Hydrogeological Investigation

Proposed Residential Development
1470 Williamsport Drive
Mississauga, Ontario

Prepared For:

1470 Williamsport Holdings Inc.

Project No.: 24-300-100
Date: October 15th, 2024

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24- 300-100 **October 15th, 2024**

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Attention: Jack Greenberg
Via email: michi@sajeckiplanning.com

RE: Hydrogeological Investigation – 1470 Williamsport Drive, Mississauga, Ontario

DS Consultants Limited (DS) was retained by 1470 Williamsport Holdings Inc. to complete a hydrogeological investigation for the proposed development at 1470 Williamsport Drive in the City of Mississauga (hereinafter referred to as the Site). The site is an approximate 5,800 m^2 parcel of land located approximately 100 meters south of the intersection of Williamsport Drive and Havenwood Drive and currently occupied with a mid-rise residential building with associated paved parking lot. DS understands that the existing structures will be demolished, and the proposed development includes the construction of two (2) 12-storey mid-rise building with two (2) levels of underground parking (P2).

The average ground elevation at the site is approximately 139 meters above sea level (masl). Based on the architectural drawings provided to DS (BDP, Quadrangle issued on June 7, 2024), it's assumed that the finished floor elevation of P2 would be 7 meters below ground surface (mbgs) or an approximate elevation of 132 masl. The assumed finished floor elevation of P2 considering the footings and elevator shaft would be approximately 9 mbgs (approx. Elev: 130 masl).

This hydrogeological investigation includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area, an assessment of the hydrogeological constraints, and impacts of the proposed development on the local groundwater and provides an estimation of construction dewatering and permanent drainage requirements during the proposed development phase. Based on the results of this investigation, the following conclusions and recommendations are presented:

1. Based on the MECP water well records search, there are nineteen (19) water wells within 500 meters of the development site. No water well is noted as a water supply well (domestic, irrigation, industrial). All wells are noted as test holes, monitoring wells, not in use or unknown. The study area is serviced with municipal water and therefore, no groundwater users are expected in the area.

2. On August 9, 2024, DS drilled five (5) boreholes (BH24-1 through BH24-5) at the site as part of the concurrent hydrogeological and environmental investigations. The boreholes were advanced to a depth ranging from 2.1 to 9.8 mbgs. One (1) of the drilled boreholes (BH24-5) was equipped with a 50 mm dia monitoring well to a depth ranging from 6.7 to 9.7 mbgs. All monitoring wells (including three (3) monitoring well (BH1, BH2 and BH3S) installed as part of previous investigations) were

developed before any use to allow for groundwater level monitoring, hydraulic conductivity testing, and to assess groundwater quality.

3. The surficial geology at the site partially is characterized as “Ice-contact stratified deposits” contains sand, gravel, minor silt and clay and till as well as “Coarse-textured glaciolacustrine deposits” consists of sand, gravel, minor silt and clay, foreshore and basinal deposits. The overburden geology at the site generally consisted of Sand deposits with trace amounts of silt, clay and gravel were encountered beneath the earth fill zone in each borehole and extended to 12.2 mbgs.

4. DS measured groundwater levels in monitoring wells installed on August 12th, 2024. The groundwater level in overburden wells ranged from 7.93 to 11.46 mbgs (Elev. 129.24-132.27 masl). The groundwater levels are subject to seasonal fluctuations and may vary in response to changing climate conditions. The groundwater flow direction is expected to be southwesterly towards the tributary Etobicoke Creek located approximately 800 m southwest of the Site.

5. A total of three (3) Single Well Response Tests (slug tests) were completed by DS on August 14th, 2024, to estimate hydraulic conductivity (k) for the representative geological units in which the wells were screened. Hydraulic conductivity (k) values were calculated using the Hvorslev method using the AquiferTest® Software. The k-values ranged between 3.34×10^{-7} m/s to 1.35×10^{-5} m/s.

6. To assess the suitability for discharge of groundwater to the City of Mississauga’s Storm Sewers and Peel Region’s Sanitary and Storm Sewer system, one (1) unfiltered groundwater sample was collected from monitoring well BH1 on August 14th, 2024. The reported analytical results indicate that all the parameters met the City of Mississauga and Peel Region’s Storm Sewer-Use By-Law except for Total Suspended Solid (TSS). All parameters met the Peel Region’s Sanitary Sewer Use By-Law. Therefore, water cannot be discharged to the City/Region’s storm sewers without pre-treatment. Water can be discharged into Region’s sanitary sewers without pre-treatment.

7. The total estimated short-term dewatering rate for the proposed development with P2 level considering the unsealed excavation method is 119,000 L/day (119 m^3/day). This estimated conservative value incorporates a safety factor of x2 and a theoretical 10 mm storm event per day estimated at 49,000 L/day into the open excavation during construction. It is important to note that if the excavation exceeds P2, due to the heterogeneous nature of the soils and the presence of sandy units at the site, DS recommends conducting a 24-hour pumping test. This test will provide a more accurate assessment of the aquifer parameters, including transmissivity and storativity, and allow for a more precise estimation of the expected dewatering rates.

8. Following the construction of the underground structure, long-term groundwater flow to the underfloor drainage system for the building will be a function of the upward flux and drainage along the foundation wall. Based on the assumed design, depth to water and given k-value, the estimated permanent theoretical flow would expect to be 25,300 L/day (25.3 m^3/day). However, if a safety factor x1.5 is included, a conservative permanent flow of 37,950 L/day (37.95 m^3/day) will be needed to be pumped into the sewer system to manage any unforeseen groundwater issues in the future.

9. Since the expected design dewatering rate for the unsealed excavation is between the MECP's daily water-taking limit of 50,000 and 400,000 L/day, an EASR application will be required to be submitted to the MECP for short-term dewatering before starting construction. Since, the long-term (permanent) flow rate is expected to be lower than the MECP's minimum pumping limit of 50,000 L/day, a permit to take water (PTTW) application is not required to be submitted to the MECP permanently.

10. There are structures and utilities (structures, buildings, sewers roads, etc.) expected within the predicted zone of influence, which is estimated at 53 meters from the center of the excavation when considering an unsealed excavation. There may be a possibility of settlement within the zone of influence due to the presence of water-bearing sand and gravely deposits. DS recommends consulting geotechnical consultants to access potential settlement due to any dewatering activities at the Site during construction.

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

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

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

DS Consultants Ltd.

Prepared By:

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Reviewed By:

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Senior Hydrogeologist

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APPENDICES:

1.0 INTRODUCTION

DS Consultants Limited (DS) was retained by 1470 Williamsport Holdings Inc. to complete a hydrogeological investigation for the proposed development at 1470 Williamsport Drive in the City of Mississauga (hereinafter referred to as the Site). The site is an approximate 5,800 m^2 parcel of land located approximately 100 meters south of the intersection of Williamsport Drive and Havenwood Drive and currently occupied with a mid-rise residential building with associated paved parking lot. DS understands that the existing structures will be demolished, and the proposed development includes the construction of two (2) 12-storey mid-rise building with two (2) levels of underground parking (P2). **Figure 1** presents the site location map that highlights the location of the site and the surrounding area.

The average ground elevation at the site is approximately 139 meters above sea level (masl). Based on the architectural drawings provided to DS (BDP, Quadrangle issued on June 7, 2024), it's assumed that the finished floor elevation of P2 would be 7 meters below ground surface (mbgs) or an approximate elevation of 132 masl. The assumed finished floor elevation of P2 considering the footings and elevator shaft would be approximately 9 mbgs (approx. Elev: 130 masl).

This hydrogeological investigation includes an overview of the existing geological and hydrogeological conditions at the Site and the surrounding area, an assessment of the hydrogeological constraints, and impacts of the proposed development on the local groundwater and provides an estimation of construction dewatering and permanent drainage requirements during the proposed development phase. This investigation is based on monitoring wells that were installed by other consultants in support of the geotechnical, and hydrogeological investigations at the site in May 2022.

The hydrogeological investigation report has been prepared in general accordance with the Ontario Water Resource Act (OWRA), the Ontario Water Taking Regulation (O.Reg.387/04), the City of Mississauga Sewers By-law (Storm Sewer Discharge, By-Law 0046-2022) and Peel Region Sewer Use By-Law (Sanitary Sewer Discharge By-Law 53-2010). If needed, the results of this investigation can be used in support of an application for a Category 3 Permit to Take Water (PTTW) or an Environmental Activity Sector Registry (EASR) for construction dewatering from the Ministry of the Environment Conservation and Parks (MECP). The hydrogeological report may also be used to support Site Plan Approval (SPA) and discharge permitting (short and long-term) from the City of Mississauga/Peel Region.

1.1 Purpose

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

- Temporary construction dewatering for the excavations of the proposed building on Site;
- Explore the potential need for a Permit to Take Water (PTTW) or Environmental Activity and Sector Registration (EASR) for Construction Dewatering from the MECP;

- Temporary management and discharge of groundwater during short-term construction dewatering
- Asses permanent drainage requirements; and
- Assess groundwater quality to identify potential adverse impacts to City of Mississauga/Peel Region's sewer system.

1.2 Scope of Work

The scope of work for this investigation included:

- Site visits;
- Collecting and interpreting available reports and data including the MECP Water Well Records (WWR), geotechnical, hydrogeological, and environmental studies completed at the Site;
- In-situ hydraulic conductivity testing of monitoring wells;
- Estimation of temporary groundwater flow rate during the construction;
- Estimation of long-term or permanent discharge rate after the construction;
- Assessing groundwater quantity and quality to evaluate discharge options;
- Assessing potential impacts due to dewatering activities; and,
- Data analyses and report preparation.

2.0 FIELDWORK

- On August 9, 2024, DS drilled five (5) boreholes (BH24-1 through BH24-5) at the site as part of the concurrent hydrogeological and environmental investigations. The boreholes were advanced to a depth ranging from 2.1 to 9.8 mbgs. One (1) of the drilled boreholes (BH24-5) was equipped with a 50 mm dia monitoring well to a depth ranging from 6.7 to 9.7 mbgs. All monitoring wells (including three (3) monitoring well (BH1, BH2 and BH3S) installed as part of previous investigations) were developed before any use to allow for groundwater level monitoring, hydraulic conductivity testing, and to assess groundwater quality.
- A total of three (3) single well response tests (SWRTs) were completed by performing a rising head test (slug test) to estimate the hydraulic conductivity values of soils at the site.
- One (1) unfiltered groundwater sample was also collected and analyzed for the parameters listed under the City of Mississauga/Peel Region Sewers By-law (By-Law 0046-2022 and 53-2010,

Sewers) to assess groundwater quality. The borehole (BH) and monitoring well (MW) location plan is shown in **Figure 3**.

3.0 PHYSICAL SETTING

Available topographic maps and environmental, geotechnical and hydrogeological reports were used to develop an understanding of the physical setting of the study area. Borehole logs and the Ministry of the Environment, Conservation and Parks Water Wells Records (MECP WWRs) were used to interpret the geological and hydrogeological conditions at the development site.

3.1 Physiography and Drainage

The topography at the development site is flat with an average surface elevation of 139 masl. The topography within the study area slopes to the northeast towards Etobicoke Creek located about 1.3 km northeast of the site and to the southwest towards a tributary of Etobicoke Creek located about 800 m southwest of the site. Drainage is controlled by underground utilities. There are no surface water features at the site.

3.2 Geology

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

3.2.1 Quaternary Geology

According to the Ontario Geological Survey mapping across the region, the site lies within the Till Plains (Drumlinized) physiographic region of southern Ontario and the quaternary geology of the Site is characterized by Halton Till predominantly silt to silty clay matrix, high in matrix carbonate content and clast poor deposits of Pleistocene. The surficial geology at the site partially is characterized as “Ice-contact stratified deposits” contains sand, gravel, minor silt and clay and till as well as “Coarse-textured glaciolacustrine deposits” consists of sand, gravel, minor silt and clay, foreshore and basinal deposits. The surficial geology map is shown in **Figure 2.**

3.2.2 Bedrock Geology

According to the Ontario Geological Survey mapping across the region, the bedrock at the site is predominantly comprised of shale, limestone, dolostone, and siltstone of the Georgian Bay Formation; Blue Mountain Formation; Billings formation; Collingwood Member, and Eastview Member. Bedrock was encountered during previous investigation at the depth of 12.2 mbgs.

