1000	ND	0.40	8316663			
Toluene	ug/L	2	270	ND	0.40	8316663			
Trichloroethylene	ug/L	8	400	ND	0.40	8316663			
p+m-Xylene	ug/L	-	-	ND	0.40	8316663			
o-Xylene	ug/L	-	-	ND	0.40	8316663			
Total Xylenes	ug/L	4.4	1400	ND	0.40	8316663			
PCBs									
Total PCB	ug/L	0.4	1	ND	0.05	8318695			
Microbiological									
Escherichia coli	CFU/100mL	200	-	<10	10	8313975			
Surrogate Recovery (%)									
2,4,6-Tribromophenol	%	-	-	2.0 (1)		8316914			
2-Fluorobiphenyl	%	-	-	56		8316914			
2-Fluorophenol	%	-	-	0.70 (1)		8316914			
D14-Terphenyl	%	-	-	97		8316914			
D5-Nitrobenzene	%	-	-	91		8316914			
D5-Phenol	%	-	-	7.3 (1)		8316914			
Decachlorobiphenyl	%	-	-	71		8318695			
4-Bromofluorobenzene	%	-	-	89		8316663			
D4-1,2-Dichloroethane	%	-	-	114		8316663			
D8-Toluene	%	-	-	90		8316663			

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: The Regional Municipality of Peel Storm Sewer Discharge.
By-Law Number 53-2010.
Criteria-2: The Regional Municipality of Peel Sanitary Sewer Discharge.
By-Law Number 53-2010.
ND = Not Detected at a concentration equal or greater than the indicated Detection Limit.
(1) Surrogate recovery was below our acceptance limit. Since the surrogate standard is not relevant to the analysis of the required phthalate esters, it has been evaluated as having no significant effect on the data reported.

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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

TEST SUMMARY

Bureau Veritas ID: UDN173
Sample ID: BH-101
Matrix: Water

Collected: 2022/10/28
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in Water by GC/MS	GC/MS	8316914	2022/10/31	2022/11/01	Anh Lieu
Carbonaceous BOD	DO	8314278	2022/10/29	2022/11/03	Gurjot Kaur
Total Cyanide	SKAL/CN	8315904	2022/10/31	2022/10/31	Prgya Panchal
Fluoride	ISE	8317666	2022/10/31	2022/11/03	Kien Tran
Mercury in Water by CVAA	CV/AA	8314675	2022/10/29	2022/10/31	Japneet Gill
Total Metals Analysis by ICPMS	ICP/MS	8320768	N/A	2022/11/03	Rupinder Gill
E.coli, (CFU/100mL)	PL	8313975	N/A	2022/10/28	Farhana Rahman
Total Nonylphenol in Liquids by HPLC	LC/FLU	8318078	2022/11/01	2022/11/02	Furneesh Kumar
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	8318084	2022/11/01	2022/11/02	Furneesh Kumar
Animal and Vegetable Oil and Grease	BAL	8311791	N/A	2022/11/05	Automated Statchk
Total Oil and Grease	BAL	8328693	2022/11/05	2022/11/05	Maulik Jashubhai Patel
Polychlorinated Biphenyl in Water	GC/ECD	8318695	2022/11/01	2022/11/02	Li Peng
pH	AT	8317668	2022/10/31	2022/11/03	Kien Tran
Phenols (4AAP)	TECH/PHEN	8326699	N/A	2022/11/04	Mandeep Kaur
Sulphate by Automated Colourimetry	KONE	8317818	N/A	2022/11/07	Samuel Law
Total Kjeldahl Nitrogen in Water	SKAL	8321895	2022/11/02	2022/11/03	Rajni Tyagi
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8328696	2022/11/05	2022/11/05	Maulik Jashubhai Patel
Total Suspended Solids	BAL	8317203	2022/11/01	2022/11/02	Masood Siddiqui
Volatile Organic Compounds in Water	GC/MS	8316663	N/A	2022/11/05	Mariana Cojocar

Bureau Veritas ID: UDN173 Dup
Sample ID: BH-101
Matrix: Water

Collected: 2022/10/28
Shipped:
Received: 2022/10/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonaceous BOD	DO	8314278	2022/10/29	2022/11/03	Gurjot Kaur
Total Cyanide	SKAL/CN	8315904	2022/10/31	2022/10/31	Prgya Panchal
Total Suspended Solids	BAL	8317203	2022/11/01	2022/11/02	Masood Siddiqui

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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

GENERAL COMMENTS

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

Package 1	13.3°C

Sample UDN173 [BH-101] : VOC Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

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Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

			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
8316663	4-Bromofluorobenzene	2022/11/05	101	70 - 130	102	70 - 130	97	%				
8316663	D4-1,2-Dichloroethane	2022/11/05	103	70 - 130	100	70 - 130	111	%				
8316663	D8-Toluene	2022/11/05	108	70 - 130	107	70 - 130	90	%				
8316914	2,4,6-Tribromophenol	2022/11/01	98	10 - 130	95	10 - 130	67	%				
8316914	2-Fluorobiphenyl	2022/11/01	71	30 - 130	63	30 - 130	69	%				
8316914	2-Fluorophenol	2022/11/01	62	10 - 130	51	10 - 130	43	%				
8316914	D14-Terphenyl	2022/11/01	98	30 - 130	93	30 - 130	85	%				
8316914	D5-Nitrobenzene	2022/11/01	105	30 - 130	83	30 - 130	80	%				
8316914	D5-Phenol	2022/11/01	43	10 - 130	34	10 - 130	29	%				
8318695	Decachlorobiphenyl	2022/11/02	72	60 - 130	81	60 - 130	72	%				
8314278	Total Carbonaceous BOD	2022/11/03					ND,RDL=2	mg/L	NC	30	94	85 - 115
8314675	Mercury (Hg)	2022/10/31	91	75 - 125	95	80 - 120	ND, RDL=0.00010	mg/L	NC	20		
8315904	Total Cyanide (CN)	2022/10/31	97	80 - 120	99	80 - 120	ND, RDL=0.0050	mg/L	NC	20		
8316663	1,1,2,2-Tetrachloroethane	2022/11/05	100	70 - 130	90	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	1,2-Dichlorobenzene	2022/11/05	99	70 - 130	93	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	1,4-Dichlorobenzene	2022/11/05	112	70 - 130	109	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	Benzene	2022/11/05	95	70 - 130	91	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	Chloroform	2022/11/05	99	70 - 130	95	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	cis-1,2-Dichloroethylene	2022/11/05	102	70 - 130	93	70 - 130	ND, RDL=0.50	ug/L	NC	30		
8316663	Ethylbenzene	2022/11/05	96	70 - 130	93	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	Methyl Ethyl Ketone (2-Butanone)	2022/11/05	110	60 - 140	103	60 - 140	ND, RDL=10	ug/L	NC	30		
8316663	Methylene Chloride(Dichloromethane)	2022/11/05	91	70 - 130	95	70 - 130	ND, RDL=2.0	ug/L	NC	30		
8316663	o-Xylene	2022/11/05	95	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	p+m-Xylene	2022/11/05	103	70 - 130	101	70 - 130	ND, RDL=0.20	ug/L	NC	30		
8316663	Styrene	2022/11/05	111	70 - 130	111	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	Tetrachloroethylene	2022/11/05	90	70 - 130	88	70 - 130	ND, RDL=0.20	ug/L	5.8	30		
8316663	Toluene	2022/11/05	101	70 - 130	97	70 - 130	ND, RDL=0.20	ug/L	NC	30		

