Hydrogeological Investigation
Dundas Urban Core(DUC) Block 297
Dundas Street East
Oakville, Ontario

Prepared For:
Valery Homes

Project No.: 24-228-100
Date: October 4, 2024

DS CONSULTANTS LTD.
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24-228-100 **October 4, 2024**

Valery Group
2140 King St. E
Hamilton, ON
L8K 1W6

Attention: Amber Lindsay
Via email: **amber@valeryhomes.com**

RE: Hydrogeological Investigation–DUC Block 297- Joshua Creek Subdivision, Dundas Street E, Oakville

DS Consultants Limited (DS) was retained by Valery Group to complete a hydrogeological investigation for the proposed development at DUC Block 297 near 1429 Dundas Street East in Oakville, Ontario (Herein referred to as "the site"). The proposed development at the site will be comprised of a high-rise building with up to a combined two(2) levels of underground parking(P1-P2 Levels). Detailed designs were not available but a conceptual plan is available at the time of drafting this report. The established grade at 165 meters above sea level (masl) and the lowest finished floor elevation of 162 and 159 masl, for common P1 and P2 levels are assumed for the preliminary hydrogeological investigation.

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 during the proposed development phase. 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). Based on the results of this investigation, the following conclusions and recommendations are presented:

1. As part of the hydrogeological investigation, DS completed a search of the MECP Water Well Records (WWRs) database. Based on the MECP WWR search, there are 48 water wells within 500 meters of the site. Two (2) wells were noted for domestic (DO) use. All other wells were noted as either monitoring (MO), test hole (TH) or not in use (NU).

2. In August 2024, DS drilled six (6) boreholes (BH24-1 to 24-6) and equipped five(5) drilled boreholes with a monitoring well as part of the concurrent geotechnical and hydrogeological investigations. The boreholes were advanced to depths ranging from 6.1 to 12.6 meters below the ground surface (mbgs). Two monitoring wells were screened at a depth of 7.8 and 10.7 m below the existing ground surface(mbgs) into shale bedrock and three wells into overburden at a depth between 4.7 and 6.1 mbgs.

3. The site lies within the South Slope physiographic region of southern Ontario and is characterized by drumlinized till plains landforms. Surficial geology at the site is mapped as clay-silt textured till

derived from glaciolacustrine deposits or shale. Shale bedrock of the Queenston formation was encountered during drilling varying in depth from 7.6 mbgs to 15.4 mbgs indicative of an incised valley infilled with till sediments.

4. Groundwater levels were measured in all available monitoring wells on August 27, 2024 by DS personnel. Groundwater levels varied between 3.1 to 5.64 mbgs with a corresponding elevation of 161.1 to 158 masl at the site. Based on groundwater elevations, the flow direction is expected to be towards Joshua Creek.

5. Three(3) Single Well Response Tests (slug tests) were completed by DS on August 27, 2024, to estimate the hydraulic conductivity (k) for the representative geological units in which the wells were screened. The shale bedrock shows a k-value of 3.4 X 10^{-7} and 3.2 x 10^{-8} m/s. The k-value for overburden is 4.9 x 10^{-8} m/s.

6. Short-term Dewatering: Pending design details, the preliminary requirements for dewatering during and after the construction period are as follows. Also, the additional flow rate may be needed because of a major precipitation event within 24 hrs. These values should be verified once detailed designed drawings are available.

Common Underground Level	P1 Level	P2 Levels
Estimated Flow Rate- L/day (without safety factor)- L/day	8,000	17,000
Estimated Flow Rate- L/day (with safety factor x 1.5)-L/day	12,000	25,000
Additional Stormwater Removal (assumed 10 mm /24 hrs)- L/day	60,000	60,000
Total Dewatering Rate	72,000	85,000

7. Permanent Drainage or Foundation Drain: Following the construction of the underground structure, long-term groundwater flow to the underfloor drainage system for the building will be a function of the upward flux and drainage along the foundation wall. The estimated permanent flow rates are as below. The estimated values should be verified once detailed designed drawings are available.

Underground Level	P1 Level	P2 Levels
Estimated Flow Rate- L/day (without safety factor)- L/day	1,000	7,000
Estimated Flow Rate- L/day (with safety factor x 1.5)- L/day	1,500	10,500

8. Permit Requirements:

    - The expected design dewatering rates during construction for all phases are expected to be more than 50,000 L/day including additional stormwater removal. Therefore, an EASR application is required to be submitted to the MECP for short-term dewatering. 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.

- An EASR can be avoided if the daily pumping requirement is maintained below 50,000 L/day during construction.
- Based on current groundwater conditions, permanent groundwater flow or permanent drainage is expected to be less than the water-taking limit of 50,000 L/day, therefore, a PTTW is not required permanently.
- A discharge permit will be required from the Halton Region/Town of Oakville if private water is to be sent to the sewer system for construction dewatering and permanent drainage. Alternatively, the pumped volume can be managed on-site because of the minimal expected dewatering volume during the construction.

9. One (1) unfiltered groundwater sample was collected from monitoring well BH 24-6 on August 29, 2024, to assess the suitability for discharge of groundwater to the Halton Region sanitary and combined sewers and the Town of Oakville storm sewers.

10. Groundwater quality analysis indicated that no parameters exceeded the Halton Region sanitary and combined sewer criteria but total suspended solids(TSS), manganese and chloroform exceeded the Town of Oakville storm sewer criteria. Therefore, groundwater at the development site is not suitable for discharge into the Town of Oakville's storm sewers without pre-treatment. A Discharge permit may be required from the Town of Oakville for discharge if the pumped water is diverted to the Town's sewer system.

11. Following the completion of construction activities, all dewatering wells, well points, eductors and monitoring wells installed at various stages of this project must be decommissioned. The installation and eventual decommissioning of the wells and the dewatering system must be conducted by a licensed water well contractor following 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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Martin Gedeon, M.Sc., P.Geo.
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APPENDICES:

1.0 INTRODUCTION

DS Consultants Limited (DS) was retained by Valery Group to complete a hydrogeological investigation for the proposed development at DUC Block 297 near 1429 Dundas Street East in Oakville, Ontario (Herein referred to as "the site"). The proposed development at the site will be comprised of a high-rise building with up to a combined two(2) levels of underground parking(P1-P2 Levels). Detailed designs were not available but a conceptual plan is available at the time of drafting this report. The established grade at 165 meters above sea level (masl) and the lowest finished floor elevation of 162 and 159 masl, for common P1 and P2 levels are assumed for the preliminary hydrogeological investigation.

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 during the proposed development phase. 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). Construction dewatering volumes were estimated based on preliminary site plan dimensions provided to DS.

1.1 Purpose

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

1.2 Scope of Work

The scope of work for this investigation included:

- Site visits.
- Desktop review of pertinent geological and hydrogeological resources.
- Review the MECP Water Well Records and water use in the surrounding area.
- Fieldwork includes drilling of six (6) boreholes in August 2024
- Conducting single well response tests (slug tests) to determine hydraulic conductivity values across the site.

- Characterize the stratigraphy and measure the groundwater levels across the site.
- Collection and analysis of groundwater samples to quantify and characterize any contaminants that may impact future discharge applications.
- Estimation of dewatering volumes, which is to be used to predict the short-term and long-term groundwater control requirements during and after construction of the proposed building(s) on the site.
- Impact assessment as a result of potential dewatering activities and mitigation measures.

2.0 FIELDWORK

- In August 2024, DS drilled six (6) boreholes (BH24-1 to 24-6) and equipped five(5) drilled boreholes with a monitoring well as part of the concurrent geotechnical and hydrogeological investigations. The boreholes were advanced to depths ranging from 6.1 to 12.6 meters below the ground surface (mbgs). Two monitoring wells were screened at a depth of 7.8 and 10.7 m below the existing ground surface(mbgs) into shale bedrock and three wells into overburden at a depth between 4.7 and 6.1 mbgs.
- All monitoring wells were developed before any use to allow for groundwater level monitoring, hydraulic conductivity testing, and to assess groundwater quality.
- Three(3) single well response tests (SWRTs) were completed by performing a rising head test (slug test) to estimate the hydraulic conductivity values of the soils at the site.
- One (1) unfiltered groundwater sample was also collected and analyzed for the parameters listed under the Halton Region sewer discharge by-law, the Town of Oakville storm sewer discharge by-law.

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 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 slopes towards Joshua Creek located about 350 m to the east side of the Site. Surface elevation across the site ranges from 167 to 161 masl. Drainage in the study area is controlled by streams, artificial channels, and the local topography, and may also be influenced by fill and underground utilities.

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 South Slope physiographic region of southern Ontario and is characterized by drumlinized till plains landforms. Surficial geology at the site is mapped as clay-silt textured till derived from glaciolacustrine deposits or shale. 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 comprised of shale, limestone, dolostone, and siltstone of the Queenston Formation.

3.2.3 Site Geology/ Soil Conditions

On-site subsurface soil conditions were summarized from the boreholes advanced by DS for the current investigation. Detailed subsurface conditions are presented in **Figure 5,** and the borehole logs are presented in **Appendix A**. The subsurface conditions in the boreholes are summarized in the following paragraphs.

Fill Materials:

Fill materials were found in all boreholes extending to depths ranging from 0.8 to 3.0 m. The fill material generally consisted of clayey silt to silty clay with inclusions of shale fragments and trace organics. A surficial granular fill layer, about 150mm thick, consisting of sand and gravel was encountered in BH24-3.

Silty Clay Till:

The native soils below the fill material consisted of silty clay till deposits, overlying till/shale complex or shale bedrock.

Till/Shale Complex:

Below the silty clay till deposits and above the shale bedrock, a transition unit of till/shale complex (clayey silt till mixed with highly weathered shale fragments) was encountered in two (2) boreholes, BH24-1 and BH24-2. T

Shale Bedrock:

The shale bedrock of Queenston Formation was encountered in all boreholes (BH24-1 to BH24-6) at depths ranging from 6.0 to 7.6 mbgs corresponding to elevations 159.8 to 161.3 masl.

3.3 Hydrogeology

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

3.3.1 Local Groundwater Use

As part of the hydrogeological investigation, DS completed a search of the MECP Water Well Records (WWRs) database(**Appendix D**). Based on the MECP WWR search, there are 48 water wells within 500 meters of the site. Two (2) wells were noted for domestic (DO) use. All other wells were noted as either monitoring (MO), test hole (TH) or not in use (NU). A water well survey is recommended within the study area to confirm the presence and use of any domestic wells. **Figure 1** shows the MECP water well location plan. A water well survey is recommended within the study area to confirm the presence and use of any domestic wells.

3.3.2 Groundwater Conditions

Groundwater levels were measured in all available monitoring wells on August 27, 2024 by DS personnel. **Table 3-1** presents the groundwater levels in all monitoring wells. Groundwater levels varied between 3.1 to 5.64 mbgs, corresponding to elevations 161.3-158. masl. Based on groundwater elevations, the flow direction is expected to be southeast towards Joshua Creek. The groundwater levels are subject to seasonal fluctuations and may vary in response to changing climate conditions.