3.2.3 Site Geology

On-site subsurface soil conditions were summarised from the subsurface geotechnical site investigation at the site by DS, other consultant and the MECP water wells records. Detailed subsurface conditions are presented in **Figure 4** and the borehole logs are in **Appendix A**. The subsurface conditions in the boreholes are summarized in the following paragraphs.

Surficial Layers: A topsoil layer was encountered in Boreholes 1, 3D and 3S. The topsoil thickness ranged from 75 to 200 mm.

Asphalt pavement structure, consisting of 90 mm thick asphaltic concrete underlain by 100 mm thick course granular base was encountered at the ground surface in Borehole 2.

Fill materials: consisting of sandy silt to silty sand, with trace amounts of clay, gravel and organics were encountered beneath the topsoil layer (Boreholes 1, 3D and 3S) or below the pavement structure (Borehole 2) and extended to about 2.3 and 2.5 mbgs.

Sand: Sand deposits with trace amounts of silt, clay and gravel were encountered beneath the earth fill zone in each borehole and extended to 12.2 mbgs. Silty sand deposit with trace amount of gravel/rock fragments was encountered beneath the sand layer in Borehole 3D and extended to the full depth of investigation.

Inferred Bedrock: The till-shale complex/weathered shale was identified in each borehole at a depth of 12.2 mbgs.

3.3 Hydrogeology

The hydrogeology at the development site was evaluated using the on-site monitoring wells installed by other consultants, DS and water well record (WWR) database.

3.3.1 Local Groundwater Use

As part of the hydrogeological study, DS completed a search of the Ministry of the Environment, Conservation and Parks (MECP) Water Well Records (WWR) database. Based on the MECP water well records search, there are nineteen (19) water wells within 500 meters of the development site (**Appendix D**). No water well is noted as a water supply well (domestic, irrigation, industrial). All wells are noted as test holes, monitoring wells, not in use or unknown. **Figure 1** shows the MECP water well location plan. The study area is serviced with municipal water and therefore, no groundwater users are expected in the area.

3.3.2 Groundwater Conditions

DS measured groundwater levels in installed monitoring wells on August 12th, 2024. **Table 3-1** presents the groundwater levels in all monitoring wells. The groundwater level in overburden wells ranged from 7.93 to 11.46 mbgs (Elev. 129.24-132.27 masl). The groundwater levels are subject to seasonal

fluctuations and may vary in response to changing climate conditions. The groundwater flow direction is expected to be southwesterly towards the tributary Etobicoke Creek located approximately 800 m southwest of the Site.

Table 3-1: Groundwater Levels in Monitoring Wells

Well ID	Ground Elevation (masl)	Screened Interval (mbgs)	August 12 ,2024	
			Depth to Water (mbgs)	Groundwater Elevation (masl)
BH1	140.7	9.2-12.2	11.46	129.24
BH2	139.7	9.2-12.2	9.44	130.26
BH3s	139.2	1.6-4.6	Dry	-
BH24-5	139.2	6.7-9.7	7.93	131.27

3.3.3 Hydraulic Conductivity

A total of three (3) Single Well Response Tests (slug tests) were completed by DS on August 14th, 2024, to estimate hydraulic conductivity (k) for the representative geological units in which the wells were screened. SWRTs were completed by performing a rising head test (slug test) with the use of Waterra® tubing to 'instantaneously' remove water from the well. A data logger was placed at the bottom of the wells to accurately measure the change in the hydraulic head versus time. Hydraulic conductivity (k) values were calculated using the Hvorslev method using the AquiferTest® Software. The semi-log plots for normalized drawdown versus time are provided in **Appendix B.** The k-values ranged between 3.34 x 10^{-7} m/s to 1.35 x 10^{-5} m/s. **Table 3-2** presents the Hydraulic Conductivity (k) values for the representative geological units.

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

Well ID	Screened Interval (mbgs)	Screened Formation	K-value (m/s)	Geomean value
BH1	9.2-12.2	Sand	1.29 x 10^{-5}	3.87 x 10^{-6}
BH2	9.2-12.2	Sand	1.35 x 10^{-5}	
BH24-5	6.7-9.7	Sand/Silty Sand	3.34 x 10^{-7}	

3.3.4 Groundwater Quality

One (1) unfiltered groundwater sample was collected from monitoring well BH1 on August 14th, 2024, to assess the suitability for discharge of groundwater to the City of Mississauga's Storm Sewers and Peel Region's Sanitary and Storm Sewer system. The groundwater samples were submitted to SGS Laboratories in Lakefield, Ontario. SGS is certified by the Canadian Association of Laboratory Accreditation Inc. (CALA) and the Canadian Standard Association (CSA). The reported analytical results indicate that all the parameters met the City of Mississauga and Peel Region's Storm Sewer-Use By-Law except for Total Suspended Solid (TSS). All parameters met the Peel Region's Sanitary Sewer Use By-Law.

Therefore, water cannot be discharged to the City/Region's storm sewers without pre-treatment. Water can be discharge into Region's sanitary sewers without pre-treatment. The exceedances are summarized in **Table 3-3,** and the certificate of analysis is provided in **Appendix C.**

Table 3-3: Parameters in Groundwater Exceeding Peel Region/City of Mississauga Sewer Use By-law

Parameter	Unit	Peel Region Sanitary By-Law Criteria	Peel Region/City of Mississauga Storm By-Law Criteria	BH1
Total Suspended Solid (TSS)	mg/L	350	15	62
Bold- Exceeds Sanitary Sewer Use by Law Criteria Underlined- Exceeds Storm Sewer Use by Law Criteria				

4.0 CONSTRUCTION DEWATERING

The proposed development will include the construction of two (2) 12-storey mid-rise buildings with two (2) levels of underground parking (P2). Based on the architectural drawings provided to DS (BDP, Quadrangle issued on June 7, 2024), it's assumed that the finished floor elevation of P2 would be 7 meters below ground surface (mbgs) or an approximate elevation of 132 masl. The assumed finished floor elevation of P2 considering the footings and elevator shaft would be approximately 9 mbgs (approx. Elev: 130 masl). For construction dewatering purposes, the groundwater level should be lowered at least one (1) m below the footings and elevator shaft elevation at about 129 masl. The unsealed construction excavation method with approximate excavation dimensions of 108 m long and 45 m wide for considered for the proposed development. Since the proposed underground structure will be below the groundwater table, dewatering will be required during the excavation of overburden material.

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

4.1 Estimation of Flow Rate - Unsealed Excavation

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

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

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

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

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

Parameters	P2
K -Hydraulic conductivity (m/s)- geomean K Value	3.87×10^{-6}
H-Distance from water level to the bottom of an aquifer (m)	3.3
h -Depth of water in the well while pumping (m)	1
a- length of excavation (m)	108
b- Width of excavation (m)	45
r_e–equivalent radius, where a and b excavation dimensions (m)	39
R_o- re+Radius of the cone of depression	53
Estimated Flow Rate- L/day (without safety factor)	35,000

4.2 Estimation of Flow Rate- Storm Water Consideration

During construction, additional removal of stormwater from precipitation into the open excavation will be required. The estimated flow rate is based on the excavation dimensions for the entire development and a theoretical 10 mm precipitation event in 24 hours. The total estimated dewatering that might be needed as a result of a 10 mm precipitation event would be approximately 49,000 L/day (49 m^3/day).

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

Considering the unsealed excavation method, the recommended pumping rate for the proposed development considering P2 levels would be approximately **119,000 L/day (119 m^3/day)**. These values incorporate a safety factor of x2 and account for stormwater as a result of a 10 mm precipitation event. The recommended flow rates for the proposed buildings are summarised in Table 4-2.

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

U/G	Flow Rate Q- without a safety factor (L/day)	Flow Rate Q- with a safety factor x2 (L/day)	Storm water (@ 10 mm/24 hrs.) (L/day)	Design Flow Rate Or Total Flow Rate (L/day)
P2	35,000	70,000	49,000	119,000

It is expected that the initial dewatering rate will be higher to remove groundwater within the overburden formation. The dewatering rates are expected to decrease once the target water level is achieved in the excavation footprint as groundwater will have been removed locally from storage resulting in lower seepage rates into the excavation. The maximum flow calculation is intended to provide a conservative value to account for unforeseeable conditions that may arise during construction. Due to the heterogeneous nature of the soils and presence of sandy units at the site, DS recommends conducting a pumping test for 24 hours to better assess the aquifer parameters (transmissivity and storativity) and more accurately estimate the anticipated dewatering rates. Dewatering values have to be further refined when details design and construction sequencing become available.

4.4 Permanent Drainage (Long-term Discharge)

Following the construction of the underground structure, long-term groundwater flow to the underfloor drainage system for the building will be a function of the upward flux and drainage along the foundation wall. Based on the assumed design, depth to water and given k-value, the estimated permanent theoretical flow would expect to be 25,300 L/day (25.3 m^3/day). However, if a safety factor x1.5 is included, a conservative permanent flow of **37,950 L/day (37.95 m^3/day)** will be needed to be pumped into the sewer system to manage any unforeseen groundwater issues in the future.

4.5 Permit Requirements

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

An Environmental Activity Sector Registration (EASR) is required to be submitted to the Ministry of the Environment, Conservation and Parks (MECP) if the taking of groundwater and stormwater for a temporary construction project is between 50,000 L/day and 400,000 L/day. The EASR application is an online registry and should be submitted to the MECP before any construction dewatering. A PTTW is only required to be submitted to the MECP if the taking of groundwater and stormwater for a temporary construction project is more than 400,000 L/day, which is not expected for this proposed development.

Since the expected design dewatering rate for the unsealed excavation is between the MECP's daily water-taking limit of 50,000 and 400,000 L/day, an EASR application will be required to be submitted to the MECP for short-term dewatering before starting construction. Since, the long-term (permanent) flow rate is expected to be lower than the MECP's minimum pumping limit of 50,000 L/day, a permit to take water (PTTW) application is not required to be submitted to the MECP permanently.

4.5.2 Discharge Permits (Construction Dewatering and Permanent Drainage)

A Discharge permit will be required from the City of Mississauga/Peel Region if private water is to be sent to the sewer system for short-term discharge.

5.0 POTENTIAL IMPACTS

The following are the predicted potential impacts as a result of construction dewatering:

5.1 Local Groundwater Use

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

5.2 Point of Discharge and Groundwater Quality

The reported analytical results indicate that all the parameters met the City of Mississauga Storm Sewer Use By-Law and Peel Region's Storm Sewer-Use By-Law except for Toral Suspended Solid (TSS). All parameters met the Peel Region's Sanitary Sewer Use By-Law. Therefore, water cannot be discharged to the City/Region's storm sewers without pre-treatment. Water can be discharge into Region's sanitary sewers without pre-treatment. Treatment options include but are not limited to settlement and filtration of sediments.

5.3 Settlement Due to Dewatering Activities

There are structures and utilities (structures, buildings, sewers roads, etc.) expected within the predicted zone of influence, which is estimated at 53 meters from the center of the excavation when considering an unsealed excavation. There may be a possibility of settlement within the zone of influence due to the presence of water-bearing sand and gravely deposits. DS recommends consulting geotechnical consultants to access potential settlement due to any dewatering activities at the Site during construction.

6.0 MONITORING AND MITIGATION

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

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

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

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

7.0 LIMITATIONS

This report was prepared for the sole use of the addressee to provide an assessment of the hydrogeological conditions on the property. The information presented in this report is based on information collected during the completion of the hydrogeological investigation. DS Consultants Limited was required to use and rely upon various information sources produced by other parties. The information provides in this report reflects DS' judgment in light of the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this documents or findings, conclusions, and recommendations represented herein, is at the sole risk of said users. The conclusions drawn from the Hydrogeological report were based on information at selected observation and sampling locations. Different conditions between and beyond these locations may become apparent during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. DS Consultants Ltd. cannot be held responsible for hydrogeological conditions at the site that was not apparent from the available information.