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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
8316663	Total Xylenes	2022/11/05					ND, RDL=0.20	ug/L	NC	30		
8316663	trans-1,3-Dichloropropene	2022/11/05	115	70 - 130	103	70 - 130	ND, RDL=0.40	ug/L	NC	30		
8316663	Trichloroethylene	2022/11/05	97	70 - 130	99	70 - 130	ND, RDL=0.20	ug/L	11	30		
8316914	Bis(2-ethylhexyl)phthalate	2022/11/01	105	30 - 130	104	30 - 130	ND, RDL=2.0	ug/L	NC	40		
8316914	Di-N-butyl phthalate	2022/11/01	101	30 - 130	107	30 - 130	ND, RDL=2.0	ug/L	NC	40		
8317203	Total Suspended Solids	2022/11/02					ND, RDL=10	mg/L	7.1	25	96	85 - 115
8317666	Fluoride (F-)	2022/11/03	100	80 - 120	101	80 - 120	ND, RDL=0.10	mg/L	3.8	20		
8317668	pH	2022/11/03			102	98 - 103			0.30	N/A		
8317818	Dissolved Sulphate (SO4)	2022/11/07	NC	75 - 125	108	80 - 120	ND, RDL=1.0	mg/L	0.84	20		
8318078	Nonylphenol (Total)	2022/11/02	97	50 - 130	79	50 - 130	ND, RDL=0.001	mg/L	NC	40		
8318084	Nonylphenol Ethoxylate (Total)	2022/11/02	112	50 - 130	98	50 - 130	ND, RDL=0.025	mg/L	NC	40		
8318695	Total PCB	2022/11/02	67	60 - 130	82	60 - 130	ND, RDL=0.05	ug/L	NC	40		
8320768	Total Aluminum (Al)	2022/11/03	97	80 - 120	95	80 - 120	ND, RDL=4.9	ug/L	0.020	20		
8320768	Total Antimony (Sb)	2022/11/03	114	80 - 120	112	80 - 120	ND, RDL=0.50	ug/L				
8320768	Total Arsenic (As)	2022/11/03	103	80 - 120	104	80 - 120	ND, RDL=1.0	ug/L				
8320768	Total Cadmium (Cd)	2022/11/03	105	80 - 120	105	80 - 120	ND, RDL=0.090	ug/L	NC	20		
8320768	Total Chromium (Cr)	2022/11/03	95	80 - 120	96	80 - 120	ND, RDL=5.0	ug/L	NC	20		
8320768	Total Cobalt (Co)	2022/11/03	96	80 - 120	98	80 - 120	ND, RDL=0.50	ug/L				
8320768	Total Copper (Cu)	2022/11/03	97	80 - 120	97	80 - 120	ND, RDL=0.90	ug/L	0.50	20		
8320768	Total Lead (Pb)	2022/11/03	99	80 - 120	99	80 - 120	ND, RDL=0.50	ug/L	NC	20		
8320768	Total Manganese (Mn)	2022/11/03	95	80 - 120	97	80 - 120	ND, RDL=2.0	ug/L				
8320768	Total Molybdenum (Mo)	2022/11/03	102	80 - 120	101	80 - 120	ND, RDL=0.50	ug/L				
8320768	Total Nickel (Ni)	2022/11/03	95	80 - 120	97	80 - 120	ND, RDL=1.0	ug/L	NC	20		
8320768	Total Phosphorus (P)	2022/11/03	99	80 - 120	104	80 - 120	ND, RDL=100	ug/L				
8320768	Total Selenium (Se)	2022/11/03	106	80 - 120	108	80 - 120	ND, RDL=2.0	ug/L				
8320768	Total Silver (Ag)	2022/11/03	102	80 - 120	102	80 - 120	ND, RDL=0.090	ug/L				

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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
8320768	Total Tin (Sn)	2022/11/03	106	80 - 120	105	80 - 120	ND, RDL=1.0	ug/L				
8320768	Total Titanium (Ti)	2022/11/03	96	80 - 120	98	80 - 120	ND, RDL=5.0	ug/L				
8320768	Total Zinc (Zn)	2022/11/03	102	80 - 120	106	80 - 120	ND, RDL=5.0	ug/L	4.3	20		
8321895	Total Kjeldahl Nitrogen (TKN)	2022/11/04	101	80 - 120	99	80 - 120	ND, RDL=0.10	mg/L	NC	20	101	80 - 120
8326699	Phenols-4AAP	2022/11/04	102	80 - 120	100	80 - 120	ND, RDL=0.0010	mg/L	11	20		
8328693	Total Oil & Grease	2022/11/05			99	85 - 115	ND, RDL=0.50	mg/L	0.25	25		
8328696	Total Oil & Grease Mineral/Synthetic	2022/11/05			97	85 - 115	ND, RDL=0.50	mg/L	0.52	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).

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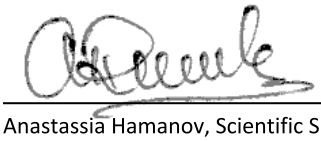
Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

VALIDATION SIGNATURE PAGE

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



Anastassia Hamanov, Scientific Specialist

Farhana Rahman, Senior Analyst

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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Page 1 of 1

MICRO

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#30554 exp Services Inc	Company Name:	EXP Services Inc	Quotation #:	C20374	Bureau Veritas Job #:	Bottle Order #: 904830
Attention:	Accounts Payable	Attention:	Francois Chartier	P.O. #:	ENV – BRM		
Address:	1595 Clark Blvd Brampton ON L6T 4V1	Address:	Peyman.Sayyah@exp.com Thabiso.Modise@exp.com	Project:	BRM-00257769-D0	COC #: C#904630-01-01	Project Manager: Patricia Legette
Tel:	(905) 793-9800 Fax: (905) 793-0641	Tel:	(905) 793-9800 Ext: 2523 Fax:	Project Name:			
Email:	AP@exp.com; Karen.Burke@exp.com	Email:	Francois.Chartier@exp.com	Site #:	Erin Mills Town Centre – 5100		
				Sampled By:	Thabiso Modise		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☑ Sanitary Sewer Bylaw
- ☐ Reg 558 ☑ Storm Sewer Bylaw
- ☐ MISA Municipality PEEL REGION
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Peel Sanitary & Storm Sewer (53-2019)									# of Bottles	Comments
1		BH-101	22/10/Hour	14:45	GW	NO	✓									17	PLEASE INCLUDE COC IN COA
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

28-Oct-22 16:56
Patricia Legette
C2V6314
DSG ENV-1487

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
Thabiso Modise	22/10/23	17:55		COMMING	16:56		Time Sensitive	Temperature (°C) on Recei 13 | 4 | 13	Custody Seal Present	Yes	No
									Intact		✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