Table 3-1: Groundwater Levels in Monitoring Wells

Well ID/ Location	Ground Elevation (masl)	Well Depth (mbgs)	Screened Interval (masl)	Date	Depth to Water (mbgs)	Groundwater Elevation (masl)
BH24-1	166.9	7.6	4.6-7.6	August 27, 2024	5.64	161.3
BH24-2	166.9	4.6	1.6-4.6	August 27, 2024	Dry	n/a
BH24-3	167.3	6.1	3.1-6.1	August 27, 2024	Dry	n/a
BH24-5	164.3	6.1	3.1-6.1	August 27, 2024	3.02	161.3
BH24-6	161.3	10.7	7.7-10.7	August 27, 2024	3.33	158.0

3.3.3 Hydraulic Conductivity

A Single Well Response Test (slug test) was completed in three wells available with sufficient water by DS on August 27, 2024, to estimate hydraulic conductivity (k) for the representative geological units in which the wells were screened. Two wells were found dry at the time of testing. The testing was completed using data loggers placed at the bottom of the monitoring 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 shale bedrock shows a k-value of 3.4 X 10^{-7} and 3.2 x 10^{-8} m/s. The k-value for overburden is 4.9 x 10^{-8} 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)
BH24-1	4.6-7.6	Shale complex/shale bedrock	3.4 x 10^{-7}
BH24-2	1.6-4.6	Silty clay till	Dry
BH24-3	3.1-6.1	Silty clay till	Dry
BH24-5	3.1-6.1	Silty clay till-sandy silt till	4.9 x 10^{-8}
BH24-6	7.7-10.7	shale bedrock	3.2 x 10^{-8}

3.3.4 Groundwater Quality

One (1) unfiltered groundwater sample was collected from monitoring well BH 24-6 on August 29, 2024, to assess the suitability for discharge of groundwater to the Halton Region sanitary and combined sewers and the Town of Oakville storm sewers. 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 on parameters exceeded the Halton Region's sewer criteria, but TSS, manganese and chloroform exceeded the Town of Oakville's storm sewer criteria. **Table 3-3** present a summary of the exceeded parameters, and the certificates of analyses are provided in **Appendix C.**

Table 3-3: Parameters in Groundwater Exceeding Halton Region Sewer Use By-Law and Town of Oakville Storm Sewer Use By-law

Parameter	Unit	Halton Region Sanitary Sewer By-Law Criteria	Halton Region/Town of Oakville Storm Sewer By-Law Criteria	BH 24-6
Total Suspended Solids (TSS)	mg/L	350	15	29
Manganese	mg/L	5	0.05	0.11
Chloroform	mg/L	0.04	0.002	0.0052
0.00- Exceeds Storm Sewer Criteria; **0.00(bold)**- Exceeds Sanitary and Combined Sewer Criteria; 0.00				

4.0 CONSTRUCTION DEWATERING

4.1 Estimation of Flow Rates- Proposed Building(s)

Detailed designs were not available to DS at the time of drafting this report. The established grade at 165 meters above sea level (masl) and the lowest finished floor elevation of 162 and 159 masl, for common

P1 and P2 levels are assumed for dewatering assessment. The lowest excavation depth would be 3 m below the lowest finished floor elevation of underground structures (EL 159-156 masl) The highest groundwater elevation is 161.3 masl and hence dewatering will be required during excavation. The dewatering volume was estimated using the steady-state equation as below in **Table 4-1**. The groundwater flux is expected to be limited because of the low hydraulic conductivity of the till and underlying shale bedrock. The dewatering rates should be revised once the detailed design becomes available.

$$Q = \frac{\pi(H^2 - h^2)}{2.3\log\left(\frac{R_0}{re}\right)}$$ Eq.1

$$R_0 = C(H - h)\sqrt{k}$$ Eq.2

$$r_e = \sqrt{\frac{ab}{\pi}}$$ Eq.3

Table 4-1: Dewatering Flow Rates(Short-term)- Common Underground P1-P2 Levels

Parameter	P1 Level	P2 Levels
K -Hydraulic conductivity(geomean) (m/s)	3.4×10^{-7}	3.4×10^{-7}
H-Distance from water level to the bottom of an aquifer (m)	3.0	6.0
h -Depth of water in the well while pumping (m)	0.5	0.5
Area (a x b) in (m)	100x 60	100x 60
r_e–equivalent radius, where a and b excavation dimensions (m)	44	44
R_o- re + Radius of the cone of depression(Zone of Influence-ZOI)-(m)	48	55
Estimated Flow Rate- L/day (without safety factor)- L/day	8,000	17,000
Estimated Flow Rate- L/day (with safety factor x 1.5)- L/day	12,000	25,000
Additional Dewatering- Stormwater Removal (assumed 10 mm /24 hrs)- L/day	60,000	60,000

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

Considering the unsealed excavation method, the estimated steady-state flow rate for building with P1 and P2 levels would be 12,000 and 25,000 L/day with a safety factor of x 1.5 These values are recommended to be verified once detailed designed drawings are available. Also, the additional flow rate may be needed because of a major precipitation event within 24 hrs.

4.3 Zones of Influence During Construction

The radius of influence (Ro) for the construction dewatering was calculated based on the Sichardt equation (Equation 2). Ro is the distance at which the drawdown resulting from pumping is negligible. The equation is empirical and was developed to provide representative flow rates using the steady-state flow dewatering equations as indicated above. Under steady-state conditions, the Ro of pumping will extend until boundary flow conditions are reached, and sufficient water inputs are equal to the discharge rate due to pumping. Therefore, the Sichardt equation is used to provide a representative flow rate but is not precise in determining the actual radius of influence by pumping. Based on the Sichardt equation the ZOI is approximately 4 and 9 m from the edges of the excavation for the underground parking levels P1 and P2.

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. The estimated permanent flow rates are as below in **Table 4-2.**

Table 4-2: Permanent Flow Rate or Foundation Drain- Common Underground P1-P2 Levels

Parameters	P1 Level	P2 Levels
K -Hydraulic conductivity (highest) (m/s)	3.4×10^{-7}	3.4×10^{-7}
H-Distance from water level to subfloor drainage(m)	0.5	3.0
h -Depth of water in the well while pumping (m)	0	0
Area (a x b) in (m)	100 x 60	100 x 60
Estimated Flow Rate- L/day (without safety factor)- L/day	1,000	7,000
Estimated Flow Rate- L/day (with safety factor x 1.5)-L/day	1,500	10,500

4.5 Permit Requirments

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 required to be submitted to the MECP if the taking of groundwater and stormwater for a temporary construction project is more than 400,000 L/ day.

The expected design dewatering rates during construction for all phases are expected to be more than 50,000 L/day including additional stormwater removal. Therefore, an EASR application is required to be

submitted to the MECP for the short term However, an EASR can be avoided if the daily pumping requirement is maintained below the water-taking limit during construction.

Furthermore, based on current groundwater conditions, permanent groundwater flow or permanent drainage is expected to be less than the water-taking limit of 50,000 L/day, therefore, a PTTW is not required permanently.

4.5.2 Discharge Permits

A discharge permit will be required from the Halton Region/Town of Oakville if private water is to be sent to the sewer system for construction dewatering and permanent drainage. Alternatively, the pumped volume can be managed on-site because of the minimal expected dewatering volume during the construction.

5.0 POTENTIAL IMPACTS

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

5.1 Local Groundwater Use

Based on the MECP WWRs, there are no private water wells expected in the maximum predicted radius of Influence of about 11 from the edge of the excavation. Also, the expected dewatering volumes are minimal and therefore, it is not expected short-term or long-term impacts to private water wells occurring from the proposed short-term dewatering.

5.2 Source Protection Area

The site is located within the Halton Region Source Protection Area (SPA). Source Protection Plans contain policies aimed at protecting drinking water sources by reducing or eliminating significant threats to the source of municipal drinking water. No source of municipal water drinking water within the expected radius of influence of about 11 m from the edges of the excavation. Therefore, no impacts are anticipated on the drinking water supply within the zone of influence.

5.3 Highly Vulnerable Aquifer

The site is not located in a Highly Vulnerable Aquifer (HVA). HVAs are aquifers that are more susceptible to contamination consisting of granular material (i.e., sand & gravel, and fractured rock near the surface of the ground) as

5.4 Wellhead Protection Area

The site and the study area are not located within a municipal Wellhead Protection Area (WHPA). WHPAs are used to identify locations of potential water quantity threats. There are two types of threats: those associated with water demand and those associated with a reduction in groundwater recharge.

5.5 Intake Protection Zone

The site and the study area are not located within an Intake Protection Zone (IPZ). IPZs depend on surface water for municipal water supply and include areas of land adjacent to streams and storm sewers where runoff water can quickly reach an intake.

5.6 Surface Water

The nearest surface body is Joshua Creek located about 350 m away from the eastern boundary of the site, not falling within the maximum thermotical radius of influence of about 9 m from the edges of the excavation. The development will be completed from low permeable silty clay to sandy silt till and shale. The horizontal and vertical groundwater movement within the till and shale is expected to be limited and locally. As such, any adverse impact is not anticipated on the nearby Joshua Creek because of dewatering activities

5.7 Point of Discharge and Groundwater Quality

Groundwater quality analysis indicated that no parameters exceeded the Halton Region sanitary and combined sewer criteria but total suspended solids(TSS), manganese and chloroform exceeded the Town of Oakville storm sewer criteria. Therefore, groundwater at the development site is not suitable for discharge into the Town of Oakville's storm sewers without pre-treatment. A Discharge permit may be required from the Town of Oakville for short-term discharge if the pumped water is diverted to the Town's sewer system.

6.0 MONITORING AND MITIGATION

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

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

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

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

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 provided in this report reflects DS' judgment considering the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of these 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 were not apparent from the available information.

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

DS Consultants Ltd.

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8.0 CONSULTANT QUALIFICATIONS

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

Pradeep Patel, M.Sc., P.Geo. is a hydrogeologist at DS Consultants Ltd. and has more than 15 years of experience working in the environmental industry. He participates in numerous Hydrogeological and Geotechnical investigation projects. His experience includes the preparation of construction dewatering activities and hydrogeological investigations in support of Environmental Activity and Sector Registry (EASR) and Permit to Take Water (PTTW) applications.