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

DS Consultants Ltd.

Prepared By:

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

Reviewed By:

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

8.0 CONSULTANT QUALIFICATIONS

Martin Gedeon, M.Sc., P.Geo., is a Professional Geoscientist (P.Geo.) with over 28 years of experience as an environmental/hydrogeological consultant in the areas of groundwater and soil monitoring, environmental site assessments, environmental due diligence, and remediation. Martin has significant experience in physical and contaminant hydrogeology across Canada and overseas and has provided hydrogeological/environmental technical support on various projects. Martin has prepared hundreds of hydrogeological reports in support of permit applications for a private sector development application, municipal dewatering operations, and provincial infrastructure projects across the province.

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

9.0 REFERENCES

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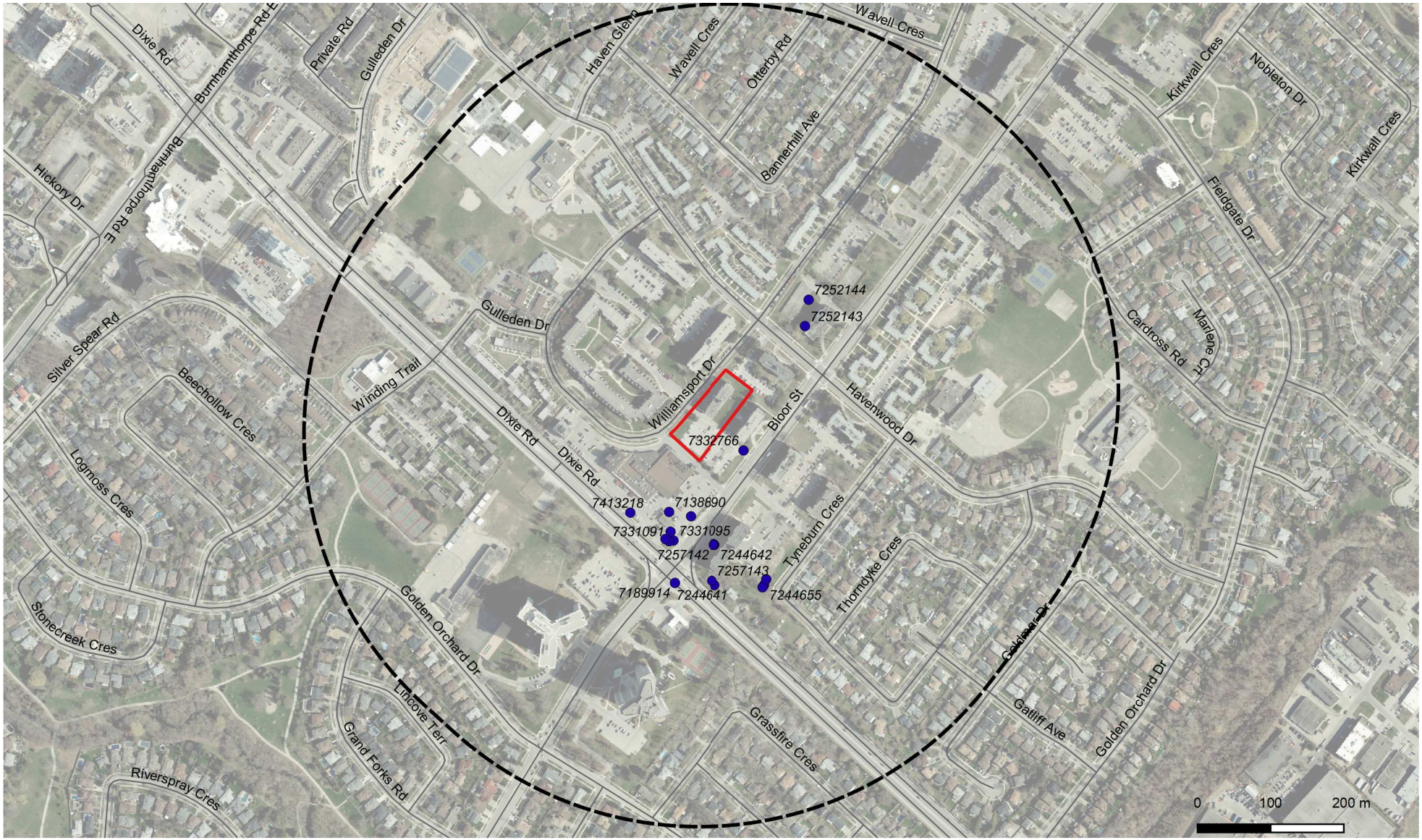
Pat M. Cashman and Martin Preene; Groundwater Lowering in Construction- Second Edition, CRC Press.

Figures

J:\-GIS\2024 PROJECTS\24-300-100 1470 Williamsport Drive, Mississauga, ON\1-QGIS\HydroG\Figure 1 – Site Location and MECP Well Records.qgs Oct-11 10:56



Legend

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

DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Project: HYDROGEOLOGICAL INVESTIGATION
1470 Williamsport Drive, Mississauga, ON

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

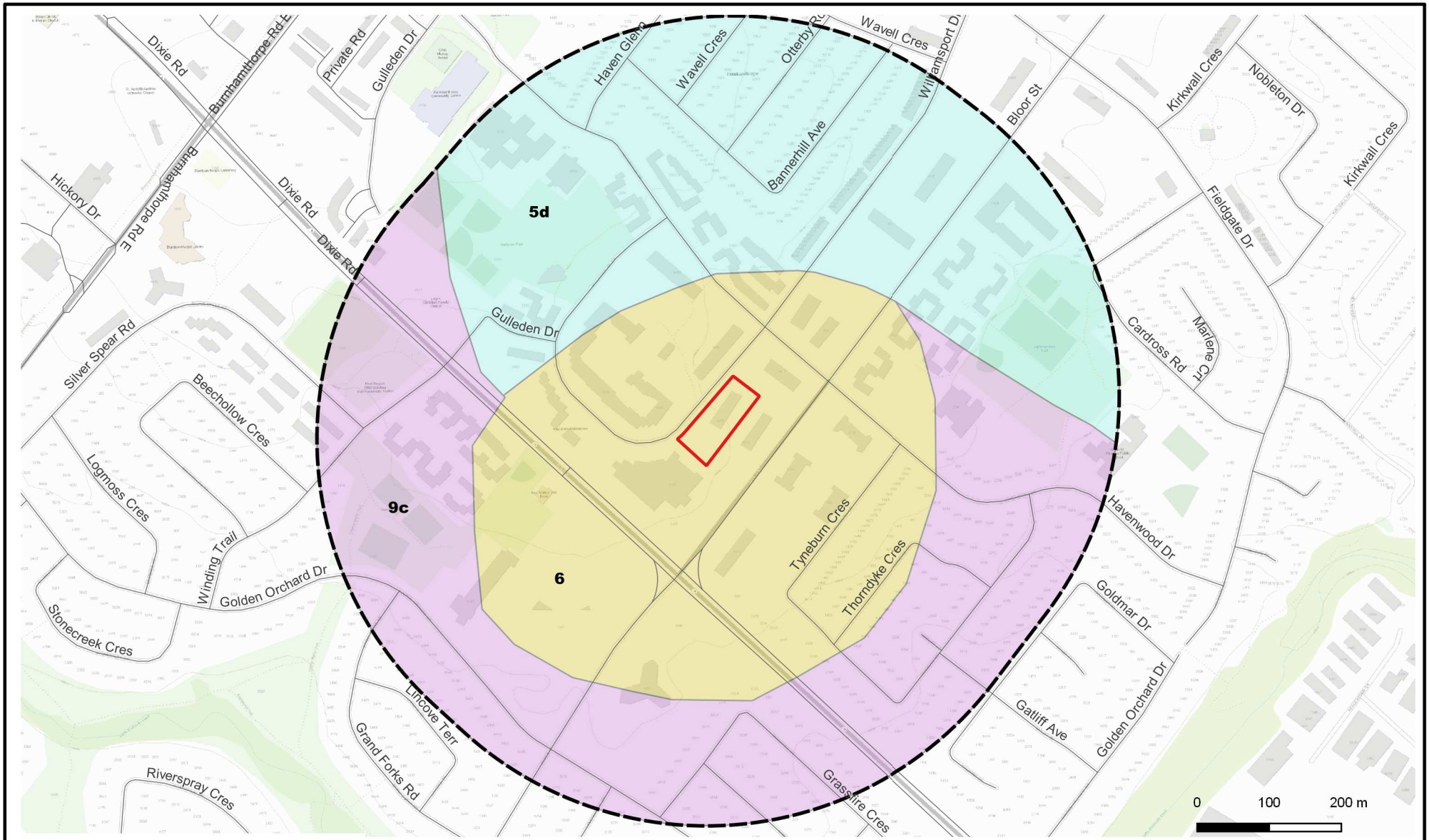
N

Client: 1470 WILLIAMSPORT HOLDINGS INC.

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	October 2024
Rev: 0	Scale: As Shown	Project No.: 24-300-100	Figure No.: 1

Image/Map Source: *Esri Satellite Image*

J:\-GIS\2024 PROJECTS\24-300-100 1470 Williamsport Drive, Mississauga, ON\1-QGIS\HydroG\Figure 2 – Surficial Geology Map.qgs Oct-11 11:09



Legend

- Property Boundary
- 500m Buffer
- 5d - Till
- 6 - Ice-contact Deposits
- 9c - Coarse-textured Glacial Lake Deposits

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Project: HYDROGEOLOGICAL INVESTIGATION
1470 Williamsport Drive, Mississauga, ON

Title: **SURFICIAL GEOLOGY MAP**

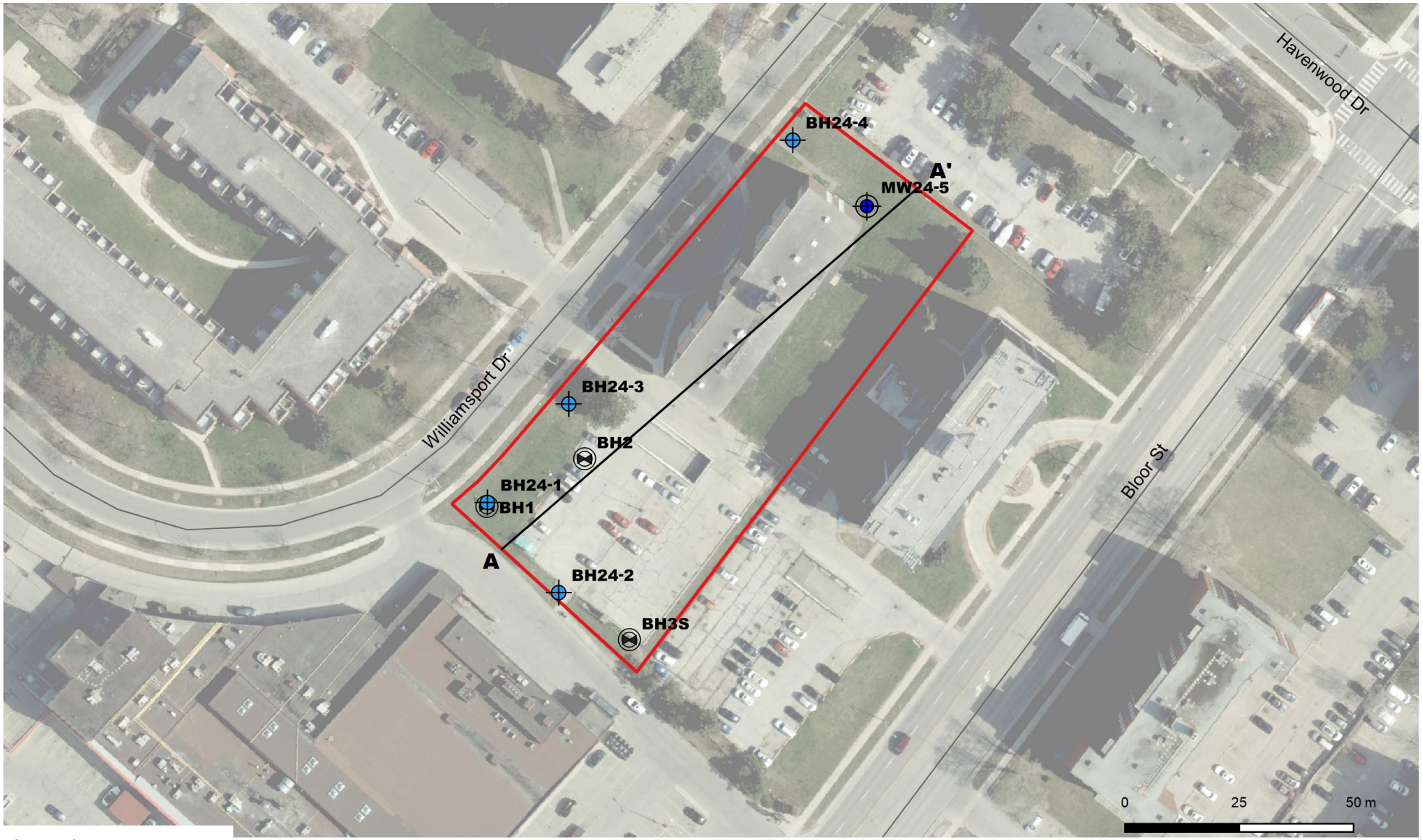
N

Client: 1470 WILLIAMSPORT HOLDINGS INC.