ON ice

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C2V6314
Report Date: 2022/11/08

exp Services Inc
Client Project #: BRM-00257769-D0
Site Location: ERIN MILLS TOWN CENTRE – 5100 ERIN MILLS PARKWAY, ON
Your P.O. #: ENV – BRM
Sampler Initials: TM

Exceedance Summary Table – Peel Region Storm 2010

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
BH-101	UDN173-07	Total Kjeldahl Nitrogen (TKN)	1	1.5	0.10	mg/L
BH-101	UDN173-08	Total Manganese (Mn)	50	370	2.0	ug/L
BH-101	UDN173-06	Total Suspended Solids	15	27	10	mg/L
BH-101	UDN173-06-Lab Dup	Total Suspended Solids	15	29	10	mg/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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Appendix E – Construction and Post-Construction Flow Rate Calculations

APPENDIX E: Dewatering Flow Rates

Erin Mills Town Centre

GTR-00257769-H0

Table E-1: Construction and Post Construction Dewatering Assessments

Parameters	Symbols	Unit	PHASE 1 BUILDING A		PHASE 2 BUILDING B AND G (Combined)		PHASE 3 BUILDING C AND D (Combined)		PHASE 4 BUILDING E AND H (Combined)		PHASE 5 BUILDING F1-F2 (Combined)	
			Construction	Post Construction	Construction	Post Construction	Construction	Post Construction	Construction	Post Construction	Construction	Post Construction
Geological Formation	-	-	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit	Glacial Deposit
INPUTS												
Ground Elevation	-	mASL	**175.97**	**175.97**	**176.44**	**176.44**	**177.03**	**177.03**	**176.22**	**176.22**	**175.16**	**175.16**
Highest Groundwater Elevation	-	mASL	**171.05**	**171.05**	**171.82**	**171.82**	**172.30**	**172.30**	**171.15**	**171.15**	**170.92**	**170.92**
Lowest Top Slab Elevation	-	mASL	**160.57**	**160.57**	**161.04**	**161.04**	**161.63**	**161.63**	**160.82**	**160.82**	**159.76**	**159.76**
Lowest Foundation Invert Elevation	-	mASL	**159.07**	-	**159.54**	-	**160.13**	-	**159.32**	-	**158.26**	-
Height of Static Water Table Above the Base of the Water-Bearing Zone	**H**	m	25.05	25.05	25.82	15.82	26.30	16.30	25.15	15.15	24.92	14.92
Dewatering Target Elevation	-	mASL	158.07	160.07	158.54	160.54	159.13	161.13	158.32	160.32	157.26	159.26
Height of Target Water Level Above the Base of Water-Bearing Zone	h_w	m	12.07	14.07	12.54	4.54	13.13	5.13	12.32	4.32	11.26	3.26
Drawdown	**s**	m	12.98	10.98	13.28	11.28	13.17	11.17	12.84	10.84	13.66	11.66
Dupuit Check (> 45%)		m	48%	56%	49%	29%	50%	31%	49%	28%	45%	22%
Base of Aquifer / Water Bearing Zone	-	mASL	**146.00**	**146.00**	**146.00**	**156.00**	**146.00**	**156.00**	**146.00**	**156.00**	**146.00**	**156.00**
Hydraulic Conductivity	**K**	m/s	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**	**4.5E-07**
Length of Excavation	-	m	**70.00**	**70.00**	**100.00**	**100.00**	**110.00**	**110.00**	**90.00**	**90.00**	**130.00**	**130.00**
Width of Excavation	-	m	**70.00**	**70.00**	**110.00**	**110.00**	**110.00**	**110.00**	**90.00**	**90.00**	**40.00**	**40.00**
Area of Excavation	-	m2	**4,900**	**4,900**	**11,000**	**11,000**	**12,100**	**12,100**	**8,100**	**8,100**	**5,200**	**5,200**
Equivalent Radius (equivalent perimeter)	r_e	m	44.56	44.56	66.85	66.85	70.03	70.03	57.30	57.30	54.11	54.11
Method to Calculate Radius of Influence	-	-	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**	**Cooper-Jacob**
Time (days)			**30.00**	**365.00**	**30.00**	**365.00**	**30.00**	**365.00**	**30.00**	**365.00**	**30.00**	**365.00**
Time (seconds)	**t**	s	2,592,000	31,536,000	2,592,000	31,536,000	2,592,000	31,536,000	2,592,000	31,536,000	2,592,000	31,536,000
Specific Yield	**Sy**		**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**
OUTPUTS												
Cooper-Jacob's Radius of Influence from Sides of Excavation	**Rcj**	m	25.53	89.06	25.92	70.78	26.16	71.84	25.58	69.26	25.47	68.74
Radius of Influence	**Ro**	m	70.10	133.63	92.77	137.62	96.19	141.87	82.88	126.56	79.58	122.85
Dewatering Flow Rate (unconfined radial flow component)	**Q**	m^3/day	**128.85**	**47.38**	**188.29**	**38.52**	**198.16**	**41.07**	**157.78**	**32.24**	**155.24**	**31.32**
Factor of Safety	**fs**	-	2.00	1.50	2.00	1.50	2.00	1.50	2.00	1.50	2.00	1.50
Dewatering Flow Rate (multiplied by factor of safety)	**Q.fs**	m^3/day	**258**	**71**	**377**	**58**	**396**	**62**	**316**	**48**	**310**	**47**
Precipitation Event	-	mm/day	25	-	25	-	25	-	25	-	25	-
Volume from Precipitation	-	m^3/day	123	-	275	-	303	-	203	-	130	-
Total Volume (L/day) Discharge of Groundwater (Construction dewatering) **without Safety Factor** (including precipitation	-	m^3/day	**251**	**-**	**463**	**-**	**501**	**-**	**360**	**-**	**285**	**-**
Total Volume (L/day) Discharge of Groundwater (Construction dewatering) **with Safety Factor** (including precipitation)	-	m^3/day	**380**	**-**	**652**	**-**	**699**	**-**	**518**	**-**	**440**	**-**

Precipitation Event 2 year storm	-	mm/day	57		57		57		57	
Volume from Precipitation	-	m^3/event	279		627		690		462	
Precipitation Event 100 year storm	-	mm/day	124.4		124.4		124.4		124.4	
Volume from Precipitation	-	m^3/event	610		1,368		1,505		1,008	

Notes:

mASL - meters above sea level

Analytical Solution for Estimating Radial Flow from an Unconfined Aquifer to a Fully-Penetrating Excavation

$$Q_w = \frac{\pi K (H^2 - h^2)}{Ln\,[\frac{R_o}{r_e}]}$$ (Based on the Dupuit-Forcheimer Equation)

$$r_e = \frac{a+b}{\pi} \qquad R_o = R_{cj} + r_e \qquad R_{cj} = \sqrt{2.25KDt/S}$$

Where:

Q_w = Flow rate per unit length of excavation (m^3/s)

K = Hydraulic conductivity (m/s)

H = Height of static water table above base of water-bearing zone (m)

h_w = Height of target water level above the base of water-bearing zone (m)

Rcj=Cooper Jacob Radius of Influence (m)

R_o=Radius of influence (m)

re=Equivalent perimeter (m)