9.0 REFERENCES

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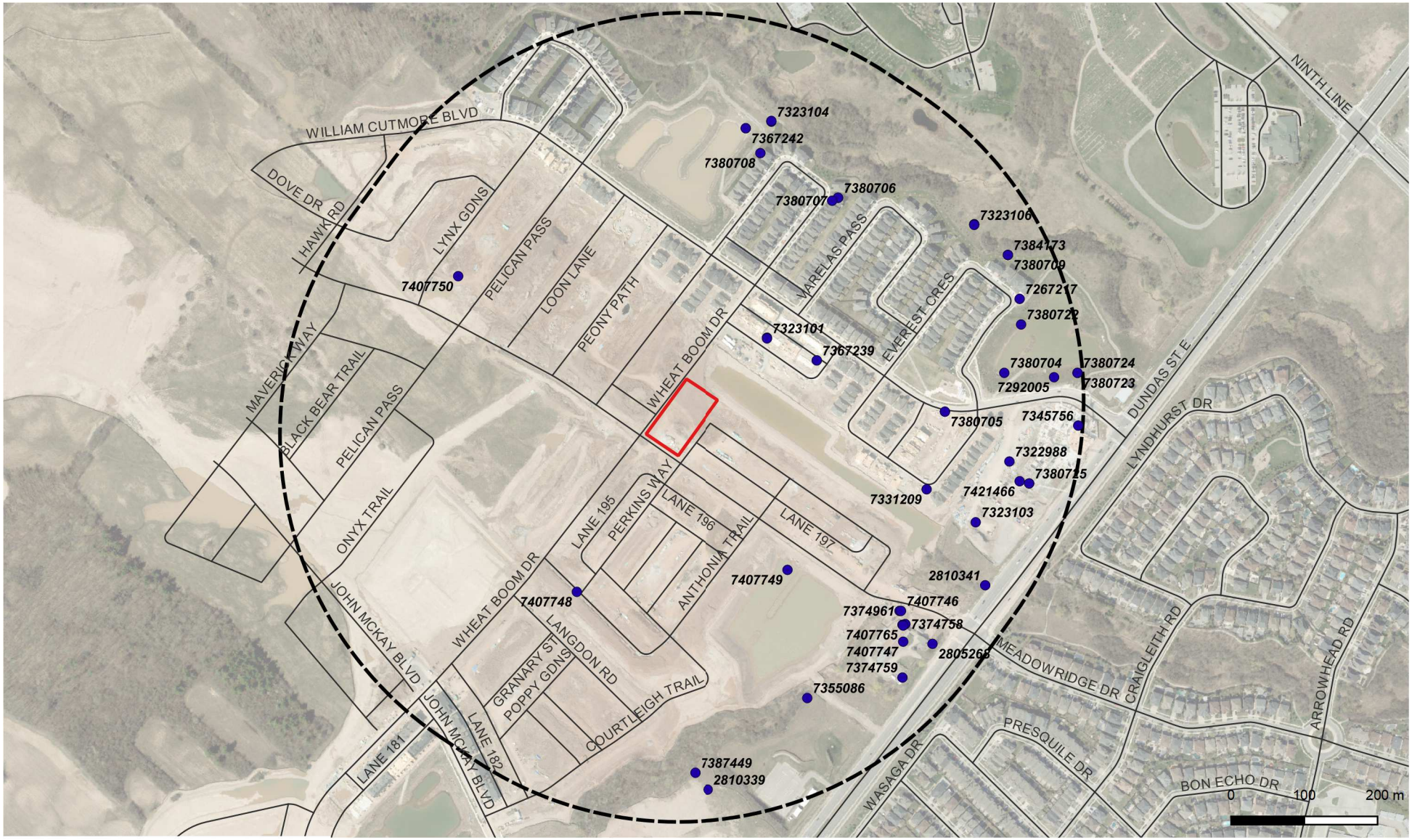
FIGURES

C:\0Sharon\24-228-100 - Diam Property (Block 297), Oakville, ON\1-QGIS\HydroG\Figure 1 – Site Location and MECP Well Records.qgs Oct-02 00:01



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
Dundas Urban Core Block(DUC) Block 297- Dundas St. E.,Oakville, ON

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

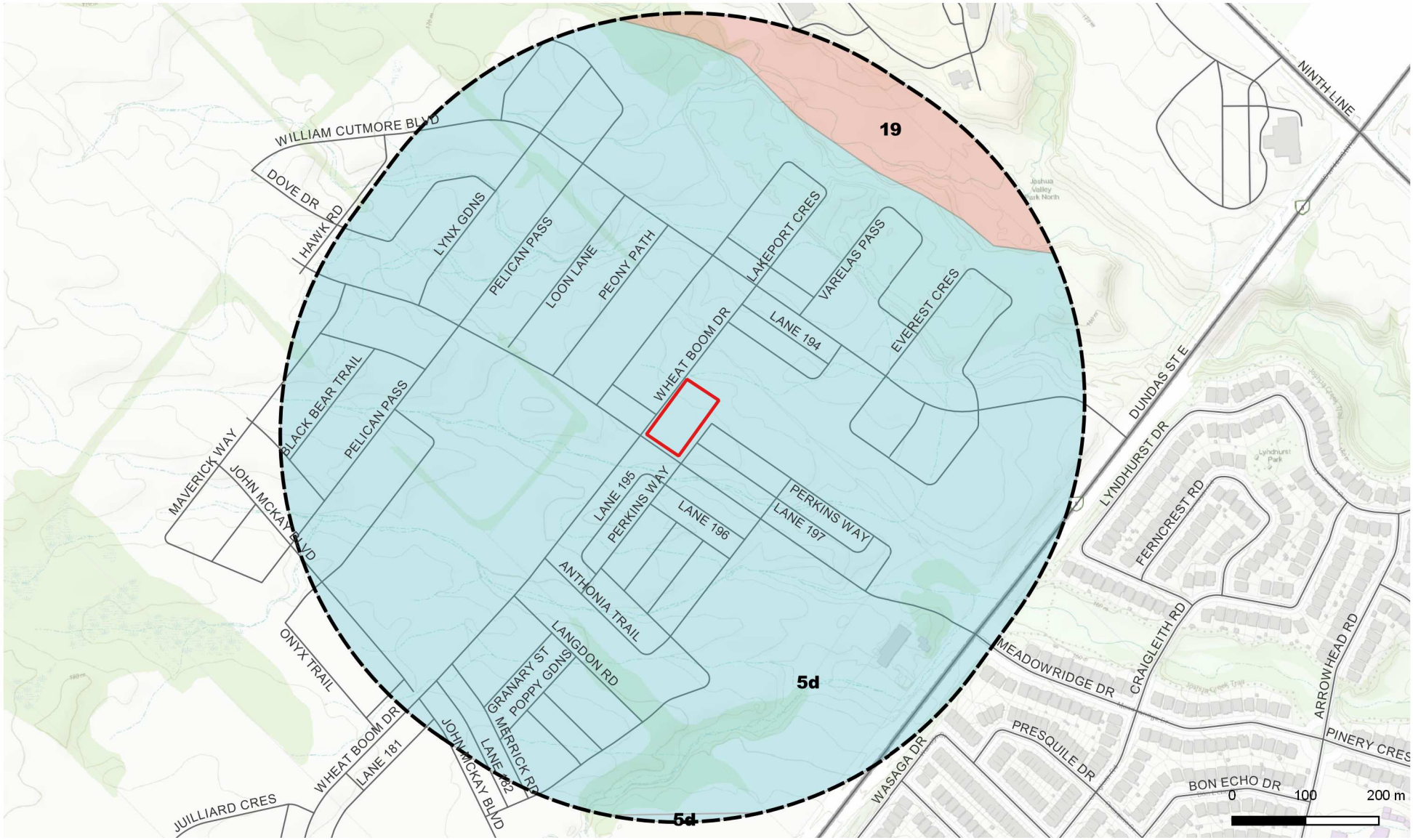
N

Client: VALERY HOMES

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	P.P	S.Y	October 2024
Rev: 0	Scale: As Shown	Project No.: 24-228-100	Figure No.: 1

Image/Map Source: *Esri Satellite Image*

C:\0Sharon\24-228-100 - Diam Property (Block 297), Oakville, ON\1-QGIS\HydroG\Figure 2 – Surficial Geology Map.qgs Oct-02 00:12



Legend

- Property Boundary
- 500m Buffer
- 19 - Modern Alluvium
- 5d - Till

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Project: HYDROGEOLOGICAL INVESTIGATION
Dundas Urban Core Block(DUC) Block 297- Dundas St. E.,Oakville, ON

Title: **SURFICIAL GEOLOGY MAP**

N

Client: VALERY HOMES

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	P.P	S.Y	October 2024
Rev: 0	Scale: As Shown	Project No.: 24-228-100	Figure No.: 2

Image/Map Source: *Esri Topo Map*

C:\0Sharon\24-228-100 - Diam Property (Block 297), Oakville, ON\1-QGIS\HydroG\Figure 3 – Borehole and Monitoring Well Locations.qgs Oct-02 00:34

Legend

- Property Boundary
- Borehole
- Monitoring Well
- Cross Section

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Project: HYDROGEOLOGICAL INVESTIGATION
Dundas Urban Core Block(DUC) Block 297- Dundas St. E.,Oakville, ON

Title: **BOREHOLE AND MONITORING WELL LOCATIONS**

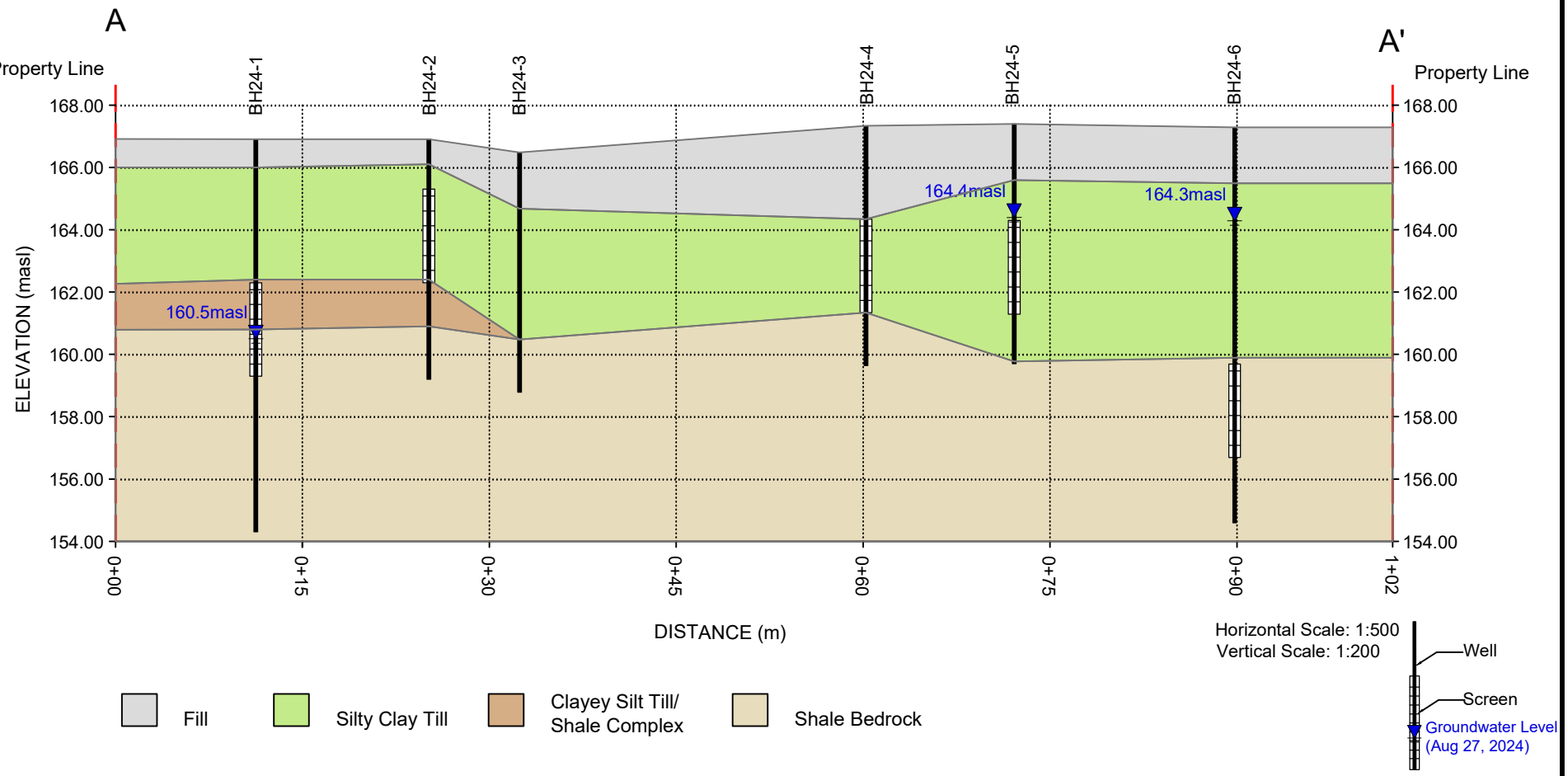
N

Client: VALERY HOMES

Size:	Approved By:	Drawn By:	Date:
8.5 x 11	P.P	S.Y	October 2024
Rev: 0	Scale: As Shown	Project No.: 24-228-100	Figure No.: 3