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	October 2024
Rev: 0	Scale: As Shown	Project No.: 24-300-100	Figure No.: 2

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

J:\-GIS\2024 PROJECTS\24-300-100 1470 Williamsport Drive, Mississauga, ON\1-QGIS\HydroG\Figure 3 – Borehole and Monitoring Well Locations.qgs Oct-11 10:30



Legend

- Property Boundary
- Borehole - DS
- Monitoring Well - DS
- Monitoring Well - Other
- Cross Section

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Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client: 1470 WILLIAMSPORT HOLDINGS INC.

Project: HYDROGEOLOGICAL INVESTIGATION
1470 Williamsport Drive, Mississauga, ON

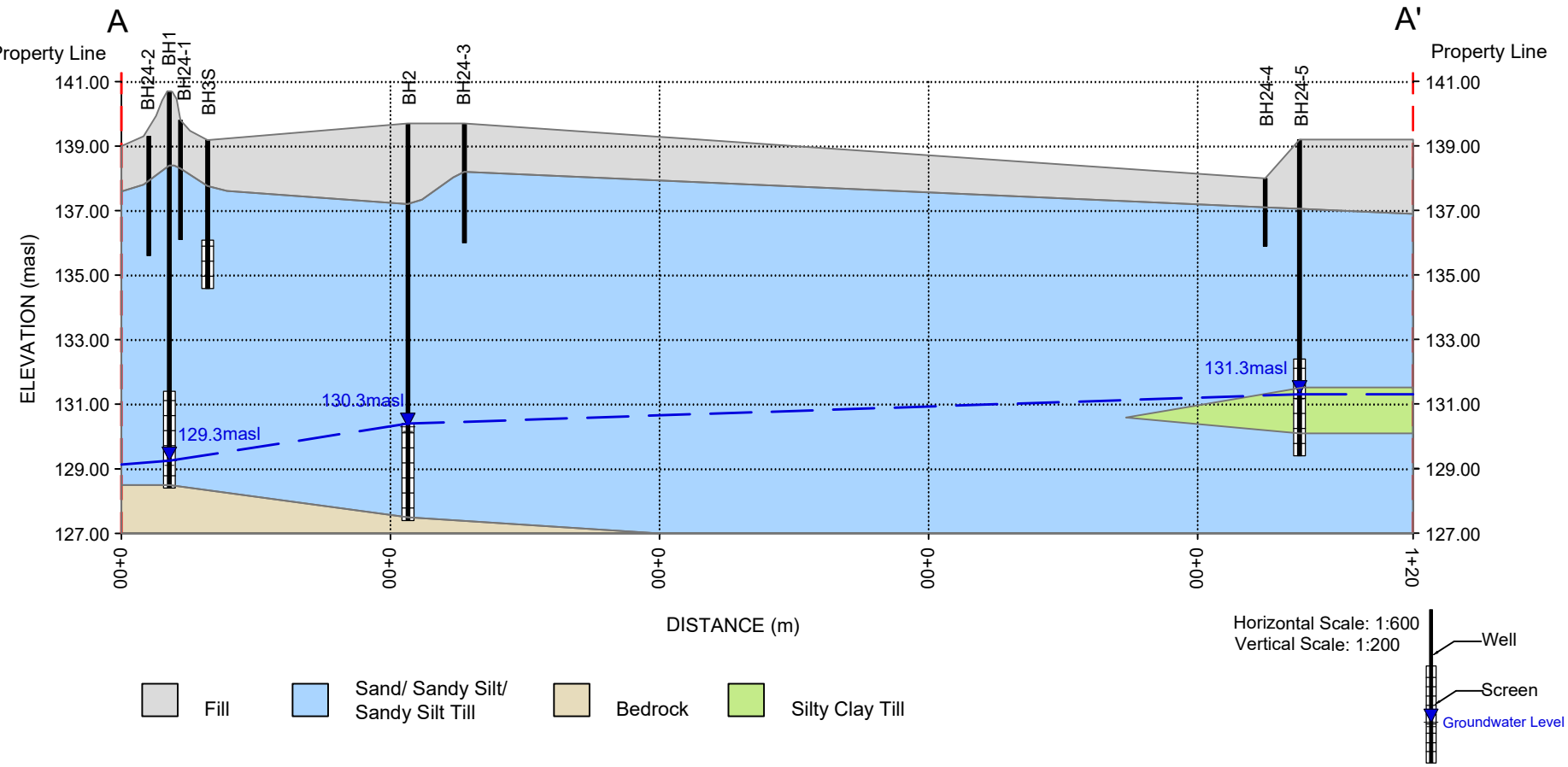
Title: **BOREHOLE AND MONITORING WELL LOCATIONS**

N

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	M.J	S.Y	October 2024
Rev: 0	Scale: As Shown	Project No.: 24-300-100	Figure No.: 3

Image/Map Source: *Esri Satellite Image*

Path:j:\-gis\2024 projects\24-300-100 1470 williamsport drive, mississauga, on\7-misc\cad\geological cross section 24-300.dwg



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Telephone: (905) 264-9393
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Project: HYDROGEOLOGICAL INVESTIGATION
1470 Williamsport Drive, Mississauga, ON

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

Client:	Size:	Approved By:	Drawn By:	Date:
1470 WILLIAMSPORT HOLDINGS INC.	8.5 x 11	M.J	S.Y	October 2024
	Rev.	Scale: As Shown	Project No: 24-300-100	Figure No. 4

Appendices

Appendix A: Borehole Logs

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-1

PROJECT: Williamsport Phase Two ESA
CLIENT: 1470 Williamsport Holdings Inc.
PROJECT LOCATION: 1470 Williamsport Drive, Mississauga, ON
DATUM: Geodetic
BH LOCATION: N 4830460 E 613408

DRILLING DATA
Method: Hollow Stem Auger / Mud Rotary
Diameter: 150 mm
Date: Aug/09/2024 to Aug/09/2024

REF. NO.: 24-300-100
ENCL NO.: 1

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm) 10 20 30 40	CGD (ppm) 10 20 30 40	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) 10 20 30	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
139.8													
139.7	**TOPSOIL:** 106mm												
0.1	**FILL:** silty sand, trace gravel, trace organic, brown, loose, moist		1	SS									
139.0							139						
0.8	**FILL:** silty sand, trace gravel, trace rock fragments, brownish grey, moist, very dense		2	SS									
138.3							138						
1.5	**FILL:** silty sand, trace gravel, cobble/boulder, trace clay, brown, moist, very dense		3	SS									
137.5													
2.3	**SAND:** trace gravel, trace clay, trace silt, brown, moist, dense		4	SS			137						
			5	SS									
136.1													
3.7	**END OF BOREHOLE:**												

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS ENVIRO 0-50 PPM-2021 24-300-100 ENV.GPJ DS.GDT 10/7/24

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LOG OF BOREHOLE BH24-2

PROJECT: Williamsport Phase Two ESA
CLIENT: 1470 Williamsport Holdings Inc.
PROJECT LOCATION: 1470 Williamsport Drive, Mississauga, ON
DATUM: Geodetic
BH LOCATION: N 4830440 E 613423

DRILLING DATA
Method: Hollow Stem Auger / Mud Rotary
Diameter: 150 mm
Date: Aug/09/2024 to Aug/09/2024

REF. NO.: 24-300-100
ENCL NO.: 2

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors: PID (ppm)	Soil Head Space Vapors: CGD (ppm)	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT (w_P w w_L) WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
139.3 / 0.0	**TOPSOIL:** 106mm												
0.1 / 138.5	**FILL:** silty sand, trace gravel, trace organic, brown, loose, moist		1	SS			139						
0.8 / 137.8	**FILL:** sandy silt, trace gravel, trace organic, brown, moist, compact		2	SS			138						
1.5 / 137.0	**SAND:** trace silt, brown, native, moist, compact		3	SS			137						
2.3 / 135.6	**SAND:** trace silt, trace gravel, brown, native, moist, compact		4	SS			136						
			5	SS									
3.7	**END OF BOREHOLE:**												Switched to mud rotary at 4.6m

Soil Head Space Vapors: PID (ppm) and CGD (ppm) scales: 10 20 30 40
WATER CONTENT (%) scale: 10 20 30

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS ENVIRO 0-50 PPM-2021 24-300-100 ENV.GPJ DS.GDT 10/7/24

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LOG OF BOREHOLE BH24-3

PROJECT: Williamsport Phase Two ESA
CLIENT: 1470 Williamsport Holdings Inc.
PROJECT LOCATION: 1470 Williamsport Drive, Mississauga, ON
DATUM: Geodetic
BH LOCATION: N 4830481 E 613425

DRILLING DATA
Method: Hollow Stem Auger / Mud Rotary
Diameter: 150 mm
Date: Aug/09/2024 to Aug/09/2024

REF. NO.: 24-300-100
ENCL NO.: 3

SOIL PROFILE (m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors PID (ppm)	CGD (ppm)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L — WATER CONTENT (%)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
139.7													
139.6	**TOPSOIL:** 127mm												
0.1	**FILL:** silty sand, trace gravel, trace organic, brown, loose, moist		1	SS									
138.9							139						
0.8	**FILL:** silty sand, trace gravel, trace clay, brown, moist		2	SS									
138.2													
1.5	**FILL:** silty sand, trace gravel, trace clay, trace concrete fragments, trace organic, brown, moist		3	SS			138						
137.0			4	SS									
2.7	**TILL:** silty sand till, trace gravel, trace clay, brown, very moist						137						
136.0			5	SS									
3.7	**END OF BOREHOLE:**						136						

PID (ppm) and CGD (ppm) scales: 10 20 30 40
WATER CONTENT (%) scale: 10 20 30

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS ENVIRO 0-50 PPM-2021 24-300-100 ENV.GPJ DS.GDT 10/7/24

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LOG OF BOREHOLE BH24-4

PROJECT: Williamsport Phase Two ESA
CLIENT: 1470 Williamsport Holdings Inc.
PROJECT LOCATION: 1470 Williamsport Drive, Mississauga, ON
DATUM: Geodetic
BH LOCATION: N 4830539 E 613474

DRILLING DATA
Method: Hollow Stem Auger / Mud Rotary
Diameter: 150 mm
Date: Aug/09/2024 to Aug/09/2024