Appendix F – ORMGP

Thickness of Overburden_5100 Erin Mills Parkway, Mississauga, ON

Legend

Quaternary Sediment Thickness (Depth t (ORMGP)

Region of Peel
working with you

343.1 0 171.55 343.1 Km

1: 6,754

Map Compiled by the Oak Ridges Moraine Groundwater Program.101 Exchange Avenue, Vaughan, Ontario, M3N 1S4

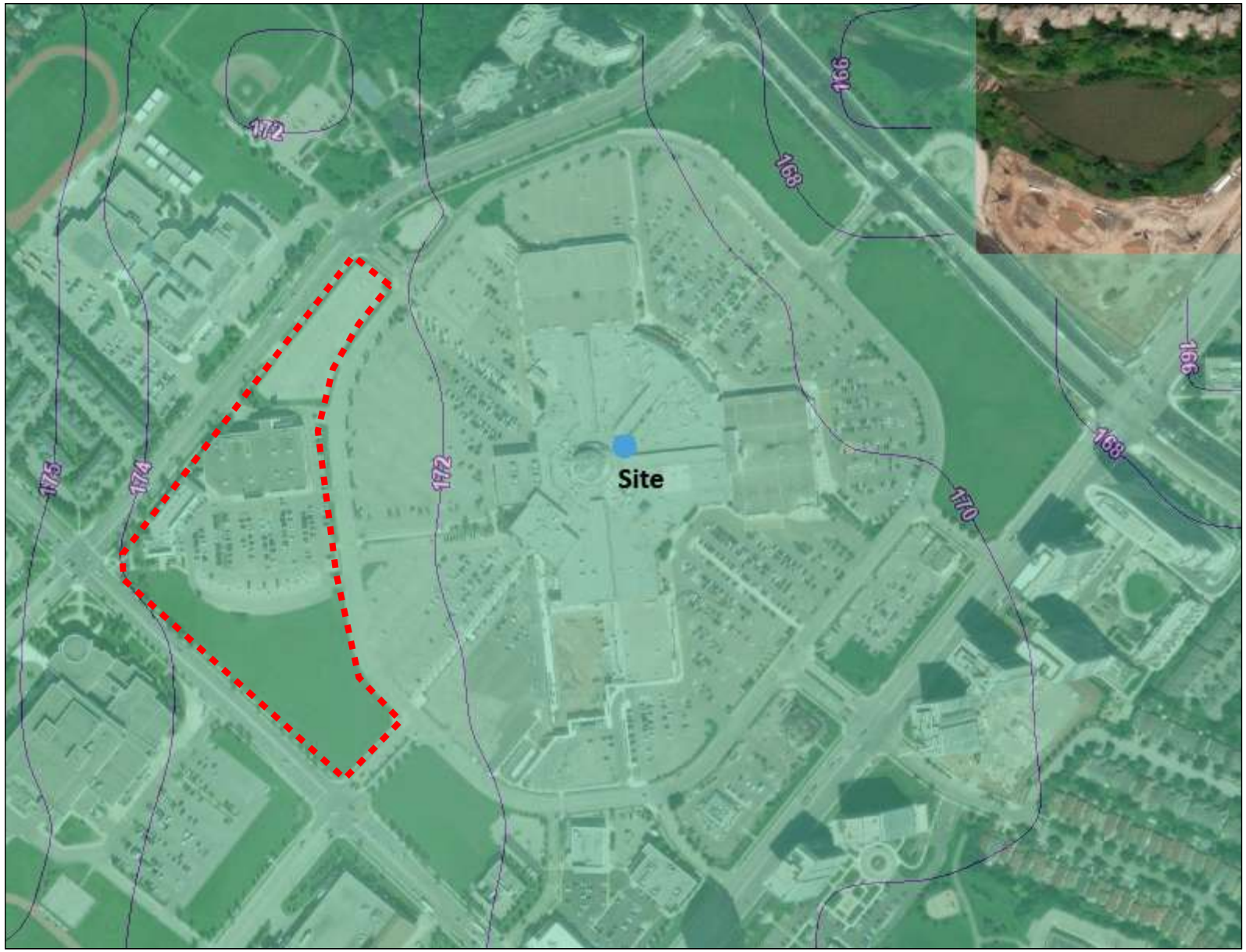
This map is for information purposes only and the Oak Ridges Moraine Groundwater Program takes no responsibility for, nor guarantees, the accuracy of all the information contained within the map.

SOURCE: ORMGP, 2022; MNRF, 2022;

PROJECTION: WGS_1984_Web_Mercator_Auxiliary_Sphere

DATE PRINTED: October 20, 2022

Top of Halton_5100 Erin Mills Parkway, Mississauga, ON



Legend

Top of Halton Till (or equiv.) (mASL)

Region of Peel
working with you

343.1 0 171.55 343.1 Km

1: 6,754

Map Compiled by the Oak Ridges Moraine Groundwater Program.101 Exchange Avenue, Vaughan, Ontario, M3N 1S4

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SOURCE: ORMGP, 2022; MNRF, 2022;

PROJECTION: WGS_1984_Web_Mercator_Auxiliary_Sphere

DATE PRINTED: October 20, 2022

Top of Bedrock_5100 Erin Mills Parkway, Mississauga, ON

Legend

Bedrock (mASL)

Region of Peel
working with you

343.1 0 171.55 343.1 Km

1: 6,754

Map Compiled by the Oak Ridges Moraine Groundwater Program.101 Exchange Avenue, Vaughan, Ontario, M3N 1S4