Image/Map Source: *Esri Satellite Image*

Path:c:\0sharon\24-228-100 - diam property (block 297), oakville, on\7-misc\cad\geological cross section 24-228.dwg



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Project: HYDROGEOLOGICAL INVESTIGATION
Dundas Urban Core Block(DUC) Block 297- Dundas St. E.,Oakville, ON

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

Client:	Size:	Approved By:	Drawn By:	Date:
VALERY HOMES	8.5 x 11	P.P	S.Y	October 2024
	Rev.	Scale: As Shown	Project No: 24-228-100	Figure No. 4

APPENDICES

Appendix A: Borehole Logs

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-1

PROJECT: Additional Geotechnical Investigation
CLIENT: Valery Group
PROJECT LOCATION: Block 297, Oakville, Ontario
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4817671.9 E 604337.1

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Aug-09-2024

REF. NO.: 24-228-100
ENCL NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
166.9							
0.0 / 166.0	**FILL:** clayey silt, trace sand, reddish brown, moist, very stiff		1	SS	15		166
0.9	**SILTY CLAY TILL:** sandy, trace gravel, brown to reddish brown, moist, very stiff to hard		2	SS	33		
			3	SS	31		165
			4	SS	28		
			5	SS	17		164
162.4							163
4.5 / 160.8	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, reddish brown, moist, hard		6	SS	50/75mm		162
160.7			7	SS	50/75mm		161
6.2 / 160.3	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered		R1	RC		W. L. 160.5 m Aug 27, 2024	
6.6 / 159.8	TCR=100%, SCR=93%, RQD=93% Hard layers=6%, Maximum hard layer thickness=10mm						160
7.1	TCR=98%, SCR=86%, RQD=83% Hard layers=19%, Maximum hard layer thickness=100mm		R2	RC			159
	TCR=96%, SCR=88%, RQD=83% Hard layers=11%, Maximum hard layer thickness=50mm		R3	RC			158
157.3							
9.6	TCR=93%, SCR=93%, RQD=87% Hard layers=10%, Maximum hard layer thickness=130mm		R4	RC			157
155.8							156
11.1	TCR=100%, SCR=98%, RQD=98% Hard layers=18%, Maximum hard layer thickness=100mm		R5	RC			155
154.3							
12.6	**END OF BOREHOLE:** Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): August 27, 2024 6.4						

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

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

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

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

	GR	SA	SI	CL
	3	26	48	23

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

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

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Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-2

PROJECT: Additional Geotechnical Investigation
CLIENT: Valery Group
PROJECT LOCATION: Block 297, Oakville, Ontario
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4817651 E 604368.5

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Aug-09-2024

REF. NO.: 24-228-100
ENCL NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
166.9						
0.0	**FILL:** clayey silt, trace sand, reddish brown, moist, very stiff	1	SS	20		
166.1						
0.8	**SILTY CLAY TILL:** sandy, trace gravel, brown to reddish brown, moist, very stiff to hard	2	SS	31	166	
		3	SS	28	165	
		4	SS	28	164	
		5	SS	15	163	6 22 49 23
162.4						
4.5	**CLAYEY SILT TILL/SHALE COMPLEX:** trace sand, reddish brown, moist, hard	6	SS	50/ 130mm	162	
160.9						
6.0	**SHALE BEDROCK:** Queenston Formation, reddish brown, weathered	7	SS	50/ 50mm	161	
					160	
159.2						
7.7	**END OF BOREHOLE:**	8	SS	50/ 50mm		

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

Date:	Water Level(mbgl):
August 27, 2024	dry

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

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

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

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-3

PROJECT: Additional Geotechnical Investigation
CLIENT: Valery Group
PROJECT LOCATION: Block 297, Oakville, Ontario
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4817684.8 E 604355.2

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Aug-12-2024

REF. NO.: 24-228-100
ENCL NO.: 4

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	ELEVATION
167.2					
167.0 / 0.2	**GRANULAR FILL:** sand and gravel, 150mm	1	SS	20	167
	FILL: clayey silt, trace sand, reddish brown, moist, stiff to very stiff	2	SS	13	
165.4		3	SS	23	166
1.8	**SILTY CLAY TILL:** some sand, trace gravel, brown to reddish brown, moist, very stiff to hard	4	SS	29	165
		5	SS	50	164
	greyish brown at 4.6m	6	SS	26	163
161.2					162
6.0	**SHALE BEDROCK:** Queenstion Formation, reddish brown, weathered	7	SS	50/ 50mm	161
159.5		8	SS	50/ 50mm	160
7.7	**END OF BOREHOLE:** Notes: 1) No water was encountered during drilling.				

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

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

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

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

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-4

PROJECT: Additional Geotechnical Investigation
CLIENT: Valery Group
PROJECT LOCATION: Block 297, Oakville, Ontario
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4817705.9 E 604375.2

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Aug-12-2024

REF. NO.: 24-228-100
ENCL NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
167.3							
0.0	**FILL:** clayey silt, trace sand, reddish brown, moist, stiff to very stiff	1	SS	25		167	
		2	SS	13			
1.8	trace organics at 1.8m	3	SS	11		166	
		4	SS	12		165	
164.3							
3.0	**SILTY CLAY TILL:** some sand, trace gravel, brown to reddish brown, moist, hard	5	SS	32		164	1 14 58 27
4.6	greyish brown at 4.6m	6	SS	50/ 50mm		163	auger grinding
161.3						162	
6.0	**SHALE BEDROCK:** Queenstion Formation, reddish brown, weathered	7	SS	50/ 50mm		161	
159.6						160	
7.7	**END OF BOREHOLE:**	8	SS	50/ 75mm			

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

Date:	Water Level(mbgl):
August 27, 2024	dry

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

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

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

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

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

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-5

PROJECT: Additional Geotechnical Investigation
CLIENT: Valery Group
PROJECT LOCATION: Block 297, Oakville, Ontario
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4817725.4 E 604378.3

DRILLING DATA
Method: Hollow Stem Auger
Diameter: 200mm
Date: Aug-13-2024

REF. NO.: 24-228-100
ENCL NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
167.4							
0.0	**FILL:** clayey silt, trace sand, some gravels, reddish brown, moist, stiff to very stiff		1	SS	12		167
			2	SS	18		
165.6							166
1.8	**SILTY CLAY TILL:** sandy, trace gravel, brown to reddish brown, moist, very stiff		3	SS	15		
			4	SS	28		165
			5	SS	27	W. L. 164.4 m Aug 27, 2024	
	greyish brown at 4.6m		6	AS	26		163
	grey at 6.1m		7	SS	25		162
159.8							161
~~159.7~~ 7.7	~~**SHALE BEDROCK:** Queenston~~ Formation, reddish brown, weathered		8	SS	~~50/~~ 75mm		160
	END OF BOREHOLE:						

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

Date: Water Level(mbgl):
August 27, 2024 3.0

DYNAMIC CONE PENETRATION RESISTANCE PLOT
20 40 60 80 100

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

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

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
3	21	51	24

DS SOIL LOG-2021-FINAL 24-228-100GEO.GPJ DS.GDT 24-9-5

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

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

DS CONSULTANTS LTD.
Geotechnical ◆ Environmental ◆ Materials ◆ Hydrogeology

LOG OF BOREHOLE BH24-6

PROJECT: Additional Geotechnical Investigation
CLIENT: Valery Group
PROJECT LOCATION: Block 297, Oakville, Ontario
DATUM: Geodetic
BH LOCATION: See Drawing 1 N 4817709.3 E 604408.1

DRILLING DATA
Method: Hollow Stem Auger/Mud Rotary
Diameter: 200mm
Date: Aug-13-2024

REF. NO.: 24-228-100
ENCL NO.: 7

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
167.3						
0.0	**FILL:** clayey silt, trace sand, some gravels, reddish brown, moist, firm to very stiff	1	SS	7		167
1		2	SS	20		166
165.5		3	SS	21		
1.8	**SILTY CLAY TILL:** some sand, trace gravel, brown to reddish brown, moist, very stiff to hard	4	SS	35		165
3		5	SS	28	W. L. 164.3 m Aug 27, 2024	
4						163
5		6	SS	37		
6	greyish brown at 6.1m					162
7		7	SS	22		161
159.9						
~~157.8~~	**SHALE BEDROCK:** Queenstion	8	SS	50/25mm		160
7.5	Formation, reddish brown, weathered	R1	RC			
8	TCR=96%, SCR=70%, RQD=70%					
159.1	Hard layers=13%, Maximum hard layer thickness=75mm					
8.2	TCR=98%, SCR=98%, RQD=93%	R2	RC			159
9	Hard layers=6%, Maximum hard layer thickness=75mm					
157.6						158
9.7	TCR=100%, SCR=100%, RQD=98%	R3	RC			157
10	Hard layers=15%, Maximum hard layer thickness=50mm					
11						
156.1						
11.2	TCR=100%, SCR=100%, RQD=98%	R4	RC			156
12	Hard layers=11%, Maximum hard layer thickness=50mm					
154.6						155
12.7	**END OF BOREHOLE:**					