REF. NO.: 24-300-100
ENCL NO.: 4

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"			PID (ppm)	CGD (ppm)	W_P W W_L WATER CONTENT (%)			GR SA SI CL
138.0								10 20 30 40	10 20 30 40	10 20 30			
138.0 0.0	**TOPSOIL:** 106mm												
0.1	**FILL:** silty sand, trace gravel, trace organic, trace clay, brown, moist, loose		1	SS									
1			2	SS			137						
136.5 1.5	**TILL:** sandy silt till, trace gravel, trace clay, brown, moist		3	SS									
2 135.9							136						
2.1	**END OF BOREHOLE:**												

DS ENVIRO 0-50 PPM-2021 24-300-100 ENV.GPJ DS.GDT 10/7/24

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

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LOG OF BOREHOLE MW24-5

PROJECT: Williamsport Phase Two ESA
CLIENT: 1470 Williamsport Holdings Inc.
PROJECT LOCATION: 1470 Williamsport Drive, Mississauga, ON
DATUM: Geodetic
BH LOCATION: N 4830524 E 613491

DRILLING DATA
Method: Hollow Stem Auger / Mud Rotary
Diameter: 150 mm
Date: Aug/09/2024 to Aug/09/2024

REF. NO.: 24-300-100
ENCL NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
139.2 / 0.0	**TOPSOIL:** 152mm				
0.1 / 138.4	**FILL:** silty sand, trace gravel, trace organic, brown, moist	1	SS		139
0.8 / 137.7	**FILL:** silty clay, trace sand, trace silt, trace fragmented rock, trace gravel, trace organics, brown, moist	2	SS		138
1.5 / 136.9	**FILL:** silty sand, trace gravel, trace clay, brown, moist	3	SS		137
2.3 / 136.2	**SILTY SAND:** silty sand, trace clay, trace gravel, brown, moist	4	SS		
3.0 / 135.4	**SILTY SAND TILL:** silty sand till, trace clay, trace gravel, brown, moist	5	SS		136
3.8 / 133.1	**SANDY SILT:** sandy silt, brown, moist	6	SS		135
6.1 / 131.6	**SANDY SILT:** sandy silt, trace gravel, silt layer, brown, moist	7	SS		134
7.6 / 130.1	**SILTY CLAY TILL:** silty clay till, trace gravel, trace sand, grey, very moist	8	SS		133
9.1 / 129.4	**SILTY SAND:** silty sand, grey, wet	9	SS		132
9.8	**END OF BOREHOLE:**				131
					130

Soil Head Space Vapors: PID (ppm) 10 20 30 40; CGD (ppm) 10 20 30 40

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

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

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

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS ENVIRO 0~50 PPM-2021 24-300-100 ENV.GPJ DS.GDT 10/7/24

LOG OF BOREHOLE MW24-5

PROJECT: Williamsport Phase Two ESA
CLIENT: 1470 Williamsport Holdings Inc.
PROJECT LOCATION: 1470 Williamsport Drive, Mississauga, ON
DATUM: Geodetic
BH LOCATION: N 4830524 E 613491

DRILLING DATA
Method: Hollow Stem Auger / Mud Rotary
Diameter: 150 mm
Date: Aug/09/2024 to Aug/09/2024

REF. NO.: 24-300-100
ENCL NO.: 5

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)	W_P W W_L WATER CONTENT (%)			GR SA SI CL
	Notes: - Well installed at 9.8 m							10 20 30 40	10 20 30 40	10 20 30			

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

LOG OF BOREHOLE 1

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 7, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 1 of 2	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613408, N: 4830459 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)
	140.7	**GROUND SURFACE**					
0		150mm **TOPSOIL**					
		FILL, sandy silt to silty sand, trace clay, trace gravel, trace organics, trace construction debris, compact to very dense, dark brown to brown, moist		1	SS	24	
				2	SS	50 / 75mm	140
1							
				3	SS	20	139
2	138.4						
	2.3	**SAND**, trace silt, trace clay, very dense, brown, moist		4	SS	66	138
3				5	SS	61	
							137
4							
				6	SS	52	136
5							
							135
6		...trace gravel		7	SS	84	
							134
7							
				8	SS	50 / 150mm	133
8							
							132
9		...trace gravel		9	SS	81	
							131
10							

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10 20 30 40

Undrained Shear Strength (kPa) — Unconfined, Pocket Penetrometer, Field Vane, Lab Vane: 40 80 120 160

Moisture / Plasticity — Plastic Limit, Natural Water Content, Liquid Limit; PL MC LL: 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

(continued next page)

LOG OF BOREHOLE 1

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 7, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 2 of 2	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613408, N: 4830459 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)
		(continued)					
11		**SAND**, trace silt, trace clay, very dense, brown, moist *(continued)*					130
		...wet		10	SS	61	
12	128.5						129
	128.4 / 12.3	Interred bedrock, weathered to partially unweathered shale with intermittent limestone/dolostone stringers, grey (GEORGIAN BAY FORMATION)		11	SS	50 / 125mm	

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10 20 30 40

Undrained Shear Strength (kPa) — Unconfined, Pocket Penetrometer, Field Vane, Lab Vane: 40 80 120 160

Moisture / Plasticity — Plastic Limit, Natural Water Content, Liquid Limit: PL MC LL 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

END OF BOREHOLE

Unstabilized water level measured at 10.4 m below ground surface; borehole caved to 11.9 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 13, 2022	10.7	130.0
Jan 24, 2022	10.7	130.0
Feb 3, 2022	10.7	130.0
Feb 15, 2022	10.7	130.0

file: 1-21-0802-01 bh logs.gpj

LOG OF BOREHOLE 2

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 6, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 1 of 2	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613429, N: 4830470 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)
	139.7	**GROUND SURFACE**					
0	139.5	90mm **ASPHALT**					
	0.2	100mm **AGGREGATE**					
		FILL, sandy silt to silty sand, trace clay, trace gravel, trace organics, trace construction debris, compact to very dense, dark brown to brown, moist		1	SS	23	
1				2	SS	50 / 150mm	139
				3	SS	35	
2							138
	137.2			4A	SS	46	
	2.5	**SAND**, trace silt, trace clay, trace gravel, dense to very dense, brown, moist		4B			
3				5	SS	58	137
4							136
				6	SS	57	
5							135
6							134
				7	SS	78	
							133
7							
				8	SS	57 / 150mm	132
8							
							131
9		...wet below		9	SS	60	
							130
10							

Penetration Test Values (Blows / 0.3m)
Dynamic Cone 10 20 30 40
Undrained Shear Strength (kPa)
Unconfined, Pocket Penetrometer, Field Vane, Lab Vane
40 80 120 160

Moisture / Plasticity
Plastic Limit, Natural Water Content, Liquid Limit
PL MC LL
10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)
GR SA SI CL
9 82 7 2

(continued next page)

LOG OF BOREHOLE 2

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 6, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 2 of 2	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613429, N: 4830470 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
		(continued)				
11		**SAND**, trace silt, trace clay, trace gravel, dense to very dense, brown, moist *(continued)*		10	SS	77
12	127.5					
	127.4			11	SS	50 / 75mm
	12.3	Interred bedrock, weathered to partially unweathered shale with intermittent limestone/dolostone stringers				

END OF BOREHOLE

Unstabilized water level measured at 9.4 m below ground surface; borehole caved to 11.9 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed.

Elevation Scale (m): 129, 128

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane 40 80 120 160

Moisture / Plasticity: Plastic Limit, Natural Water Content, Liquid Limit — PL, MC, LL 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 13, 2022	9.7	130.0
Jan 24, 2022	9.7	130.0
Feb 3, 2022	9.7	130.0
Feb 15, 2022	9.7	130.0

file: 1-21-0802-01 bh logs.gpj

LOG OF BOREHOLE 3D

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 6, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 1 of 2	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613437, N: 4830430 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	139.2	**GROUND SURFACE**				
		75mm **TOPSOIL**				
		FILL, sandy silt to silty sand, trace clay, trace gravel, trace organics, trace construction debris, very loose to loose, dark brown to brown, moist		1	SS	4
1				2	SS	7
				3	SS	4
2	136.9					
	2.3	**SAND**, trace silt, trace clay, dense to very dense, brown, moist		4	SS	32
3		...trace gravel		5	SS	42
4		...trace gravel		6	SS	47
5						
6				7	SS	50 / 150mm
7						
				8	SS	50 / 125mm
8						
9		...wet below		9	SS	75
10						

Elevation Scale (m): 139, 138, 137, 136, 135, 134, 133, 132, 131, 130

Penetration Test Values (Blows / 0.3m)
× Dynamic Cone
10 20 30 40
Undrained Shear Strength (kPa)
○ Unconfined + Field Vane
● Pocket Penetrometer ■ Lab Vane
40 80 120 160

Moisture / Plasticity
Plastic Limit | Natural Water Content | Liquid Limit
PL MC LL
10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)
GR SA SI CL
0 93 6 1

file: 1-21-0802-01 bh logs.gpj

(continued next page)

LOG OF BOREHOLE 3D

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 6, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 2 of 2	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613437, N: 4830430 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Moisture / Plasticity (PL, MC, LL)	Headspace Vapour (ppm)	Instrument Details	Lab Data and Comments
		(continued)										
		SAND, trace silt, trace clay, dense to very dense, brown, moist *(continued)*					129					
		...trace gravel		10	SS	90						
11							128					
12	127.0											
	126.9 / 12.3	**SILTY SAND**, trace gravel/rock fragments, very dense, grey, moist		11	SS	50 / 125mm	127					

Penetration Test Values (Blows / 0.3m): Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit, Natural Water Content, Liquid Limit; PL MC LL; 10 20 30

Unstabilized Water Level

Lab Data and Comments: GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

END OF BOREHOLE

Unstabilized water level measured at 9.1 m below ground surface; borehole was open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Jan 13, 2022	9.4	129.8
Jan 24, 2022	9.4	129.8
Feb 3, 2022	9.4	129.8
Feb 15, 2022	9.4	129.8

file: 1-21-0802-01 bh logs.gpj

LOG OF BOREHOLE 3S

Terraprobe

Project No. : 1-21-0802-01	Client : 1470 Williamsport Holdings Inc	Originated by : BR
Date started : January 6, 2022	Project : 1470 Williamsport Drive	Compiled by : HR
Sheet No. : 1 of 1	Location : Mississauga, Ontario	Checked by : AR

Position : E: 613437, N: 4830430 (UTM 17T) Elevation Datum : Geodetic

Rig type : Truck-mounted Drilling Method : Solid stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
	139.2	**GROUND SURFACE**				
0		75mm **TOPSOIL**		1	SS	4
		FILL, sandy silt to silty sand, trace clay, trace gravel, trace organics, trace construction debris, very loose to loose, dark brown to brown, moist		2	SS	7
1				3	SS	4
2	136.9					
	2.3	**SAND**, trace silt, trace clay, trace gravel, dense to very dense, brown, moist		4	SS	32
3		...trace gravel		5	SS	42
4	134.6					
	4.6	**END OF BOREHOLE**				

Elevation Scale (m): 139, 138, 137, 136, 135

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): Unconfined, Pocket Penetrometer, Field Vane, Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit, Natural Water Content, Liquid Limit; PL MC LL; 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

Borehole was dry and open upon completion of drilling.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