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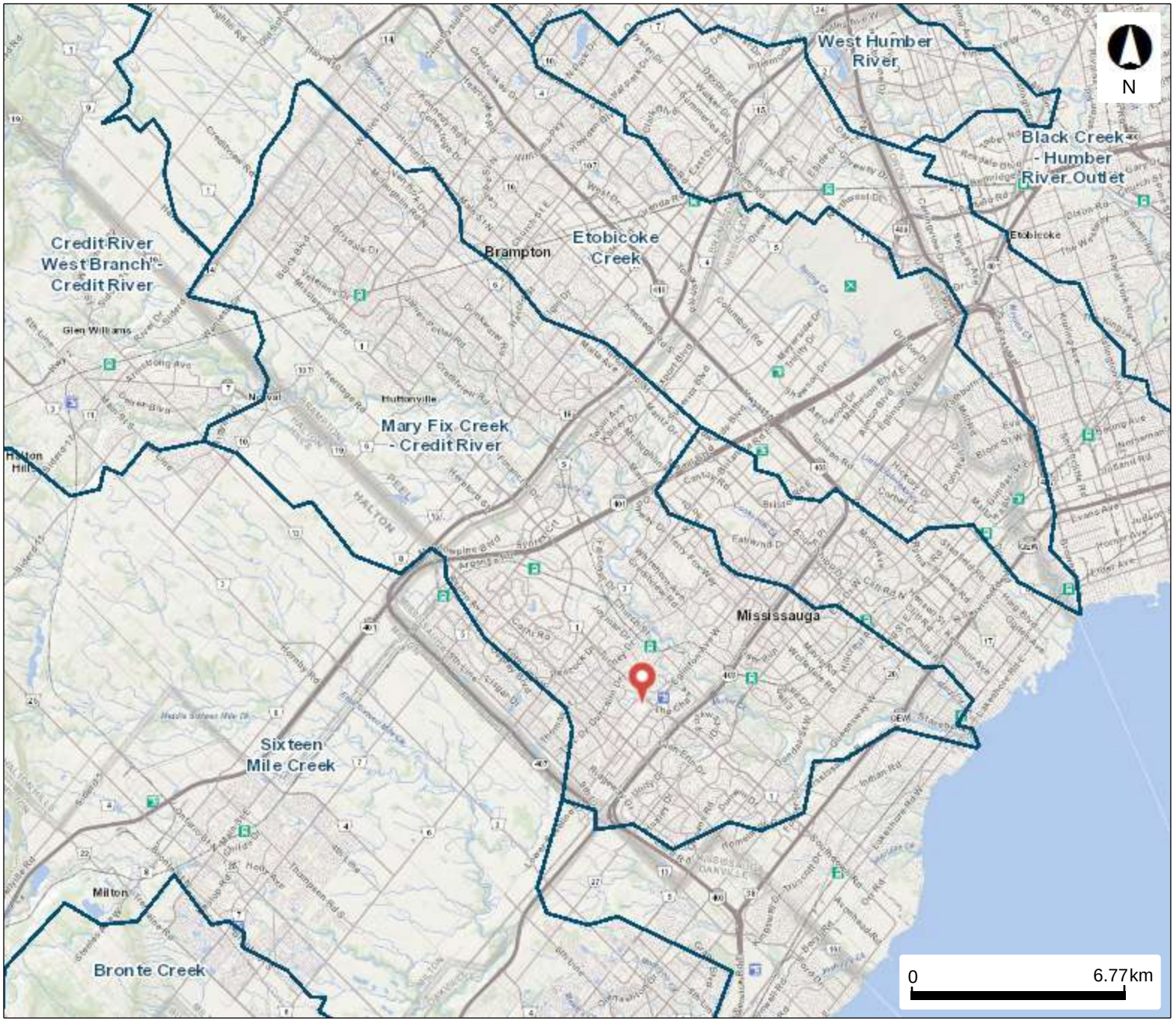
SOURCE: ORMGP, 2022; MNRF, 2022;

PROJECTION: WGS_1984_Web_Mercator_Auxiliary_Sphere

DATE PRINTED: October 20, 2022

Watershed_5100 Erin Mills Parkway, Mississauga, ON



Legend

- Quaternary

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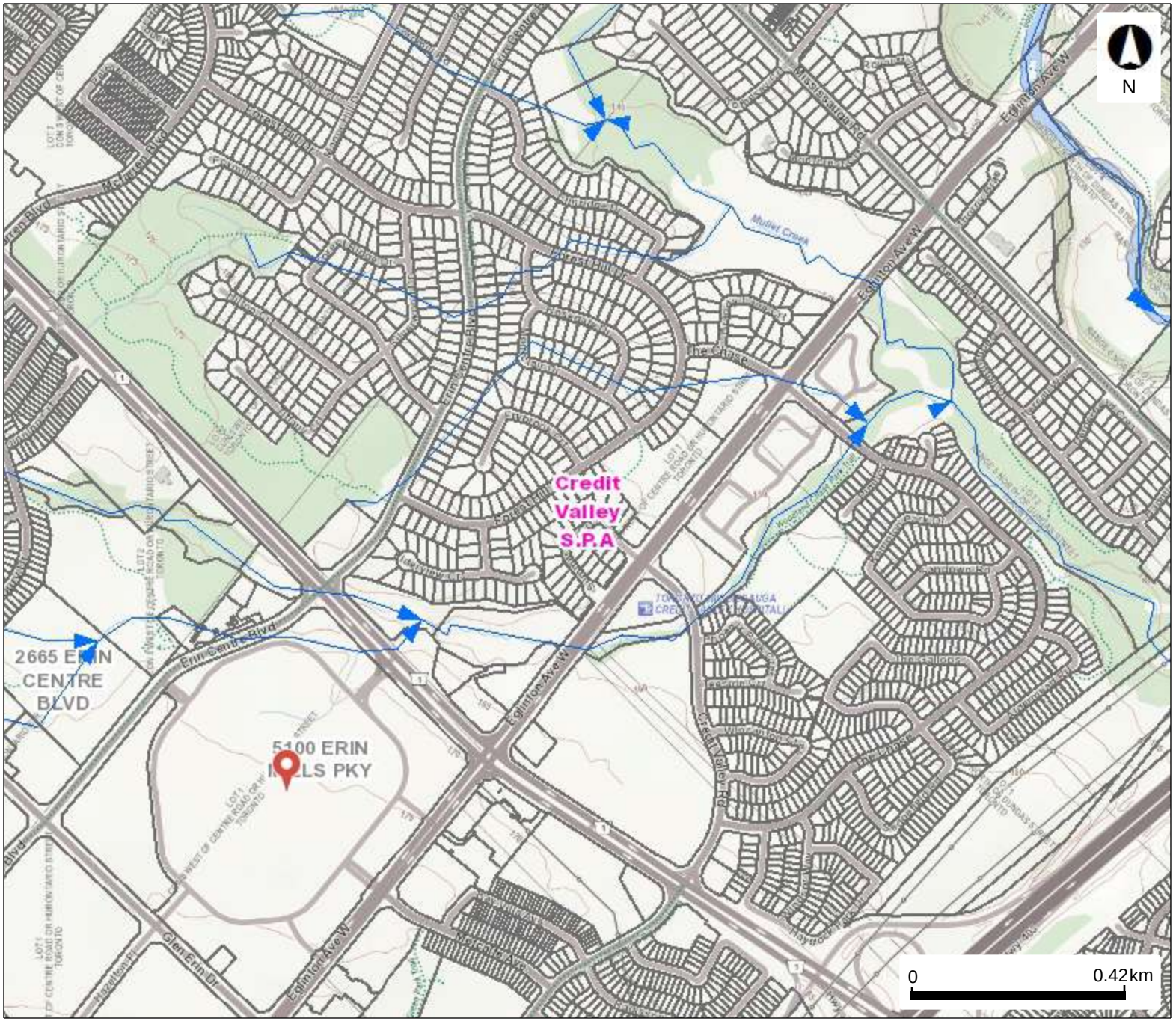
Ontario