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

Date:	Water Level(mbgl):
August 27, 2024	3.0

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

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

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

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

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

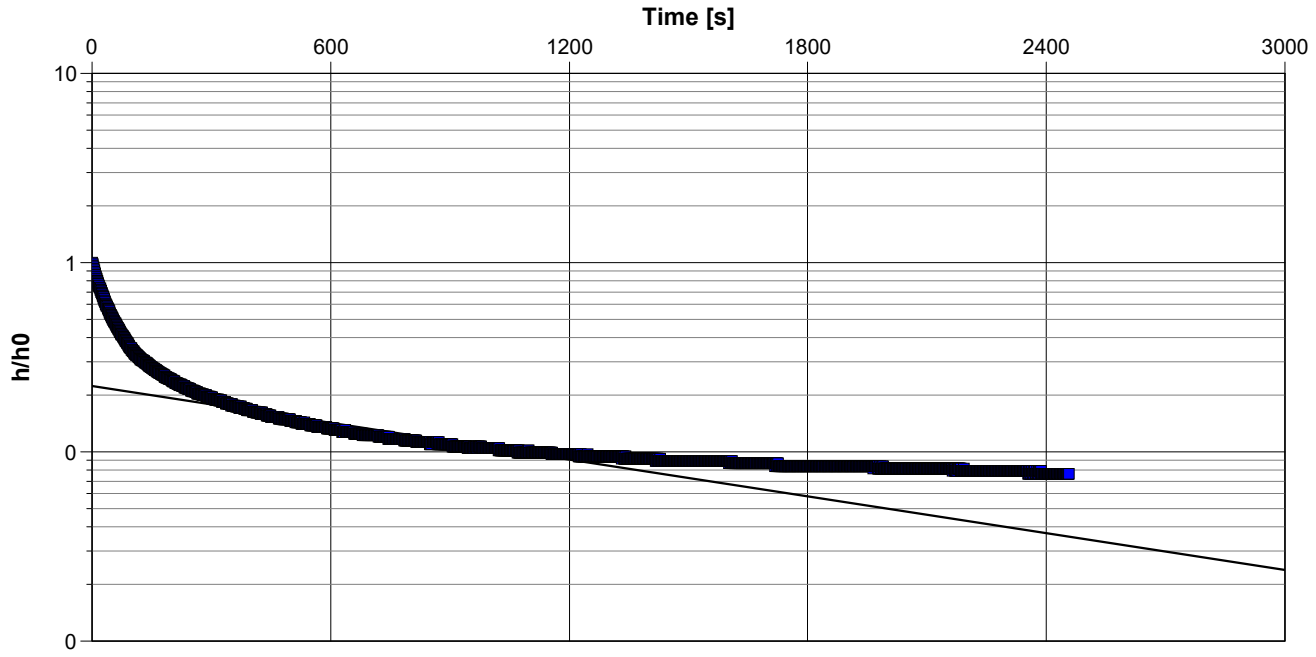
GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
○ ε=3% Strain at Failure

DS SOIL LOG-2021-FINAL 24-228-100GEO.GPJ DS.GDT 24-9-5

Appendix B: Hydraulic Conductivity Analysis

	Slug Test Analysis Report
	Project: Hydrogeology Investigation
	Number: 24-228-100
	Client: Valery Homes

Location: Block 297, Oakville, ON	Slug Test: BH/MW 24-1	Test Well: BH/MW 24-1
Test Conducted by:		Test Date: 10/1/2024
Analysis Performed by: PP	Hvorslev	Analysis Date: 10/1/2024
Aquifer Thickness: 1.95 m		

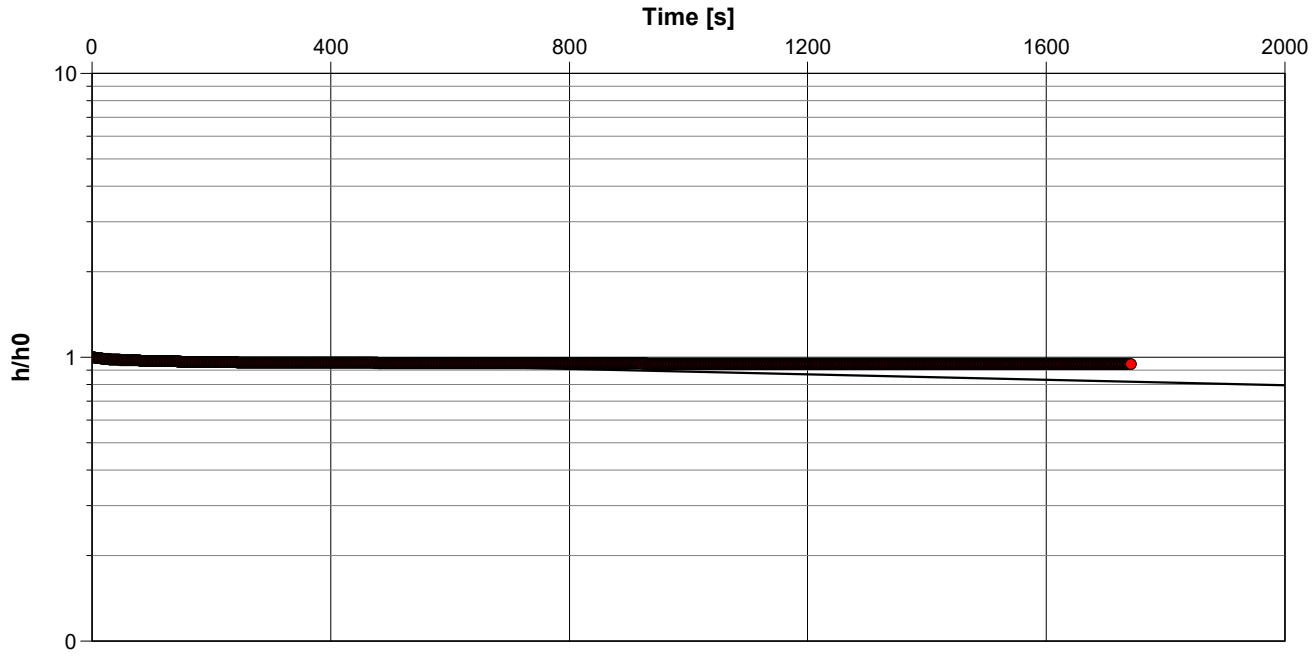


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH/MW 24-1	3.37×10^{-7}	

	Slug Test Analysis Report
	Project: Hydrogeology Investigation
	Number: 24-228-100
	Client: Valery Homes

Location: Block 297, Oakville, ON	Slug Test: BH/MW 24-5	Test Well: BH/MW 24-5
Test Conducted by:		Test Date: 10/1/2024
Analysis Performed by: PP	Hvorslev	Analysis Date: 10/1/2024
Aquifer Thickness: 3.09 m		

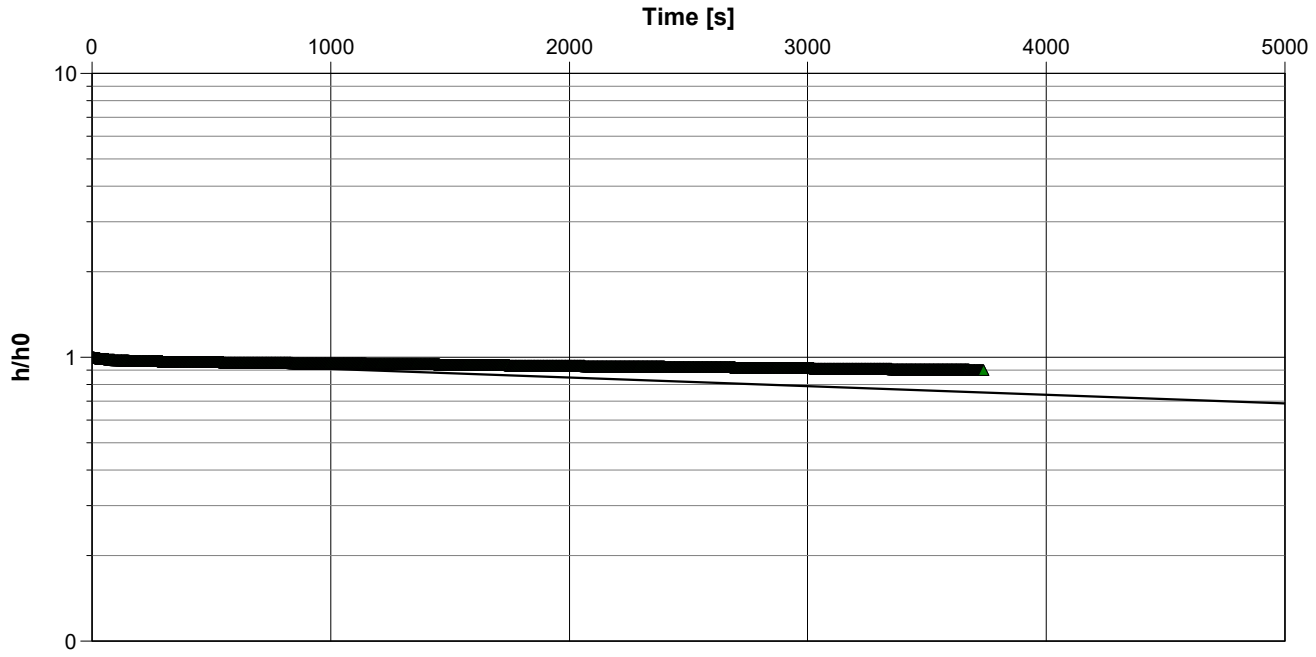


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH/MW 24-5	4.87×10^{-8}	

	Slug Test Analysis Report
	Project: Hydrogeology Investigation
	Number: 24-228-100
	Client: Valery Homes

Location: Block 297, Oakville, ON	Slug Test: BH/MW 24-6	Test Well: BH/MW 24-6
Test Conducted by:		Test Date: 10/1/2024
Analysis Performed by: PP	Hvorslev	Analysis Date: 10/1/2024
Aquifer Thickness: 7.38 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH/MW 24-6	3.18×10^{-8}	

Appendix C: Groundwater Quality Certificate of Analysis

FINAL REPORT

CA40200-AUG24 R1

24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville

Prepared for

DS Consultants

FINAL REPORT

CA40200-AUG24 R1

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16 Vaughan, Ontario L4H 0K8. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Pradeep Patel	Telephone	705-652-2000
Telephone	647-332-3482	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	ppatel@dsconsultants.ca	SGS Reference	CA40200-AUG24
Project	24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville	Received	08/29/2024
Order Number		Approved	09/06/2024
Samples	Ground Water (1)	Report Number	CA40200-AUG24 R1
		Date Reported	09/06/2024

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 036246

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

TABLE OF CONTENTS

Client: DS Consultants
Project: 24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville
Project Manager: Pradeep Patel
Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	Result
General Chemistry				
Carbonaceous Biochemical Oxygen Demand	mg/L	2		< 4 ↑
Biochemical Oxygen Demand (BOD5)	mg/L	2	15	< 4 ↑
Total Suspended Solids	mg/L	2	15	73
Total Kjeldahl Nitrogen	as N mg/L	0.5		2.0
Metals and Inorganics				
Cyanide (total)	mg/L	0.01	0.02	< 0.01
Fluoride	mg/L	0.06		0.51
Sulphate	mg/L	2		1300
Aluminum (total)	mg/L	0.001		0.939
Antimony (total)	mg/L	0.0009		< 0.0009
Arsenic (total)	mg/L	0.0002	0.02	0.0043
Beryllium (total)	mg/L	0.000007		0.000050
Cadmium (total)	mg/L	0.000003	0.008	0.000059
Chromium (total)	mg/L	0.00008	0.08	0.00130
Cobalt (total)	mg/L	0.000004		0.00507
Copper (total)	mg/L	0.001	0.04	0.003
Iron (total)	mg/L	0.007		1.18
Lead (total)	mg/L	0.00009	0.12	0.00069
Manganese (total)	mg/L	0.00001	0.05	0.208
Molybdenum (total)	mg/L	0.0004		0.0104
Nickel (total)	mg/L	0.0001	0.08	0.0044

Client: DS Consultants
Project: 24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville
Project Manager: Pradeep Patel
Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Phosphorus (total)	mg/L	0.003	0.4	0.039
Selenium (total)	mg/L	0.00004	0.02	0.00127
Silver (total)	mg/L	0.00005	0.12	< 0.00005
Tin (total)	mg/L	0.00006		0.00480
Titanium (total)	mg/L	0.0001		0.0074
Zinc (total)	mg/L	0.002	0.04	0.037
Microbiology				
E. Coli	cfu/100mL	0	200	< 2↑
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001	0.001	< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.01	< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4