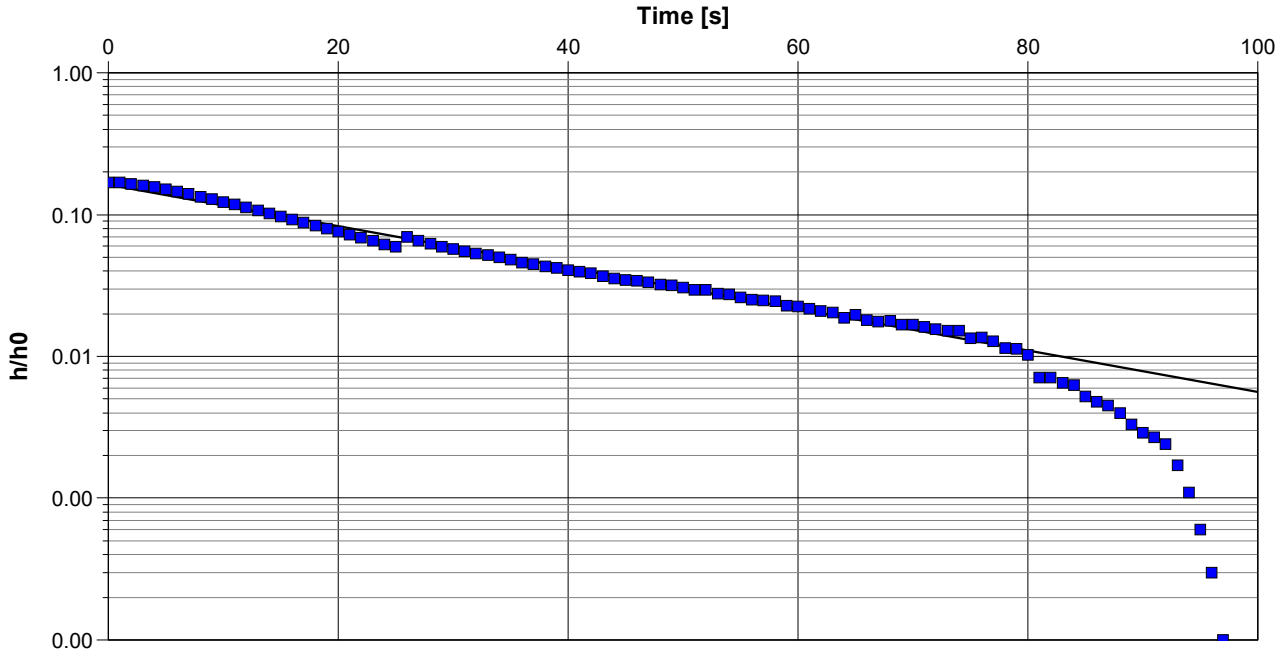
Date	Water Depth (m)	Elevation (m)
Jan 13, 2022	dry	n/a
Jan 24, 2022	dry	n/a
Feb 3, 2022	dry	n/a
Feb 15, 2022	dry	n/a

file: 1-21-0802-01 bh logs.gpj

Appendix B: Hydraulic Conductivity Analysis

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 24-300-100	
Client: 1470 Williamsport Holdings Inc.	

Location: 1470 Williamsport Dr.	Slug Test: BH1	Test Well: BH1
Test Conducted by: KS		Test Date: 8/14/2024
Analysis Performed by: MJ	Hvorslev	Analysis Date: 8/20/2024
Aquifer Thickness:		

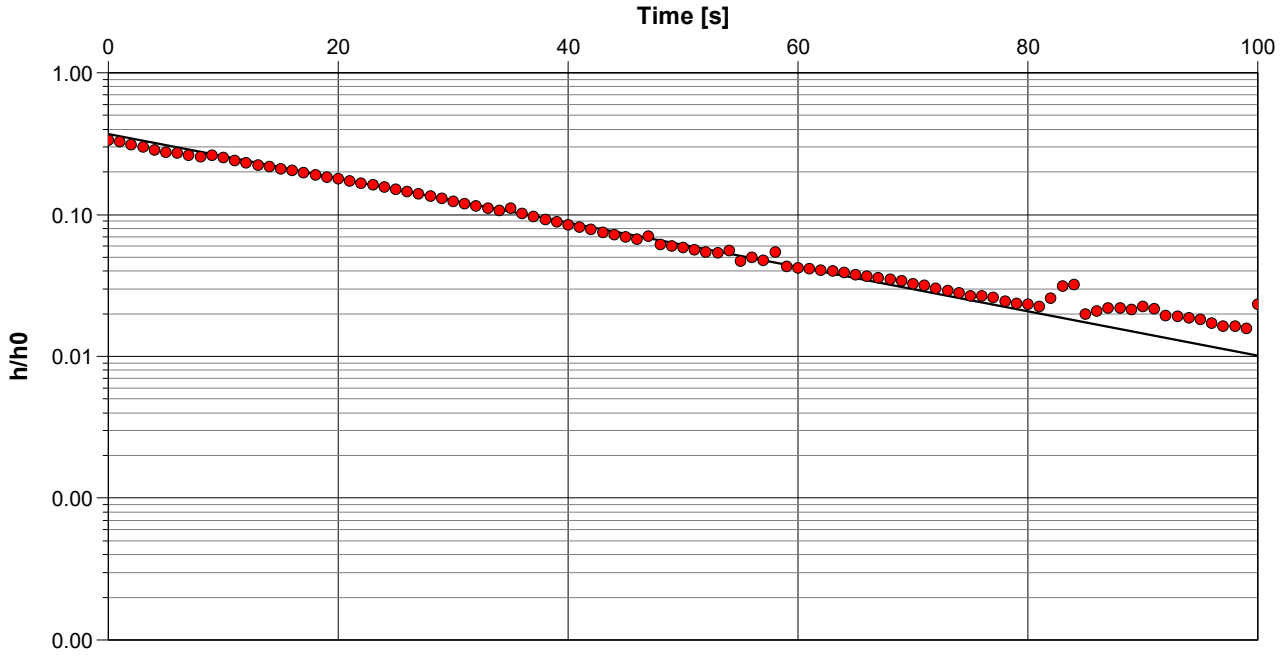


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH1	1.29×10^{-5}	

	Slug Test Analysis Report
	Project: Hydrogeological Investigation
	Number: 24-300-100
	Client: 1470 Williamsport Holdings Inc.

Location: 1470 Williamsport Dr.	Slug Test: BH2	Test Well: BH2
Test Conducted by: KS		Test Date: 8/14/2024
Analysis Performed by: MJ	Hvorslev	Analysis Date: 8/20/2024
Aquifer Thickness:		

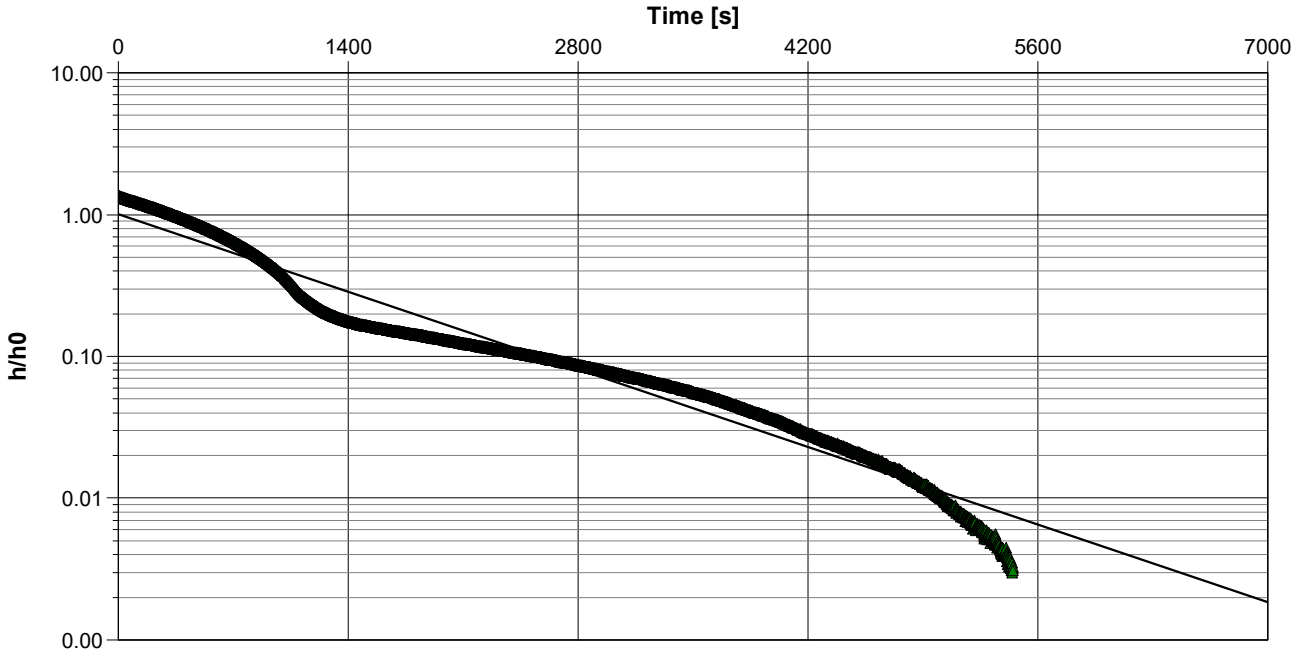


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH2	1.37×10^{-5}	

Slug Test Analysis Report	
Project: Hydrogeological Investigation	
Number: 24-300-100	
Client: 1470 Williamsport Holdings Inc.	

Location: 1470 Williamsport Dr.	Slug Test: MW24-5	Test Well: MW24-5
Test Conducted by: CL		Test Date: 7/10/2024
Analysis Performed by: MJ	Hvorslev	Analysis Date: 8/20/2024
Aquifer Thickness:		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
MW24-5	3.44×10^{-7}	

Appendix C: Groundwater Quality Certificate of Analysis

FINAL REPORT

CA40099-AUG24 R1

24-300-100

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Unit 16 Vaughan, Ontario L4H 0K8. Canada
Contact	Meysam Jafari
Telephone	905-264-9393
Facsimile	905-264-2685
Email	mjafari@dsconsultants.ca
Project	24-300-100
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Brad Moore Hon. B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2143
Facsimile	705-652-6365
Email	brad.moore@sgs.com
SGS Reference	CA40099-AUG24
Received	08/15/2024
Approved	08/22/2024
Report Number	CA40099-AUG24 R1
Date Reported	08/22/2024

COMMENTS

RL - SGS Reporting Limit

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

Chain of Custody Number:039366

O&G Tot RLS increased due to sample matrix

O&G Total LCS recovery outside control limits. The overall quality control was assessed to be acceptable

Fluoride dup RPD % high, results within RL

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA40099-AUG24 R1

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

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

Sample Number	9
Sample Name	BH1
Sample Matrix	Ground Water
Sample Date	14/08/2024

Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2	15	< 4 ↑
Total Suspended Solids	mg/L	2	15	62
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Total Chlorine	mg/L	0.02	1	0.03
Fluoride	mg/L	0.06		0.10
Cyanide (total)	mg/L	0.01	0.02	< 0.01
Sulphate	mg/L	2		92
Aluminum (total)	mg/L	0.001	1	0.074
Antimony (total)	mg/L	0.0009		< 0.0009
Arsenic (total)	mg/L	0.0002	0.02	0.0004
Cadmium (total)	mg/L	0.000003	0.008	0.000004
Chromium (total)	mg/L	0.00008	0.08	0.00132
Copper (total)	mg/L	0.001	0.04	< 0.001
Cobalt (total)	mg/L	0.000004		0.000157
Lead (total)	mg/L	0.00009	0.12	0.00020
Manganese (total)	mg/L	0.00001	2	0.00700
Molybdenum (total)	mg/L	0.0004		< 0.0004
Nickel (total)	mg/L	0.0001	0.08	0.0008
Phosphorus (total)	mg/L	0.003	0.4	0.010
Selenium (total)	mg/L	0.00004	0.02	0.00041

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

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

Sample Number 9
Sample Name BH1
Sample Matrix Ground Water
Sample Date 14/08/2024

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Silver (total)	mg/L	0.00005	0.12	< 0.00005
Tin (total)	mg/L	0.00006		0.00139
Titanium (total)	mg/L	0.0001		0.0019
Zinc (total)	mg/L	0.002	0.2	< 0.002
Microbiology				
E. Coli	cfu/100mL	0	200	< 2↑
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 4↑
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

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

Sample Number	9
Sample Name	BH1
Sample Matrix	Ground Water
Sample Date	14/08/2024

Parameter	Units	RL	L1	Result
Other (ORP)				
pH	No unit	0.05	9	7.57
Chromium VI	mg/L	0.0002	0.04	0.0008
Mercury (total)	mg/L	0.00001	0.0004	< 0.00001
PAHs				
Benzo(b+j)fluoranthene	mg/L	0.0001		< 0.0001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	µg/L	0.04	0.4	< 0.04
Phenols				
4AAP-Phenolics	mg/L	0.002	0.008	0.008
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
PAHs (Total)	mg/L		0.002	< 0.001
Perylene	mg/L	0.0005		< 0.0005