Map Created: 10/21/2022
Map Center: 43.61389 N, -79.73301 W

Surface Water Features_5100 Erin Mills Parkway, Mississauga, ON



Legend

- Watercourse Direction
- Source Protection Areas
- Assessment Parcel with Addre

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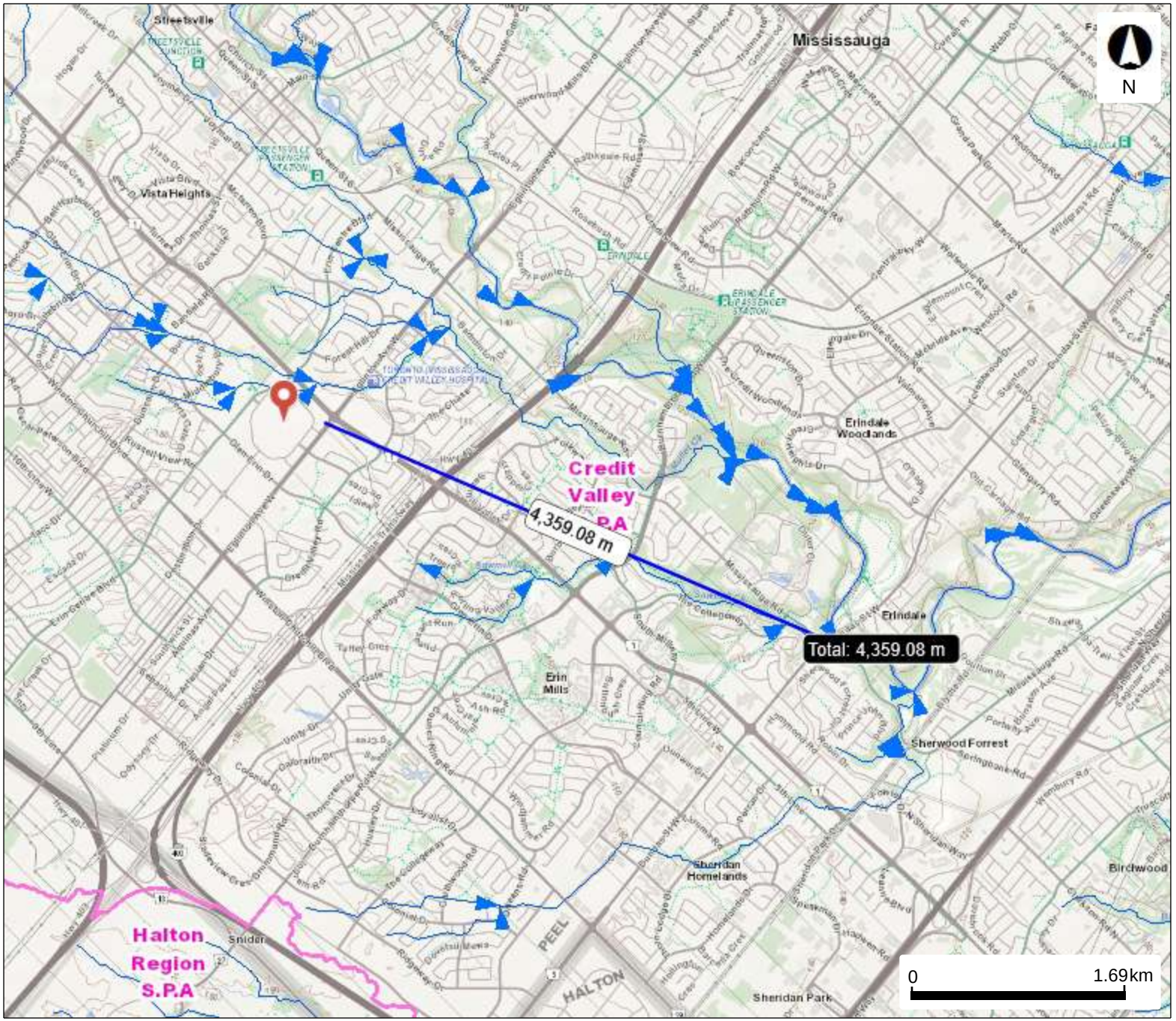
Map Created: 10/21/2022
Map Center: 43.56317 N, -79.70431 W

Surface Water Features_5100 Erin Mills Parkway, Mississauga, ON



Legend

- Watercourse Direction
- Source Protection Areas

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Ontario

Map Created: 10/21/2022
Map Center: 43.55219 N, -79.68207 W

Groundwater Contour Map_5100 Erin Mills Parkway, Mississauga, ON

Legend

- Shallow Wells (Bottom of screen <20 m d
- Streams (Strahler > Class 3)
- Water Bodies
- Water Table 1 (WT1) (mASL)

Region of Peel
working with you

686.2 0 343.10 686.2 Km

1: 13,508

Map Compiled by the Oak Ridges Moraine Groundwater Program.101 Exchange Avenue, Vaughan, Ontario, M3N 1S4

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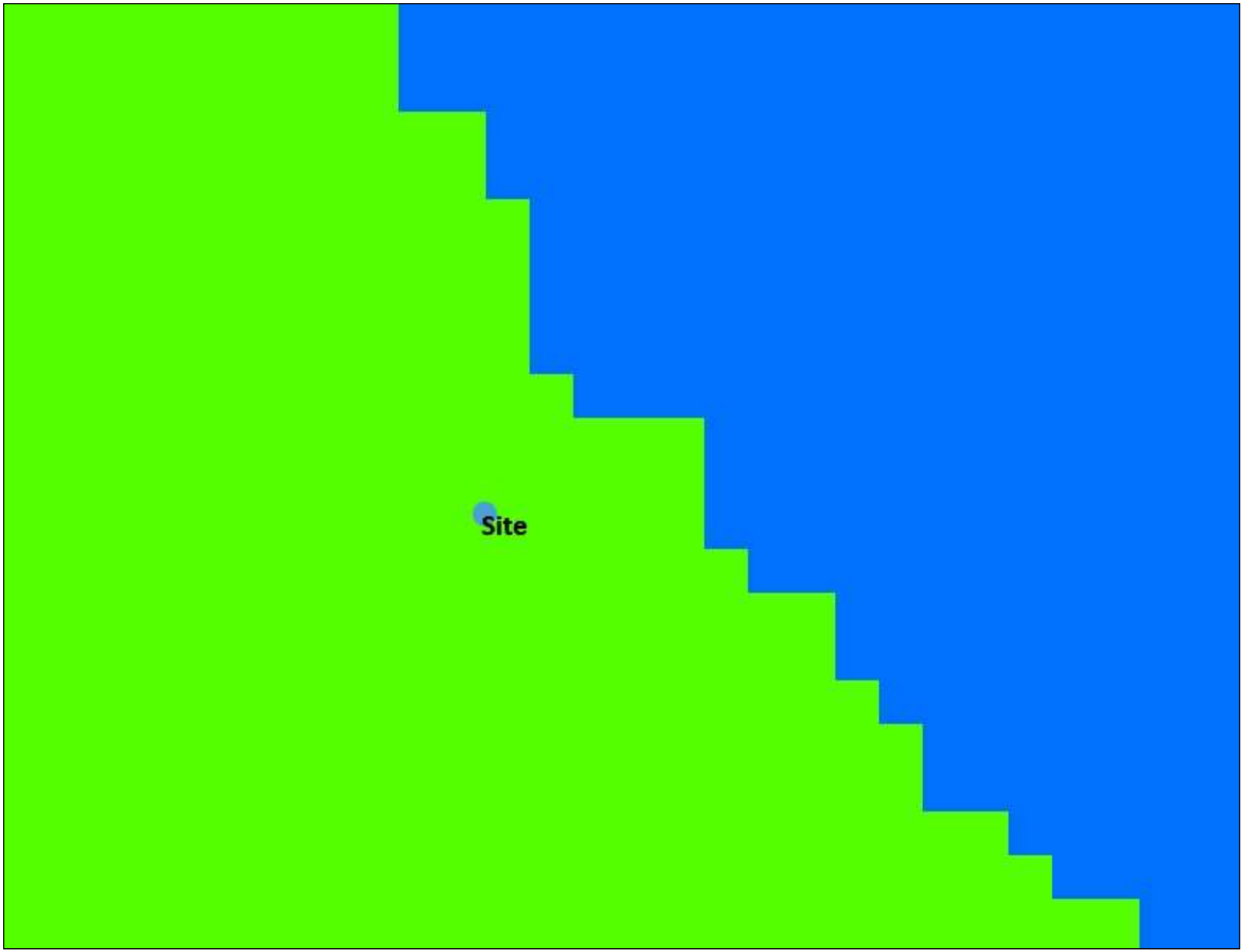
SOURCE: ORMGP, 2022; MNRF, 2022;