Client: DS Consultants
Project: 24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville
Project Manager: Pradeep Patel
Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	Result
Organochlorine Pests (OCs)				
Hexachlorobenzene	mg/L	0.00001	0.00004	< 0.00001
Other (ORP)				
pH	No unit	0.05	8.5	7.54
Chromium VI	mg/L	0.0002	0.04	< 0.0002
Mercury (total)	mg/L	0.00001	0.0004	< 0.00001
PAHs				
Benzo(b+j)fluoranthene	mg/L	0.0001		< 0.0001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.0004	< 0.0001
Pesticides				
Aldrin + Dieldrin	mg/L	0.00002	0.00008	< 0.00002
Chlordane (total)	mg/L	0.00002	0.04	< 0.001↑
DDT+Metabolites	mg/L	0.00004		< 0.00004
op-DDT	mg/L	0.00002		< 0.00002
pp-DDD	mg/L	0.00002		< 0.00002
pp-DDE	mg/L	0.00001		< 0.00001
pp-DDT	mg/L	0.00002		< 0.00002
o,p-DDD	mg/L	0.00002		< 0.00002
o,p-DDE	mg/L	0.00001		< 0.00001
Mirex	mg/L	0.001	0.04	< 0.001
Hexachlorocyclohexane	mg/L	0.001	0.04	< 0.001

Client: DS Consultants
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Project Manager: Pradeep Patel
Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	Result
Phenols				
4AAP-Phenolics	mg/L	0.002	0.008	0.003
SVOCs				
PAHs (Total)	mg/L		0.002	< 0.001
Perylene	mg/L	0.0005		< 0.0005
di-n-Butyl Phthalate	mg/L	0.002	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.0088	< 0.002
3,3-Dichlorobenzidine	mg/L	0.0005	0.0008	< 0.0005
Pentachlorophenol	mg/L	0.0005	0.002	< 0.0005
SVOCs - PAHs				
Naphthalene	mg/L	0.0005		< 0.0005
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

Client: DS Consultants
Project: 24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville
Project Manager: Pradeep Patel
Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	Result
SVOCs - PAHs (continued)				
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
VOCs				
Chloroform	mg/L	0.0005	0.002	0.0052
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-Dichloroethylene	mg/L	0.0005	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	0.0052	< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.0076	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.017	< 0.0005

Client: DS Consultants

Project: 24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville

Project Manager: Pradeep Patel

Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	Result
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
m-p-xylene	mg/L	0.0005		< 0.0005
o-xylene	mg/L	0.0005		< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER / - - Oakville Sewer Use By Law - Storm Sewer Discharge - BL_2009_031 L1
BH24-6				
Chloroform	EPA 5030B/8260C	mg/L	0.0052	0.002
Total Suspended Solids	SM 2540D	mg/L	73	15
Manganese	SM 3030/EPA 200.8	mg/L	0.208	0.05

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	DIO5001-SEP24	mg/L	2	<2	ND	20	107	80	120	107	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
Carbonaceous Biochemical Oxygen Demand	BOD0061-AUG24	(CBOD5) mg/L	2	< 2	4	30	97	70	130	96	70	130
Biochemical Oxygen Demand (BOD5)	BOD0062-AUG24	mg/L	2	< 2	3	30	99	70	130	123	70	130

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)	SKA0004-SEP24	mg/L	0.01	<0.01	ND	10	94	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	EWL0683-AUG24	mg/L	0.06	<0.06	7	10	101	90	110	105	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	SKA0005-SEP24	mg/L	0.0002	<0.0002	ND	20	99	80	120	NV	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)	EHG0067-AUG24	mg/L	0.00001	< 0.00001	ND	20	102	80	120	70	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)	EMS0342-AUG24	mg/L	0.00005	<0.00005	ND	20	100	90	110	93	70	130
Aluminum (total)	EMS0342-AUG24	mg/L	0.001	<0.001	ND	20	104	90	110	99	70	130
Arsenic (total)	EMS0342-AUG24	mg/L	0.0002	<0.0002	ND	20	99	90	110	103	70	130
Beryllium (total)	EMS0342-AUG24	mg/L	0.000007	<0.000007	ND	20	103	90	110	97	70	130
Cadmium (total)	EMS0342-AUG24	mg/L	0.000003	<0.000003	3	20	97	90	110	101	70	130
Cobalt (total)	EMS0342-AUG24	mg/L	0.000004	<0.000004	2	20	101	90	110	104	70	130
Chromium (total)	EMS0342-AUG24	mg/L	0.00008	<0.00008	0	20	100	90	110	104	70	130
Copper (total)	EMS0342-AUG24	mg/L	0.001	<0.001	ND	20	99	90	110	103	70	130
Iron (total)	EMS0342-AUG24	mg/L	0.007	<0.007	0	20	103	90	110	100	70	130
Manganese (total)	EMS0342-AUG24	mg/L	0.00001	<0.00001	1	20	101	90	110	99	70	130
Molybdenum (total)	EMS0342-AUG24	mg/L	0.0004	<0.0004	ND	20	101	90	110	108	70	130
Nickel (total)	EMS0342-AUG24	mg/L	0.0001	<0.0001	7	20	101	90	110	106	70	130
Lead (total)	EMS0342-AUG24	mg/L	0.00009	<0.00009	5	20	97	90	110	102	70	130
Phosphorus (total)	EMS0342-AUG24	mg/L	0.003	<0.003	7	20	98	90	110	NV	70	130
Antimony (total)	EMS0342-AUG24	mg/L	0.0009	<0.0009	ND	20	102	90	110	109	70	130
Selenium (total)	EMS0342-AUG24	mg/L	0.00004	<0.00004	18	20	99	90	110	92	70	130
Tin (total)	EMS0342-AUG24	mg/L	0.00006	<0.00006	ND	20	103	90	110	NV	70	130
Titanium (total)	EMS0342-AUG24	mg/L	0.0001	<0.0001	9	20	103	90	110	NV	70	130
Zinc (total)	EMS0342-AUG24	mg/L	0.002	<0.002	0	20	103	90	110	71	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	BAC9502-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	GCM0008-SEP24	mg/L	0.001	<0.001			94	55	120			

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-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)	GCM0039-SEP24	mg/L	2	<2	NSS	20	106	75	125			

QC SUMMARY

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)	GCM0039-SEP24	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0039-SEP24	mg/L	4	< 4	NSS	20	NA	70	130			

Pesticides

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-018

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
Hexachlorobenzene	GCM0063-SEP24	mg/L	0.00001	< 0.00001	NSS	30	91	50	140	88	50	140
Hexachlorocyclohexane	GCM0063-SEP24	mg/L	0.001	< 0.001	NSS	30	95	50	140	93	50	140
Mirex	GCM0063-SEP24	mg/L	0.001	< 0.001	NSS	30	95	50	140	83	50	140
o,p-DDD	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	97	50	140	93	50	140
o,p-DDE	GCM0063-SEP24	mg/L	0.00001	< 0.00001	NSS	30	97	50	140	97	50	140
op-DDT	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	98	50	140	96	50	140
pp-DDD	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	99	50	140	102	50	140
pp-DDE	GCM0063-SEP24	mg/L	0.00001	< 0.00001	NSS	30	97	50	140	92	50	140
pp-DDT	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	102	50	140	105	50	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-IENVIEWL-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	EWL0675-AUG24	No unit	0.05	NA	0		100			NA		

Phenols by SFA

Method: SM 5530B-D I Internal ref.: ME-CA-IENVISFA-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	SKA0002-SEP24	mg/L	0.002	<0.002	7	10	100	80	120	106	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A I Internal ref.: ME-CA-IENVIGC-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	GCM0009-SEP24	mg/L	0.0001	<0.0001	NSS	30	91	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
3,3-Dichlorobenzidine	GCM0035-SEP24	mg/L	0.0005	< 0.0005	NSS	30	107	30	130	NSS	30	130
7Hdibenzo(c,g)carbazole	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Anthracene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Benzo(a)anthracene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(a)pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140
Benzo(e)pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0037-SEP24	mg/L	0.0002	< 0.0002	NSS	30	96	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	100	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0037-SEP24	mg/L	0.002	< 0.002	NSS	30	102	50	140	NSS	50	140
Chrysene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0037-SEP24	mg/L	0.002	< 0.002	NSS	30	102	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	83	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Fluoranthene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0037-SEP24	mg/L	0.0002	< 0.0002	NSS	30	97	50	140	NSS	50	140
Naphthalene	GCM0037-SEP24	mg/L	0.0005	< 0.0005	NSS	30	77	50	140	NSS	50	140
Pentachlorophenol	GCM0037-SEP24	mg/L	0.0005	< 0.0005	NSS	30	101	50	140	NSS	50	140
Perylene	GCM0037-SEP24	mg/L	0.0005	< 0.0005	NSS	30	103	50	140	NSS	50	140

QC SUMMARY

Semi-Volatile Organics (continued)

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
Phenanthrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	90	50	140	NSS	50	140
Pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140

Suspended Solids

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0664-AUG24	mg/L	2	< 2	4	10	97	90	110	NA		

Total Nitrogen

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0017-SEP24	as N mg/L	0.5	<0.5	3	10	97	90	110	106	75	125

QC SUMMARY

Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
1,2-Dichlorobenzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	100	60	130	111	50	140
1,4-Dichlorobenzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	99	60	130	110	50	140
Benzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	113	50	140
Chloroform	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	110	50	140
cis-1,2-Dichloroethylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	99	60	130	109	50	140
Ethylbenzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	112	50	140
m-p-xylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	114	50	140
Methylene Chloride	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	111	50	140
o-xylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	97	60	130	111	50	140
Tetrachloroethylene (perchloroethylene)	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	114	50	140
Toluene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	99	60	130	111	50	140
trans-1,3-Dichloropropene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	96	60	130	102	50	140
Trichloroethylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	95	60	130	109	50	140

QC SUMMARY

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

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

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

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

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

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

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

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

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

LEGEND

FOOTNOTES

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

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

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

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

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

No: 036246

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

Page ____ of ____

Laboratory Information Section - Lab use only

Received By: Ayneer
Received Date: 08/29/24 (mm/dd/yy)
Received Time: 12:00 (hr:min)
Received By (signature): AP
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE
Temperature Upon Receipt (°C) 9 x 3
LAB LIMS #: CA40200-Aug24

REPORT INFORMATION

Company: DS Consultants Ltd
Contact: Pradeep patel
Address: 6221 Hwy 7, unit 6 Vaughan
Phone: 905-264-9393
Fax:
Email: PPatel@dsconsultants.ca

INVOICE INFORMATION

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

Quotation #:
P.O. #:
Project #: 24-228-100
Site Location/ID: Meadowridge & Wheat Boom Dr, Oakville

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: Halton Oakville

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M&I: Field Filtered (Y/N)	M&I: Metals & Inorganics (Incl CrVI, CN,Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Ti,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all Incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all Incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other: ☑ Halton Sanitary/Storm	Other: ☑ Oakville Storm	Other	Other	Other	Other	Sewer Use: Specify pkg:	Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP: Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit	COMMENTS:
1	BH24-6	Aug 29, 2024	AM	18	GW	N												✓	✓								Non filtered
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Observations/Comments/Special Instructions

Sampled By (NAME): Ken Kim
Signature: Ken
Date: Aug 29 24 (mm/dd/yy)