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

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

Sample Number	9
Sample Name	BH1
Sample Matrix	Ground Water
Sample Date	14/08/2024

SVOCs - PAHs

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

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

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

Sample Number	9
Sample Name	BH1
Sample Matrix	Ground Water
Sample Date	14/08/2024

Parameter	Units	RL	L1	Result
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005		< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.017	< 0.0005
1,1,1,2-Tetrachloroethane	mg/L	0.0005	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.0076	< 0.0005
VOCs - BTEX				
Benzene	mg/L	0.0005	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.002	< 0.0005
Toluene	mg/L	0.0005	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005		< 0.0005
o-xylene	mg/L	0.0005		< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER / - - Mississauga Sewer Use ByLaw - Storm Sewer Discharge - BL_0046_2022 L1
BH1				
Total Suspended Solids	SM 2540D	mg/L	62	15

QC SUMMARY

Anions by discrete analyzer

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO8035-AUG24	mg/L	2	<2	0	20	104	80	120	80	75	125

Biochemical Oxygen Demand

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0027-AUG24	mg/L	2	< 2	1	30	98	70	130	122	70	130

Chlorine

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Chlorine	EWL0329-AUG24	mg/L	0.02	< 0.02	ND	20	100	90	110	NA		

QC SUMMARY

Cyanide by SFA

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0146-AUG24	mg/L	0.01	<0.01	ND	10	101	90	110	NV	75	125

Fluoride by Specific Ion Electrode

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0335-AUG24	mg/L	0.06	<0.06	11	10	99	90	110	98	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA0151-AUG24	mg/L	0.0002	<0.0002	0	20	99	80	120	96	75	125

QC SUMMARY

Mercury by CVAAS

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0033-AUG24	mg/L	0.00001	< 0.00001	ND	20	102	80	120	91	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0151-AUG24	mg/L	0.00005	<0.00005	15	20	101	90	110	120	70	130
Aluminum (total)	EMS0151-AUG24	mg/L	0.001	<0.001	6	20	104	90	110	109	70	130
Arsenic (total)	EMS0151-AUG24	mg/L	0.0002	<0.0002	18	20	104	90	110	104	70	130
Cadmium (total)	EMS0151-AUG24	mg/L	0.000003	<0.000003	10	20	101	90	110	97	70	130
Cobalt (total)	EMS0151-AUG24	mg/L	0.000004	<0.000004	5	20	104	90	110	101	70	130
Chromium (total)	EMS0151-AUG24	mg/L	0.00008	<0.00008	6	20	104	90	110	111	70	130
Copper (total)	EMS0151-AUG24	mg/L	0.001	<0.001	9	20	105	90	110	100	70	130
Manganese (total)	EMS0151-AUG24	mg/L	0.00001	<0.00001	3	20	104	90	110	100	70	130
Molybdenum (total)	EMS0151-AUG24	mg/L	0.0004	<0.0004	15	20	103	90	110	105	70	130
Nickel (total)	EMS0151-AUG24	mg/L	0.0001	<0.0001	7	20	103	90	110	108	70	130
Lead (total)	EMS0151-AUG24	mg/L	0.00009	<0.00009	10	20	103	90	110	98	70	130
Phosphorus (total)	EMS0151-AUG24	mg/L	0.003	<0.003	ND	20	102	90	110	NV	70	130
Antimony (total)	EMS0151-AUG24	mg/L	0.0009	<0.0009	ND	20	105	90	110	105	70	130
Selenium (total)	EMS0151-AUG24	mg/L	0.00004	<0.00004	ND	20	101	90	110	107	70	130
Tin (total)	EMS0151-AUG24	mg/L	0.00006	<0.00006	18	20	103	90	110	NV	70	130
Titanium (total)	EMS0151-AUG24	mg/L	0.0001	<0.0001	ND	20	103	90	110	NV	70	130
Zinc (total)	EMS0151-AUG24	mg/L	0.002	<0.002	8	20	106	90	110	102	70	130

QC SUMMARY

Microbiology

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9276-AUG24	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0233-AUG24	mg/L	0.01	<0.01			79	55	120			
Nonylphenol monoethoxylate	GCM0233-AUG24	mg/L	0.01	<0.01			81	55	120			
Nonylphenol	GCM0233-AUG24	mg/L	0.001	<0.001			82	55	120			

QC SUMMARY

Oil & Grease

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0237-AUG24	mg/L	2	<2	NSS	20	61	75	125			

Oil & Grease-AV/MS

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0237-AUG24	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0237-AUG24	mg/L	4	< 4	NSS	20	NA	70	130			

pH

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0341-AUG24	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0157-AUG24	mg/L	0.002	<0.002	ND	10	100	80	120	86	75	125

Polychlorinated Biphenyls

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0219-AUG24	ug/L	0.04	< 0.04	NSS	30	99	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
7Hdibenzo(c,g)carbazole	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Anthracene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Benzo(a)anthracene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	92	50	140	NSS	50	140
Benzo(a)pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	91	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140
Benzo(e)pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0275-AUG24	mg/L	0.0002	< 0.0002	NSS	30	95	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	84	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0275-AUG24	mg/L	0.002	< 0.002	NSS	30	102	50	140	NSS	50	140
Chrysene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0275-AUG24	mg/L	0.002	< 0.002	NSS	30	99	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	94	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Fluoranthene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0275-AUG24	mg/L	0.0002	< 0.0002	NSS	30	94	50	140	NSS	50	140
Perylene	GCM0275-AUG24	mg/L	0.0005	< 0.0005	NSS	30	91	50	140	NSS	50	140
Phenanthrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	96	50	140	NSS	50	140

QC SUMMARY

Suspended Solids

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0393-AUG24	mg/L	2	< 2	1	10	97	90	110	NA		

Total Nitrogen

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0170-AUG24	as N mg/L	0.5	<0.5	3	10	100	90	110	99	75	125

QC SUMMARY

Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	90	60	130	100	50	140
1,1,2,2-Tetrachloroethane	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	96	60	130	113	50	140
1,2-Dichlorobenzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	91	60	130	96	50	140
1,4-Dichlorobenzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	91	60	130	94	50	140
Benzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	90	60	130	102	50	140
Chloroform	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	99	50	140
cis-1,2-Dichloroethene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	88	60	130	99	50	140
Ethylbenzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	90	60	130	102	50	140
m-p-xylene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	99	50	140
Methyl ethyl ketone	GCM0212-AUG24	mg/L	0.02	<0.02	ND	30	104	50	140	108	50	140
Methylene Chloride	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	97	50	140
o-xylene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	88	60	130	99	50	140
Styrene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	98	50	140
Tetrachloroethylene (perchloroethylene)	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	87	60	130	97	50	140
Toluene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	100	50	140
trans-1,3-Dichloropropene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	93	60	130	104	50	140
Trichloroethylene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	86	60	130	92	50	140

QC SUMMARY

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

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

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

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

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

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

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

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

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

LEGEND

FOOTNOTES

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

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

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

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

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

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

No: 039366
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Scott Lon
Received Date: 08/15/2024 (mm/dd/yy)
Received Time: 12:50 (hr:min)
Received By (signature): S
Custody Seal Present: Yes ☐ No ☐
Custody Seal Intact: Yes ☐ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ice
Temperature Upon Receipt (°C): 8 c/f 3
LAB LIMS #: CAH0099-AUG24

REPORT INFORMATION

Company: DS consultants
Contact: Mr. Meysam Jafari
Address: 6221 Hwy 7
Vaughan, ON
Phone:
Fax:
Email:

INVOICE INFORMATION

☑ (same as Report Information)
Company:
Contact:
Address:
Phone:
Email: Accounting@dsconsultants.ca

Quotation #:
Project #: 24-300-100
P.O. #:
Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED

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

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

Specify Due Date:

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

REGULATIONS

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

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

Sewer By-Law:
☑ Sanitary
☑ Storm
Municipality: Mississauga PEEL

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1	BH1	24/08/14	AM	19	GW
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

	Field Filtered (Y/N)	M & I: Metals & Inorganics (incl CrVI, CN, Hg pH,(BHWS),EC,SAR-soil) (CN, Me-water)	M & I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M & I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Other	Other	Other	Other: Sewer Use: Mississauga SAM + SAN PEEL	Other: Water Characterization Pkg Specify pkg: General ☐ Extended ☐	SPLP: Specify tests	TCLP: Specify tests
																	✓		
1																	☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

COMMENTS:

Observations/Comments/Special Instructions

Sampled By (NAME): Karim Ki Signature: K
Date: 24/08/14 (mm/dd/yy)

Relinquished by (NAME): Karim K Signature: K
Date: 24/08/15 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

FINAL REPORT

CA40099-AUG24 R1

24-300-100

Prepared for

DS Consultants

FINAL REPORT

First Page

CLIENT DETAILS

Client	DS Consultants
Address	6221 Highway 7 Unit 16 Vaughan, Ontario L4H 0K8. Canada
Contact	Meysam Jafari
Telephone	905-264-9393
Facsimile	905-264-2685
Email	mjafari@dsconsultants.ca
Project	24-300-100
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Brad Moore Hon. B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2143
Facsimile	705-652-6365
Email	brad.moore@sgs.com
SGS Reference	CA40099-AUG24
Received	08/15/2024
Approved	08/22/2024
Report Number	CA40099-AUG24 R1
Date Reported	08/22/2024

COMMENTS

RL - SGS Reporting Limit

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

Chain of Custody Number:039366

O&G Tot RLS increased due to sample matrix

O&G Total LCS recovery outside control limits. The overall quality control was assessed to be acceptable

Fluoride dup RPD % high, results within RL

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

Sample Number	9
Sample Name	BH1
Sample Matrix	Ground Water
Sample Date	14/08/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
General Chemistry					
Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 ↑
Total Suspended Solids	mg/L	2	350	15	62
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5
Metals and Inorganics					
Total Chlorine	mg/L	0.02			0.03
Fluoride	mg/L	0.06	10		0.10
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		92
Aluminum (total)	mg/L	0.001	50		0.074
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0004
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000004
Chromium (total)	mg/L	0.00008	5	0.08	0.00132
Copper (total)	mg/L	0.001	3	0.05	< 0.001
Cobalt (total)	mg/L	0.000004	5		0.000157
Lead (total)	mg/L	0.00009	3	0.12	0.00020
Manganese (total)	mg/L	0.00001	5	0.05	0.00700
Molybdenum (total)	mg/L	0.0004	5		< 0.0004
Nickel (total)	mg/L	0.0001	3	0.08	0.0008
Phosphorus (total)	mg/L	0.003	10	0.4	0.010
Selenium (total)	mg/L	0.00004	1	0.02	0.00041
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005

Client: DS Consultants
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Sample Number	9
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Sample Date	14/08/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Tin (total)	mg/L	0.00006	5		0.00139
Titanium (total)	mg/L	0.0001	5		0.0019
Zinc (total)	mg/L	0.002	3	0.04	< 0.002
Microbiology					
E. Coli	cfu/100mL	0		200	< 2↑
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 4↑
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Sample Number	9
Sample Name	BH1
Sample Matrix	Ground Water
Sample Date	14/08/2024

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	7.57
Chromium VI	mg/L	0.0002			0.0008
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PAHs					
Benzo(b+j)fluoranthene	mg/L	0.0001			< 0.0001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	µg/L	0.04	1	0.4	< 0.04
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	0.008
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
PAHs (Total)	mg/L				< 0.001
Perylene	mg/L	0.0005			< 0.0005

Client: DS Consultants
Project: 24-300-100
Project Manager: Meysam Jafari
Samplers: Karim C.

MATRIX: WATER

Sample Number	9
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L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

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

Client: DS Consultants
Project: 24-300-100
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Samplers: Karim C.