PROJECTION: WGS_1984_Web_Mercator_Auxiliary_Sphere

DATE PRINTED: October 20, 2022

Vertical Groundwater Gradient_5100 Erin Mills Parkway, Mississauga, ON



Legend

Vertical Gradient (WT1 minus PS0)

- Upward Gradient (PS0>WT1)
- Downward Gradient (WT1 > PS0)

686.2 0 343.10 686.2 Km

1: 13,508

Map Compiled by the Oak Ridges Moraine Groundwater Program.101 Exchange Avenue, Vaughan, Ontario, M3N 1S4

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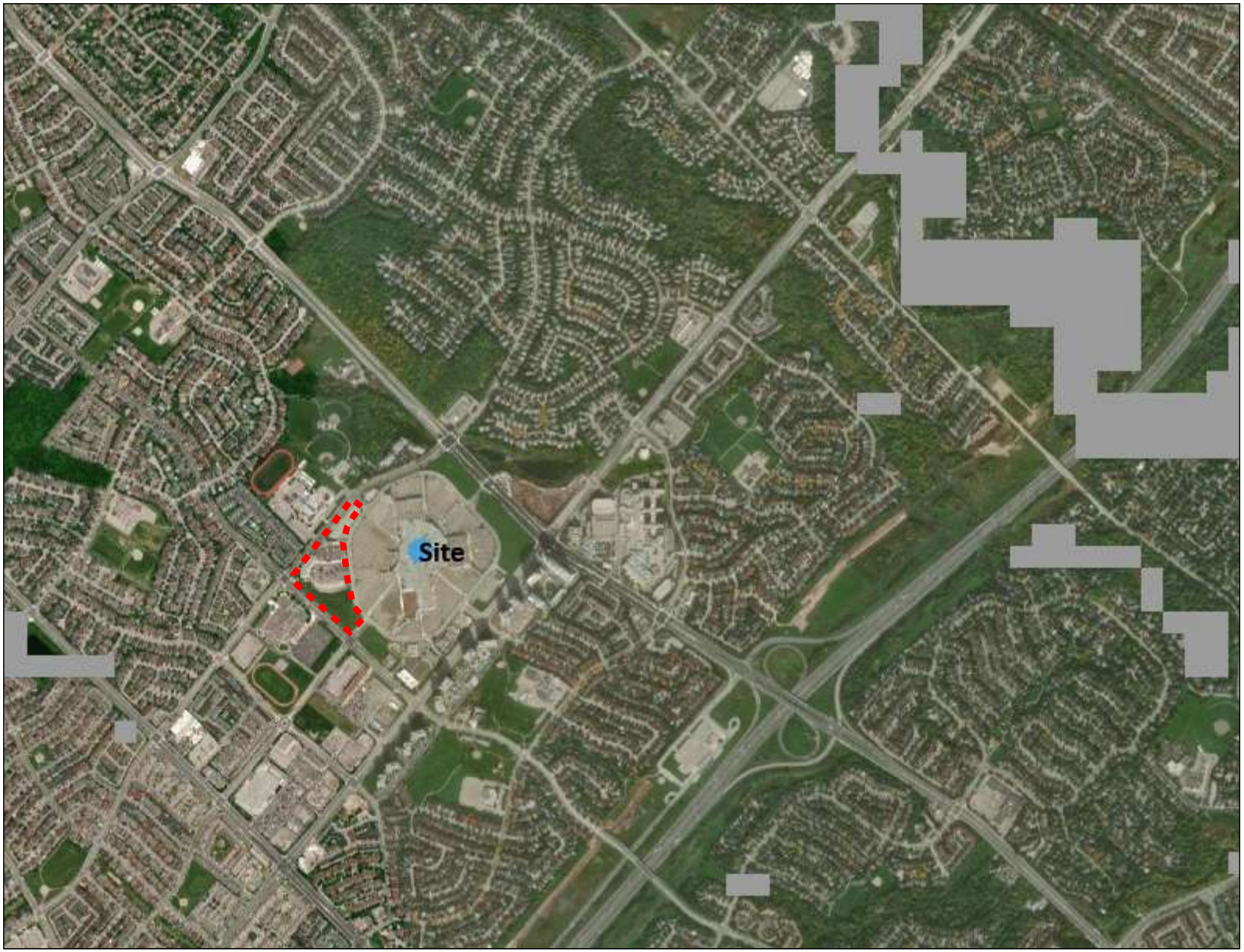
SOURCE: ORMGP, 2022; MNRF, 2022;

PROJECTION: WGS_1984_Web_Mercator_Auxiliary_Sphere

DATE PRINTED: October 20, 2022

Potential Discharge Areas_5100 Erin Mills Parkway, Mississauga, ON



Legend

Potential Discharge Areas (WT0)

Region of Peel
working with you

1,372.4 0 686.19 1,372.4 Km

1: 27,016

Map Compiled by the Oak Ridges Moraine Groundwater Program.101 Exchange Avenue, Vaughan, Ontario, M3N 1S4