Relinquished by (NAME): Ken Kim
Signature: Ken
Date: Aug 29 24 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

FINAL REPORT

CA40200-AUG24 R1

24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville

Prepared for

DS Consultants

FINAL REPORT

CA40200-AUG24 R1

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	DS Consultants	Project Specialist	Maarit Wolfe, Hon.B.Sc
		Laboratory	SGS Canada Inc.
Address	6221 Highway 7 Unit 16 Vaughan, Ontario L4H 0K8. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Pradeep Patel	Telephone	705-652-2000
Telephone	647-332-3482	Facsimile	705-652-6365
Facsimile	905-264-2685	Email	Maarit.Wolfe@sgs.com
Email	ppatel@dsconsultants.ca	SGS Reference	CA40200-AUG24
Project	24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville	Received	08/29/2024
Order Number		Approved	09/06/2024
Samples	Ground Water (1)	Report Number	CA40200-AUG24 R1
		Date Reported	09/06/2024

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 036246

SIGNATORIES

Maarit Wolfe, Hon.B.Sc

TABLE OF CONTENTS

Client: DS Consultants
Project: 24-228-100, Meadow Ridge & Wheat Boom Dr, Oakville
Project Manager: Pradeep Patel
Samplers: Ken Kim

MATRIX: WATER

L1 = SANSEW / WATER / - - Halton Sewer Use ByLaw - Sanitary and Combined Sewer Discharge - BL_2_03

L2 = SANSEW / WATER / - - Halton Sewer Use ByLaw - Storm Sewer Discharge - BL_2_03

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	L2	Result
General Chemistry					
Carbonaceous Biochemical Oxygen Demand	mg/L	2			< 4 ↑
Biochemical Oxygen Demand (BOD5)	mg/L	2	300		< 4 ↑
Total Suspended Solids	mg/L	2	350		73
Total Kjeldahl Nitrogen	as N mg/L	0.5	100		2.0
Metals and Inorganics					
Cyanide (total)	mg/L	0.01	2		< 0.01
Fluoride	mg/L	0.06	10		0.51
Sulphate	mg/L	2	1500		1300
Aluminum (total)	mg/L	0.001	50		0.939
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1		0.0043
Beryllium (total)	mg/L	0.000007	5		0.000050
Cadmium (total)	mg/L	0.000003	1		0.000059
Chromium (total)	mg/L	0.00008	3		0.00130
Cobalt (total)	mg/L	0.000004	5		0.00507
Copper (total)	mg/L	0.001	3		0.003
Iron (total)	mg/L	0.007	50		1.18
Lead (total)	mg/L	0.00009	3		0.00069
Manganese (total)	mg/L	0.00001	5		0.208
Molybdenum (total)	mg/L	0.0004	5		0.0104

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Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Nickel (total)	mg/L	0.0001	3		0.0044
Phosphorus (total)	mg/L	0.003	10		0.039
Selenium (total)	mg/L	0.00004	5		0.00127
Silver (total)	mg/L	0.00005	5		< 0.00005
Tin (total)	mg/L	0.00006	5		0.00480
Titanium (total)	mg/L	0.0001	5		0.0074
Zinc (total)	mg/L	0.002	3		0.037
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
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4

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L2 = SANSEW / WATER / - - Halton Sewer Use ByLaw - Storm Sewer Discharge - BL_2_03

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	L2	Result
Organochlorine Pests (OCs)					
Hexachlorobenzene	mg/L	0.00001			< 0.00001
Other (ORP)					
pH	No unit	0.05	10	8.5	7.54
Chromium VI	mg/L	0.0002			< 0.0002
Mercury (total)	mg/L	0.00001	0.05		< 0.00001
PAHs					
Benzo(b+j)fluoranthene	mg/L	0.0001			< 0.0001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001			< 0.0001
Pesticides					
Aldrin + Dieldrin	mg/L	0.00002			< 0.00002
Chlordane (total)	mg/L	0.00002			< 0.001↑
DDT+Metabolites	mg/L	0.00004			< 0.00004
op-DDT	mg/L	0.00002			< 0.00002
pp-DDD	mg/L	0.00002			< 0.00002
pp-DDE	mg/L	0.00001			< 0.00001
pp-DDT	mg/L	0.00002			< 0.00002
o,p-DDD	mg/L	0.00002			< 0.00002
o,p-DDE	mg/L	0.00001			< 0.00001
Mirex	mg/L	0.001			< 0.001
Hexachlorocyclohexane	mg/L	0.001			< 0.001

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L2 = SANSEW / WATER / - - Halton Sewer Use ByLaw - Storm Sewer Discharge - BL_2_03

Sample Number	9
Sample Name	BH24-6
Sample Matrix	Ground Water
Sample Date	29/08/2022

Parameter	Units	RL	L1	L2	Result
Phenols					
4AAP-Phenolics	mg/L	0.002	1		0.003
SVOCs					
PAHs (Total)	mg/L				< 0.001
Perylene	mg/L	0.0005			< 0.0005
di-n-Butyl Phthalate	mg/L	0.002			< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002			< 0.002
3,3-Dichlorobenzidine	mg/L	0.0005			< 0.0005
Pentachlorophenol	mg/L	0.0005			< 0.0005
SVOCs - PAHs					
Naphthalene	mg/L	0.0005	0.14		< 0.0005
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

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Sample Number 9
Sample Name BH24-6
Sample Matrix Ground Water
Sample Date 29/08/2022

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Parameter	Units	RL	L1	L2	Result
SVOCs - PAHs (continued)					
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
VOCs					
Chloroform	mg/L	0.0005	0.04		0.0052
1,2-Dichlorobenzene	mg/L	0.0005			< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08		< 0.0005
cis-1,2-Dichloroethylene	mg/L	0.0005			< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005			< 0.0005
Methylene Chloride	mg/L	0.0005	2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1		< 0.0005
Trichloroethylene	mg/L	0.0005	0.4		< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005			< 0.0005

Client: DS Consultants

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MATRIX: WATER

Sample Number 9

Sample Name BH24-6

Sample Matrix Ground Water

Sample Date 29/08/2022

L1 = SANSEW / WATER / - - Halton Sewer Use ByLaw - Sanitary and Combined Sewer Discharge - BL_2_03

L2 = SANSEW / WATER / - - Halton Sewer Use ByLaw - Storm Sewer Discharge - BL_2_03

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01		< 0.0005
Ethylbenzene	mg/L	0.0005	0.16		< 0.0005
Toluene	mg/L	0.0005	0.016		< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005
Xylene (total)	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

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	DIO5001-SEP24	mg/L	2	<2	ND	20	107	80	120	107	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
Carbonaceous Biochemical Oxygen Demand	BOD0061-AUG24	(CBOD5) mg/L	2	< 2	4	30	97	70	130	96	70	130
Biochemical Oxygen Demand (BOD5)	BOD0062-AUG24	mg/L	2	< 2	3	30	99	70	130	123	70	130

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)	SKA0004-SEP24	mg/L	0.01	<0.01	ND	10	94	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	EWL0683-AUG24	mg/L	0.06	<0.06	7	10	101	90	110	105	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	SKA0005-SEP24	mg/L	0.0002	<0.0002	ND	20	99	80	120	NV	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)	EHG0067-AUG24	mg/L	0.00001	< 0.00001	ND	20	102	80	120	70	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)	EMS0342-AUG24	mg/L	0.00005	<0.00005	ND	20	100	90	110	93	70	130
Aluminum (total)	EMS0342-AUG24	mg/L	0.001	<0.001	ND	20	104	90	110	99	70	130
Arsenic (total)	EMS0342-AUG24	mg/L	0.0002	<0.0002	ND	20	99	90	110	103	70	130
Beryllium (total)	EMS0342-AUG24	mg/L	0.000007	<0.000007	ND	20	103	90	110	97	70	130
Cadmium (total)	EMS0342-AUG24	mg/L	0.000003	<0.000003	3	20	97	90	110	101	70	130
Cobalt (total)	EMS0342-AUG24	mg/L	0.000004	<0.000004	2	20	101	90	110	104	70	130
Chromium (total)	EMS0342-AUG24	mg/L	0.00008	<0.00008	0	20	100	90	110	104	70	130
Copper (total)	EMS0342-AUG24	mg/L	0.001	<0.001	ND	20	99	90	110	103	70	130
Iron (total)	EMS0342-AUG24	mg/L	0.007	<0.007	0	20	103	90	110	100	70	130
Manganese (total)	EMS0342-AUG24	mg/L	0.00001	<0.00001	1	20	101	90	110	99	70	130
Molybdenum (total)	EMS0342-AUG24	mg/L	0.0004	<0.0004	ND	20	101	90	110	108	70	130
Nickel (total)	EMS0342-AUG24	mg/L	0.0001	<0.0001	7	20	101	90	110	106	70	130
Lead (total)	EMS0342-AUG24	mg/L	0.00009	<0.00009	5	20	97	90	110	102	70	130
Phosphorus (total)	EMS0342-AUG24	mg/L	0.003	<0.003	7	20	98	90	110	NV	70	130
Antimony (total)	EMS0342-AUG24	mg/L	0.0009	<0.0009	ND	20	102	90	110	109	70	130
Selenium (total)	EMS0342-AUG24	mg/L	0.00004	<0.00004	18	20	99	90	110	92	70	130
Tin (total)	EMS0342-AUG24	mg/L	0.00006	<0.00006	ND	20	103	90	110	NV	70	130
Titanium (total)	EMS0342-AUG24	mg/L	0.0001	<0.0001	9	20	103	90	110	NV	70	130
Zinc (total)	EMS0342-AUG24	mg/L	0.002	<0.002	0	20	103	90	110	71	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	BAC9502-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	GCM0008-SEP24	mg/L	0.001	<0.001			94	55	120			

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-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)	GCM0039-SEP24	mg/L	2	<2	NSS	20	106	75	125			

QC SUMMARY

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)	GCM0039-SEP24	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0039-SEP24	mg/L	4	< 4	NSS	20	NA	70	130			

Pesticides

Method: EPA 3510C/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-018

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
Hexachlorobenzene	GCM0063-SEP24	mg/L	0.00001	< 0.00001	NSS	30	91	50	140	88	50	140
Hexachlorocyclohexane	GCM0063-SEP24	mg/L	0.001	< 0.001	NSS	30	95	50	140	93	50	140
Mirex	GCM0063-SEP24	mg/L	0.001	< 0.001	NSS	30	95	50	140	83	50	140
o,p-DDD	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	97	50	140	93	50	140
o,p-DDE	GCM0063-SEP24	mg/L	0.00001	< 0.00001	NSS	30	97	50	140	97	50	140
op-DDT	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	98	50	140	96	50	140
pp-DDD	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	99	50	140	102	50	140
pp-DDE	GCM0063-SEP24	mg/L	0.00001	< 0.00001	NSS	30	97	50	140	92	50	140
pp-DDT	GCM0063-SEP24	mg/L	0.00002	< 0.00002	NSS	30	102	50	140	105	50	140

QC SUMMARY

pH

Method: SM 4500 I Internal ref.: ME-CA-IENVIEWL-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	EWL0675-AUG24	No unit	0.05	NA	0		100			NA		