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Sample Number	9
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Sample Matrix	Ground Water
Sample Date	14/08/2024

L1 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
1,1,1,2-Tetrachloroethane	mg/L	0.0005			< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER / - - Peel Sewer Use ByLaw - Sanitary Sewer Discharge - BL_53_2010 L1	SANSEW / WATER / - - Peel Sewer Use ByLaw - Storm Sewer Discharge - BL_53_2010 L2
BH1					
Total Suspended Solids	SM 2540D	mg/L	62		15

QC SUMMARY

Anions by discrete analyzer

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO8035-AUG24	mg/L	2	<2	0	20	104	80	120	80	75	125

Biochemical Oxygen Demand

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0027-AUG24	mg/L	2	< 2	1	30	98	70	130	122	70	130

Chlorine

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Chlorine	EWL0329-AUG24	mg/L	0.02	< 0.02	ND	20	100	90	110	NA		

QC SUMMARY

Cyanide by SFA

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0146-AUG24	mg/L	0.01	<0.01	ND	10	101	90	110	NV	75	125

Fluoride by Specific Ion Electrode

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0335-AUG24	mg/L	0.06	<0.06	11	10	99	90	110	98	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A I Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA0151-AUG24	mg/L	0.0002	<0.0002	0	20	99	80	120	96	75	125

QC SUMMARY

Mercury by CVAAS

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0033-AUG24	mg/L	0.00001	< 0.00001	ND	20	102	80	120	91	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0151-AUG24	mg/L	0.00005	<0.00005	15	20	101	90	110	120	70	130
Aluminum (total)	EMS0151-AUG24	mg/L	0.001	<0.001	6	20	104	90	110	109	70	130
Arsenic (total)	EMS0151-AUG24	mg/L	0.0002	<0.0002	18	20	104	90	110	104	70	130
Cadmium (total)	EMS0151-AUG24	mg/L	0.000003	<0.000003	10	20	101	90	110	97	70	130
Cobalt (total)	EMS0151-AUG24	mg/L	0.000004	<0.000004	5	20	104	90	110	101	70	130
Chromium (total)	EMS0151-AUG24	mg/L	0.00008	<0.00008	6	20	104	90	110	111	70	130
Copper (total)	EMS0151-AUG24	mg/L	0.001	<0.001	9	20	105	90	110	100	70	130
Manganese (total)	EMS0151-AUG24	mg/L	0.00001	<0.00001	3	20	104	90	110	100	70	130
Molybdenum (total)	EMS0151-AUG24	mg/L	0.0004	<0.0004	15	20	103	90	110	105	70	130
Nickel (total)	EMS0151-AUG24	mg/L	0.0001	<0.0001	7	20	103	90	110	108	70	130
Lead (total)	EMS0151-AUG24	mg/L	0.00009	<0.00009	10	20	103	90	110	98	70	130
Phosphorus (total)	EMS0151-AUG24	mg/L	0.003	<0.003	ND	20	102	90	110	NV	70	130
Antimony (total)	EMS0151-AUG24	mg/L	0.0009	<0.0009	ND	20	105	90	110	105	70	130
Selenium (total)	EMS0151-AUG24	mg/L	0.00004	<0.00004	ND	20	101	90	110	107	70	130
Tin (total)	EMS0151-AUG24	mg/L	0.00006	<0.00006	18	20	103	90	110	NV	70	130
Titanium (total)	EMS0151-AUG24	mg/L	0.0001	<0.0001	ND	20	103	90	110	NV	70	130
Zinc (total)	EMS0151-AUG24	mg/L	0.002	<0.002	8	20	106	90	110	102	70	130

QC SUMMARY

Microbiology

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9276-AUG24	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0233-AUG24	mg/L	0.01	<0.01			79	55	120			
Nonylphenol monoethoxylate	GCM0233-AUG24	mg/L	0.01	<0.01			81	55	120			
Nonylphenol	GCM0233-AUG24	mg/L	0.001	<0.001			82	55	120			

QC SUMMARY

Oil & Grease

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0237-AUG24	mg/L	2	<2	NSS	20	61	75	125			

Oil & Grease-AV/MS

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0237-AUG24	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0237-AUG24	mg/L	4	< 4	NSS	20	NA	70	130			

pH

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0341-AUG24	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0157-AUG24	mg/L	0.002	<0.002	ND	10	100	80	120	86	75	125

Polychlorinated Biphenyls

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0219-AUG24	ug/L	0.04	< 0.04	NSS	30	99	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
7Hdibenzo(c,g)carbazole	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Anthracene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Benzo(a)anthracene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	92	50	140	NSS	50	140
Benzo(a)pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	91	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140
Benzo(e)pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0275-AUG24	mg/L	0.0002	< 0.0002	NSS	30	95	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	84	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0275-AUG24	mg/L	0.002	< 0.002	NSS	30	102	50	140	NSS	50	140
Chrysene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0275-AUG24	mg/L	0.002	< 0.002	NSS	30	99	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	94	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Fluoranthene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0275-AUG24	mg/L	0.0002	< 0.0002	NSS	30	94	50	140	NSS	50	140
Perylene	GCM0275-AUG24	mg/L	0.0005	< 0.0005	NSS	30	91	50	140	NSS	50	140
Phenanthrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Pyrene	GCM0275-AUG24	mg/L	0.0001	< 0.0001	NSS	30	96	50	140	NSS	50	140

QC SUMMARY

Suspended Solids

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0393-AUG24	mg/L	2	< 2	1	10	97	90	110	NA		

Total Nitrogen

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0170-AUG24	as N mg/L	0.5	<0.5	3	10	100	90	110	99	75	125

QC SUMMARY

Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	90	60	130	100	50	140
1,1,2,2-Tetrachloroethane	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	96	60	130	113	50	140
1,2-Dichlorobenzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	91	60	130	96	50	140
1,4-Dichlorobenzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	91	60	130	94	50	140
Benzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	90	60	130	102	50	140
Chloroform	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	99	50	140
cis-1,2-Dichloroethene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	88	60	130	99	50	140
Ethylbenzene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	90	60	130	102	50	140
m-p-xylene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	99	50	140
Methyl ethyl ketone	GCM0212-AUG24	mg/L	0.02	<0.02	ND	30	104	50	140	108	50	140
Methylene Chloride	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	97	50	140
o-xylene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	88	60	130	99	50	140
Styrene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	98	50	140
Tetrachloroethylene (perchloroethylene)	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	87	60	130	97	50	140
Toluene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	89	60	130	100	50	140
trans-1,3-Dichloropropene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	93	60	130	104	50	140
Trichloroethylene	GCM0212-AUG24	mg/L	0.0005	<0.0005	ND	30	86	60	130	92	50	140

QC SUMMARY

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

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

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

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

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

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

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

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

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

LEGEND

FOOTNOTES

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

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

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This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

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

No: 039366
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Scott Lon
Received Date: 08/15/2024 (mm/dd/yy)
Received Time: 12:50 (hr:min)
Received By (signature): S
Custody Seal Present: Yes ☐ No ☐
Custody Seal Intact: Yes ☐ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ice
Temperature Upon Receipt (°C): 8 c/f 3
LAB LIMS #: CAH0099-AUG24

REPORT INFORMATION

Company: DS consultants
Contact: Mr. Meysam Jafari
Address: 6221 Hwy 7
Vaughan, ON
Phone:
Fax:
Email:

INVOICE INFORMATION

☑ (same as Report Information)
Company:
Contact:
Address:
Phone:
Email: Accounting@dsconsultants.ca

Quotation #:
Project #: 24-300-100
P.O. #:
Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED

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

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

Specify Due Date:

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

REGULATIONS

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

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

Sewer By-Law:
☑ Sanitary
☑ Storm
Municipality: Mississauga PEEL

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1	BH1	24/08/14	AM	19	GW
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

	Field Filtered (Y/N)	M & I: Metals & Inorganics (incl CrVI, CN, Hg pH,(BHWS),EC,SAR-soil) (CN, Me-water)	M & I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M & I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other (please specify)	Other	Other	Other	Other: Sewer Use: Mississauga SAM + SAN PEEL	Other: Water Characterization Pkg Specify pkg: General ☐ Extended ☐	SPLP: Specify tests	TCLP: Specify tests
																	✓		
1																	☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.
2																			
3																			
4																			
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COMMENTS:

Observations/Comments/Special Instructions

Sampled By (NAME): Karim Ki Signature: K
Date: 24/08/14 (mm/dd/yy)

Relinquished by (NAME): Karim K Signature: K
Date: 24/08/15 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Appendix D: MECP Water Wells Records

Hydrogeological Investigation-1470 Williamsport Drive, Mississauga, Ontario

TOWNSHIP	UTM	E	N	DATE CNTR	CASING	WATER	PUMP TEST	WELL USE	SCREEN	WELL	1	FORMATION
MISSISSAU	17	613462	4830308	2015-06 74	2.04			MO	0035 10	7244642	(Z211429)	BLCK LOAM LOOS 0001 BRWN MSND GRVL LOOS 0045
MISSISSAU	17	613407	4830256	2012-09 72	1.59			MT	0028 10	7189914	(Z158457)	BRWN LOAM ---- LOOS 0001 BRWN FILL SAND GRVL 0003 BRWN SAND GRVL CGRD 0038
MISSISSAU	17	613429	4830347	2022-03 7241						7416795	(Z378265)	A346521 P
MISSISSAU	17	613399	4830353	2009-09 73	2	FR 0045		MT	0039 10	7138890	(M02099) A	BLCK ---- 0000 BRWN SILT SAND 0005 BRWN SAND GRVL 0048 GREY SHLE HARD 0049
MISSISSAU	17	613530	4830253	2015-06 74	2.04			MO	0032 10	7244655	(Z211430)	BLCK LOAM LOOS 0001 BRWN MSND GRVL LOOS 0042
MISSISSAU	17	613346	4830352	2022-02 7241						7413218	(Z382902)	A343630 P
MISSISSAU	17	613502	4830437	2018-10 7464						7332766	(C41534)	A247660 P
MISSISSAU	17	613405	4830314	2018-11 66	2	UT 0042	///:	MT	0048 9	7331095	(Z282541)	BRWN SAND STNS FILL 0011 BRWN SAND FSND LOOS 0015 BRWN SAND STNS GRVL 0042 BRWN SAND STNS GRVL 0047 GREY SHLE ROCK 0057
MISSISSAU	17	613401	4830326	2018-11 6607			///:	NU		7331094	(Z282543)	A
MISSISSAU	17	613462	4830253	2015-06 74	2.04			MO	0037 10	7244641	(Z211428)	BLCK LOAM LOOS 0001 BRWN FSND GRVL LOOS 0047
MISSISSAU	17	613399	4830313	2018-11 66	5.09		///:	MT	0050 10	7331091	(Z282540)	BRWN SAND FILL LOOS 0020 BRWN SAND ROCK LOOS 0050 GREY SHLE HARD 0060
MISSISSAU	17	613586	4830607	2015-10 72	2			MT	0020 10	7252143	(Z222523)	BRWN SAND SILT 0020 GREY SAND SILT 0030
MISSISSAU	17	613461	4830309	2016-01 72	2			OT		7257144	(Z209944)	A
MISSISSAU	17	613458	4830259	2016-01 72	2			OT		7257143	(Z209945)	A
MISSISSAU	17	613460	4830308	2016-01 72	1.5			OT		7257142	(Z209943)	A
MISSISSAU	17	613528	4830250	2016-01 72	2			OT		7257141	(Z209946)	A
MISSISSAU	17	613591	4830643	2015-10 72	2			MT	0015 10	7252144	(Z222521)	BRWN SAND SILT 0017 GREY SAND SILT 0025
MISSISSAU	17	613394	4830316	2018-11 6607			///:			7331092	(Z282544)	A
MISSISSAU	17	613533	4830261	1988-10 408	6 6	UK 0036	35/43/6/5:0		0025 18	4906942	-31123	BRWN CLAY SAND PCKD 0020 BRWN CLAY SAND GRVL 0032 BRWN CLAY HARD 0035 BRWN GRVL FSND PCKD 0037 BRWN GRVL SAND CLAY 0043 GREY SHLE HARD 0048