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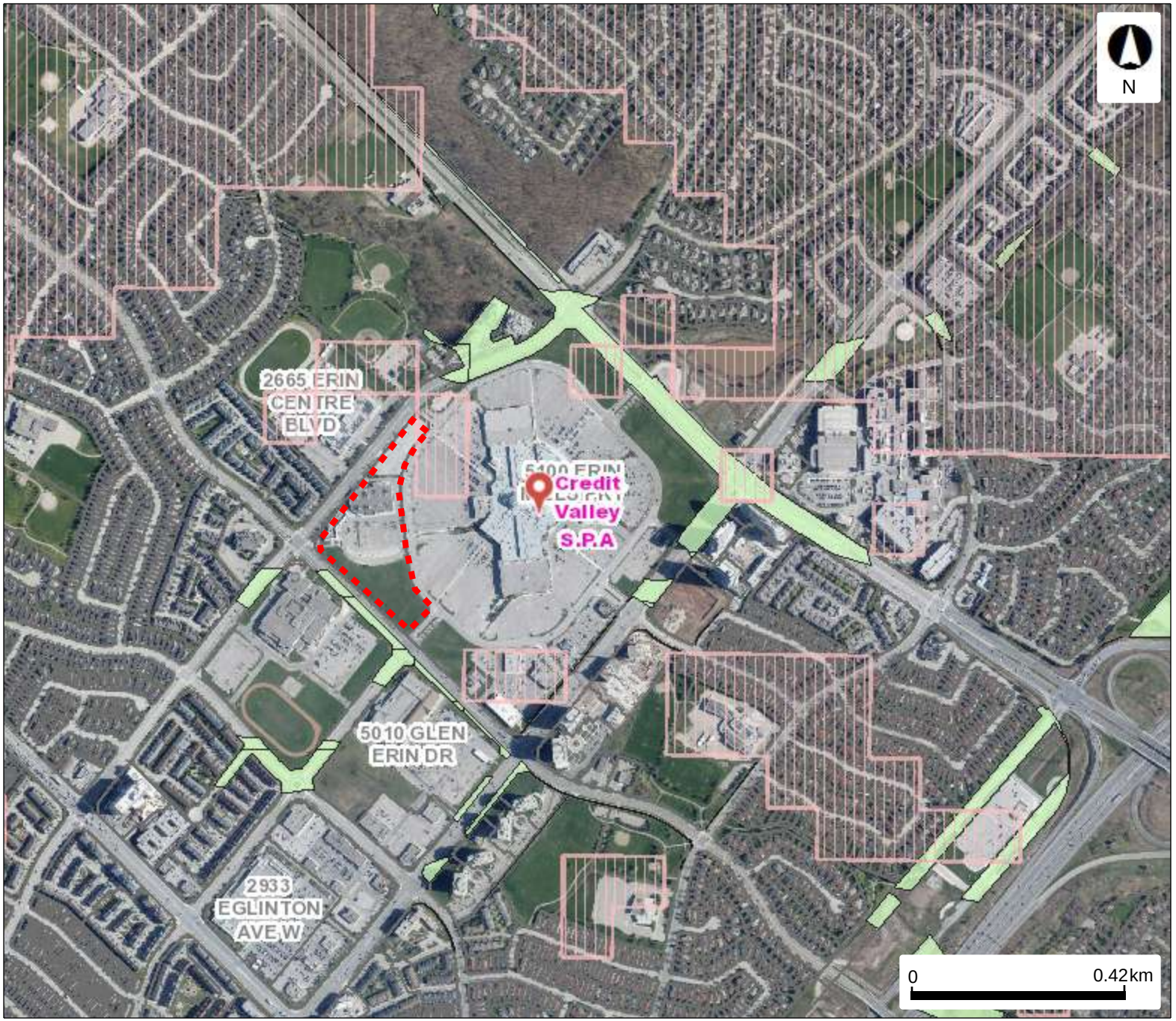
SOURCE: ORMGP, 2022; MNRF, 2022;

PROJECTION: WGS_1984_Web_Mercator_Auxiliary_Sphere

DATE PRINTED: October 20, 2022

HVA & SGWRA_5100 Erin Mills Parkway, Mississauga, ON



Legend

- Source Protection Areas
- Highly Vulnerable Aquifers
- Significant Groundwater Recharge Area
  - 0
  - 2
  - 4
  - 6
- Assessment Parcel with Addre

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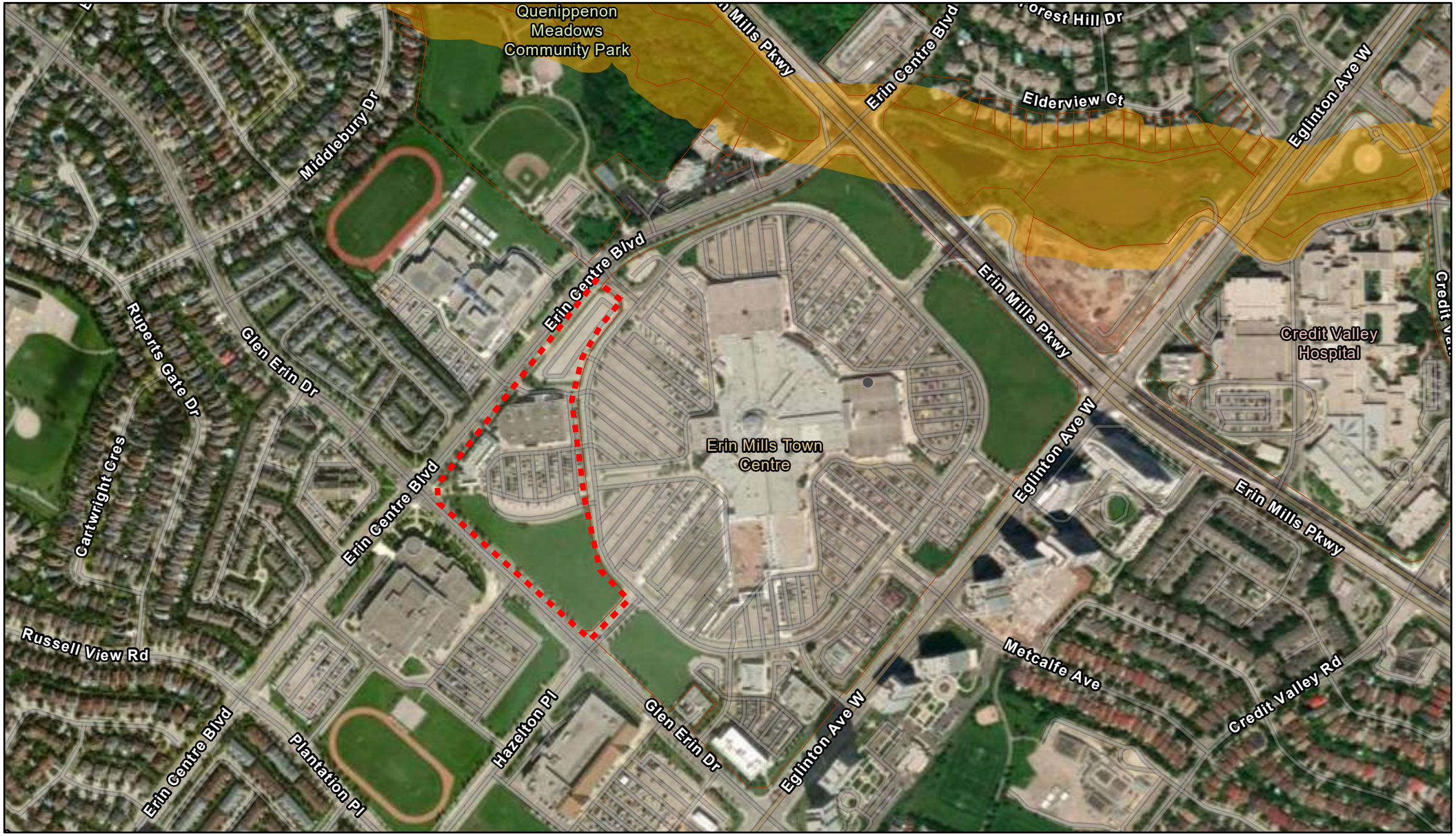
Ontario

Map Created: 10/21/2022
Map Center: 43.55826 N, -79.71047 W

Regulation Screening- Credit Valley Conservation



10/21/2022, 12:07:54 PM

Credit River Watershed Boundary

Parcels around Regulated Area

Generic Regulation Mapping

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

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Credit Valley Conservation