Phenols by SFA

Method: SM 5530B-D I Internal ref.: ME-CA-IENVISFA-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	SKA0002-SEP24	mg/L	0.002	<0.002	7	10	100	80	120	106	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A I Internal ref.: ME-CA-IENVIGC-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	GCM0009-SEP24	mg/L	0.0001	<0.0001	NSS	30	91	60	140	NSS	60	140

QC SUMMARY

Semi-Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
3,3-Dichlorobenzidine	GCM0035-SEP24	mg/L	0.0005	< 0.0005	NSS	30	107	30	130	NSS	30	130
7Hdibenzo(c,g)carbazole	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Anthracene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Benzo(a)anthracene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(a)pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	93	50	140	NSS	50	140
Benzo(b+j)fluoranthene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140
Benzo(e)pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	89	50	140	NSS	50	140
Benzo(ghi)perylene	GCM0037-SEP24	mg/L	0.0002	< 0.0002	NSS	30	96	50	140	NSS	50	140
Benzo(k)fluoranthene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	100	50	140	NSS	50	140
Bis(2-ethylhexyl)phthalate	GCM0037-SEP24	mg/L	0.002	< 0.002	NSS	30	102	50	140	NSS	50	140
Chrysene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0037-SEP24	mg/L	0.002	< 0.002	NSS	30	102	50	140	NSS	50	140
Dibenzo(a,h)anthracene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140
Dibenzo(a,i)pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	83	50	140	NSS	50	140
Dibenzo(a,j)acridine	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	88	50	140	NSS	50	140
Fluoranthene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	95	50	140	NSS	50	140
Indeno(1,2,3-cd)pyrene	GCM0037-SEP24	mg/L	0.0002	< 0.0002	NSS	30	97	50	140	NSS	50	140
Naphthalene	GCM0037-SEP24	mg/L	0.0005	< 0.0005	NSS	30	77	50	140	NSS	50	140
Pentachlorophenol	GCM0037-SEP24	mg/L	0.0005	< 0.0005	NSS	30	101	50	140	NSS	50	140
Perylene	GCM0037-SEP24	mg/L	0.0005	< 0.0005	NSS	30	103	50	140	NSS	50	140

QC SUMMARY

Semi-Volatile Organics (continued)

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
Phenanthrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	90	50	140	NSS	50	140
Pyrene	GCM0037-SEP24	mg/L	0.0001	< 0.0001	NSS	30	97	50	140	NSS	50	140

Suspended Solids

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0664-AUG24	mg/L	2	< 2	4	10	97	90	110	NA		

Total Nitrogen

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0017-SEP24	as N mg/L	0.5	<0.5	3	10	97	90	110	106	75	125

QC SUMMARY

Volatile Organics

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

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
1,2-Dichlorobenzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	100	60	130	111	50	140
1,4-Dichlorobenzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	99	60	130	110	50	140
Benzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	113	50	140
Chloroform	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	110	50	140
cis-1,2-Dichloroethylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	99	60	130	109	50	140
Ethylbenzene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	112	50	140
m-p-xylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	114	50	140
Methylene Chloride	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	111	50	140
o-xylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	97	60	130	111	50	140
Tetrachloroethylene (perchloroethylene)	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	98	60	130	114	50	140
Toluene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	99	60	130	111	50	140
trans-1,3-Dichloropropene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	96	60	130	102	50	140
Trichloroethylene	GCM0023-SEP24	mg/L	0.0005	<0.0005	ND	30	95	60	130	109	50	140

QC SUMMARY

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

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

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

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

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

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

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

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

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

LEGEND

FOOTNOTES

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

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

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

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

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

No: 036246

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

Page ____ of ____

Laboratory Information Section - Lab use only

Received By: Ayneer
Received Date: 08/29/24 (mm/dd/yy)
Received Time: 12:00 (hr:min)
Received By (signature): AP
Custody Seal Present: Yes ☑ No ☐
Custody Seal Intact: Yes ☑ No ☐
Cooling Agent Present: Yes ☑ No ☐ Type: ICE
Temperature Upon Receipt (°C) 9 x 3
LAB LIMS #: CA40200-Aug24

REPORT INFORMATION

Company: DS Consultants Ltd
Contact: Pradeep patel
Address: 6221 Hwy 7, unit 6 Vaughan
Phone: 905-264-9393
Fax:
Email: PPatel@dsconsultants.ca

INVOICE INFORMATION

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

Quotation #:
P.O. #:
Project #: 24-228-100
Site Location/ID: Meadowridge & Wheat Boom Dr, Oakville

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: Halton Oakville

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M&I: Field Filtered (Y/N)	M&I: Metals & Inorganics (Incl CrVI, CN,Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Ti,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all Incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all Incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other: ☑ Halton Sanitary/Storm	Other: ☑ Oakville Storm	Other	Other	Other	Other	Sewer Use: Specify pkg:	Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP: Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit	COMMENTS:
1	BH24-6	Aug 29, 2024	AM	18	GW	N												✓	✓								Non filtered
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Observations/Comments/Special Instructions

Sampled By (NAME): Ken Kim
Signature: Ken
Date: Aug 29 24 (mm/dd/yy)

Relinquished by (NAME): Ken Kim
Signature: Ken
Date: Aug 29 24 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

Appendix D: MECP Water Wells Records

Table: MECP Water Wells Records
Location: Block 297, Oakville, ON

TOWNSHIP C	E	N	DATE CNTR	CASING	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
OAKVILLE TOWN	604489	4817801	2018-06 7472	2			MO	0015 10	7323102	RED TILL CLAY SILT 0025
OAKVILLE TOWN	604820	4817632	2018-11 7523	39.3					7322988	
OAKVILLE TOWN	604489	4817800	2018-06 7472	2			MO	0046 5	7323101	RED TILL CLAY SILT 0030 RED SAND SILT GRVL 0037 RED SHLE HARD 0051
OAKVILLE TOWN	604772	4817956	2018-06 7472	2			MO	0025 10	7323105	RED TILL CLAY SILT 0030 RED SAND SILT GRVL 0035
OAKVILLE TOWN	604495	4818096	2018-06 7472	2			MO	0045 5	7323104	RED TILL CLAY SILT 0030 RED SAND SILT GRVL 0045 RED SHLE HARD 0050
OAKVILLE TOWN	604774	4817549	2018-06 7472	2			MO	0040 10	7323103	RED TILL CLAY SILT 0025 RED SHLE HARD 0050
OAKVILLE TOWN	604495	4818097	2018-06 7472	2			MO	0035 10	7323100	RED TILL CLAY SILT 0030 RED SAND SILT GRVL 0044 RED SHLE HARD 0045
OAKVILLE TOWN	604408	4817184	2005-08 6809	2				0020 5	2810339	BLCK LOAM 0001 BRWN TILL 0010 RED SHLE 0025
OAKVILLE TOWN	604787	4817463	2005-08 6809	2				0013 5	2810341	BLCK LOAM 0001 BRWN TILL 0007 RED SHLE 0018
OAKVILLE TOWN	604881	4817747	2017-06 6875	2.04			MO	0025 10	7292005	
OAKVILLE TOWN	604834	4817854	2015-01 6607						7267217	
OAKVILLE TOWN	604914	4817681	2019-10 7523	36		///:			7345756	
OAKVILLE TOWN	604678	4817410	2020-11 7644						7374758	
OAKVILLE TOWN	604772	4817955	2018-06 7472	2			MO	0046 5	7323106	RED TILL CLAY SILT 0030 RED SAND SILT GRVL 0040 RED SHLE HARD 0051
OAKVILLE TOWN	604674	4817337	2020-11 7644						7374759	
OAKVILLE TOWN	604544	4817309	6946						7355086	
OAKVILLE TOWN	604670	4817428	2020-11 7644						7374961	
OAKVILLE TOWN DS N 01 007	604913	4817753	2020-07 7523	2		///:			7380724	
OAKVILLE TOWN DS N 01 007	604913	4817753	2020-07 7523	2		///:			7380723	
OAKVILLE TOWN DS N 01 007	604834	4817605	2022-06 7472	2		///:	MO	0025 10	7421466	BRWN FILL LOOS 0005 GREY CLAY TILL PCKD 0035

OAKVILLE TOWN DSN 01 007	604818	4817914	2020-07 7523	2		///:			7384173	
OAKVILLE TOWN DSN 01 007	604586	4817992	2020-07 7523	2		///:			7380727	
OAKVILLE TOWN DSN 01 007	604732	4817700	2020-07 7523	2		///:			7380726	
OAKVILLE TOWN DSN 01 007	604586	4817992	2020-07 7523	5.07		///:			7380706	
OAKVILLE TOWN DSN 01 007	604818	4817914	2020-07 7523	2		///:			7380274	
OAKVILLE TOWN DSN 01 007	604460	4818087	2020-08 7523	2		///:	MO		7367242	
OAKVILLE TOWN DSN 01 007	604847	4817602	2020-07 7523	2		///:			7380725	
OAKVILLE TOWN DSN 01 007	604836	4817819	2020-07 7523	2		///:			7380722	
OAKVILLE TOWN DSN 01 007	604460	4818087	2020-08 7523	2		///:	MO		7367240	
OAKVILLE TOWN DSN 01 007	604557	4817770	2020-08 7523	2		///:			7367239	
OAKVILLE TOWN DSN 01 007	604813	4817753	2020-07 7523	2		///:			7380704	
OAKVILLE TOWN DSN 01 007	604557	4817770	2020-08 7523	2		11///:			7367238	
OAKVILLE TOWN DSN 01 007	604578	4817988	2020-07 7523	2		///:			7380707	
OAKVILLE TOWN DSN 01 007	604480	4818053	2020-07 7523	2		///:			7380708	
OAKVILLE TOWN DSN 01 007	604818	4817914	2020-07 7523	2		///:			7380709	
OAKVILLE TOWN DSN 01 007	604818	4817914	2020-07 7523	2		///:			7380710	
OAKVILLE TOWN DSN 01 007	604847	4817602	2020-07 7523	2		///:			7380711	
OAKVILLE TOWN DSN 01 007	604707	4817594	2019-03 7523	36		///:			7331209	20
OAKVILLE TOWN DSN 01 007	604732	4817700	2020-07 7523	2		///:			7380705	
OAKVILLE TOWN DSN 01 008	604228	4817454	2021-11 7523	2		///:	MO		7407748	
OAKVILLE TOWN DSN 01 008	604674	4817409	2021-10 7523	2		///:	MO		7407765	
OAKVILLE TOWN DSN 01 008	604675	4817408	2021-10 7523	6.25		13///:	DO		7407764	
OAKVILLE TOWN DSN 01 008	604517	4817484	2021-11 7523	2		///:	MO		7407749	

OAKVILLE TOWN DS N 01 008	604675	4817386	2021-11 7523	2		///:	MO		7407747	
OAKVILLE TOWN DS N 01 008	604672	4817428	2021-11 7523	2		///:	MO		7407746	
OAKVILLE TOWN DS N 01 008	604715	4817383	1978-04 3637	30 24	FR 0010 FR 0019	5///:	ST DO		2805268	BRWN LOAM 0001 BRWN CLAY PCKD 0009 RED SHLE VERY HARD 0020
OAKVILLE TOWN DS N 01 008	604066	4817885	2021-11 7523	2		///:	MO		7407750	
OAKVILLE TOWN DS N 01 009	604390	4817207	2021-05 7523	2		///:	MO		7387449	