Geotechnical Investigation for Pre-Construction Support of Future Development

Active Petro-Canada Retail Fuel Outlet No. 65044
6250 Hazeldean Rd, Ottawa, Ontario

Suncor Energy Products Partnership

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Making Sustainability Happen

Revision Record

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Acronyms and Abbreviations

AST	Aboveground Storage Tank
the City	The City of Ottawa
km	Kilometre
L	Litre
m	Metre
m2	Square Metre
m amsl	Metres Above Mean Sea Level
mbgs	Metres Below Ground Surface
mm	Millimetre
MOE	Ministry of the Environment
MECP	Ontario Ministry of the Environment, Conservation, and Parks
O.Reg.	Ontario Regulation
SLR	SLR Consulting (Canada) Ltd.
TSSA	Technical Standards and Safety Authority
UST	Underground Storage Tank

1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by Suncor Energy Products Partnership (Suncor) to provide geotechnical services to support a City of Ottawa Permit application for a proposed redevelopment of an existing gas station site, located in Ottawa, Ontario.

SLR has completed a combined geotechnical and environmental site investigation to collect information for both the geotechnical Investigation and Phase II ESA. This report presents the geotechnical site investigation and laboratory testing program to be used to provide recommendations in support of the planned redevelopment of the Petro Canada Service Station property located at 6250 Hazeldean Road, Stittsville in Ottawa, Ontario (the Property).

The Geotechnical Investigation and report have been completed in accordance with SLR's work plan, dated November 2025. This report is limited to the geotechnical scope of services and the environmental aspects of SLR's services are provided under a separate cover.

2.0 Project Understanding

The Site is located at 6250 Hazeldean Road in Ottawa, Ontario, as shown in Figure 1 and Figure 2. The current property is occupied by a retail fuel outlet that consists of a pump island, car wash, kiosk and underground facilities including underground storage tank and the associated underground product piping.

SLR understands that Suncor plans to complete a site re-development for consisting of a kiosk expansion to accommodate a restaurant, interior renovations of the kiosk, repaving to incorporate a drive thru lane for the restaurant, and installation of underground Earthbins for garbage and recycling. The proposed site layout for the re-development is shown in Figure 3.

3.0 Scope of Work

The geotechnical scope of work includes geotechnical field investigation, laboratory testing, data analysis, and geotechnical recommendation for the proposed re-development.

Geotechnical laboratory testing was performed by a CCIL certified laboratory. The geotechnical laboratory analyses include natural water content, particle size distribution, Atterberg Limits, corrosivity testing (sulfate, chloride, and pH) and resistivity testing on select samples.

This geotechnical report summarizing the Geotechnical Investigation, laboratory testing, and necessary geotechnical recommendations related to the proposed redevelopment.

4.0 Field Investigation

4.1 Drilling Investigation

Prior to the field investigation, SLR personnel completed a site-specific health and safety plan for the investigation, reviewed available utility drawings and obtained public utility clearance through the Ontario One-Call program. A third-party private utility search was also completed at each of the borehole locations. Hydrovac excavations were also completed between December 4 and 9, 2025, by Super Sucker at all the borehole locations to a depth of about 2.4 metres below ground surface (mbgs) to clear locations of underground utilities prior to drilling. Strata Drilling Group (Strata)an MECP licensed drilling contractor, was retained to undertake drilling activities at the Site between January 6 to 14, 2026.

The field investigations consisted of drilling five (5) boreholes for geotechnical/environmental purposes (denoted herein as boreholes BH25-02, BH25-03 (also denoted as MW25-03), BH25-06, BH25-08, and BH25-09 (also denoted as MW25-09)). It is noted that an additional five (5) boreholes (BH25-01 (also denoted as MW25-01), BH25-04 (also denoted as MW25-04), BH25-05 (also denoted as MW25-05), BH25-07 (also denoted as MW25-07), and BH25-10) were also completed for the Phase II ESA investigation; however, these boreholes are not being considered for the geotechnical investigation. The boreholes were advanced through the hydrovac excavations, utilizing a Geoprobe 7822DT equipped with an automatic SPT hammer. SLR staff were on site to observe and record the subsurface soil and groundwater conditions at each borehole, monitor the Standard Penetration Testing (SPT) method (ASTM D 1586), and collect representative samples.

The boreholes were positioned at the approximate locations shown in Figure 2. A summary of the coordinates and drill depths for the completed boreholes is provided in Table 1.

Table 1: Summary of Boreholes

Borehole No.	Easting[1] (m)	Northing[1] (m)	Final Depth (mbgs)[2]	Ground Surface Elevation (masl)[3]
BH25-02	348886.3	5014349.5	5.0	125.0
BH25-03	348865.1	5014353.7	7.6	125.1
BH25-06	348888.8	5014400.2	2.8	124.4
BH25-08	348915.1	5014376.9	8.8	124.9
BH25-09	348918.0	5014368.1	8.9	125.2

Notes:

[1] GPS device coordinates were collected by J.D. Barnes on January 26, 2025. Datum of coordinates is MTM Zone 9 CSRS 2010.

[2]mbgs - meter below ground surface

[3]masl - meter above sea level

As part of the investigation, disturbed soil samples (grab samples) were collected from the side wall of the hydrovac holes using a sample collector, and from the SPT split spoon sampler during drilling.

In-situ testing comprising of SPTs were conducted at select depths at each borehole. A 24” (609 mm) long split spoon sampler was used. The number of blows to push the sampler into the soil over four 0.15 m increments were recorded and the first increment was neglected and the sum of blows over the second and third increments was recorded as the SPT-N value, which is shown on the Borehole Record sheets in Appendix A.

In cases, where the sampler did not advance a full 0.15 m increment within 50 blows, the depth of advance was recorded, and the test was considered to have reached practical refusal and testing was stopped to prevent damage to equipment.

The depths and results of the SPT’s, sample types and depths, and subsurface descriptions are provided in the Borehole Record sheets provided in Appendix A.

4.2 Laboratory Testing

Laboratory testing included water content, particle size analysis, Atterberg Limits, and corrosivity (sulphate, chloride, and pH) testing, and resistivity testing on select samples. The laboratory test results are provided in Appendix B and are annotated on the Borehole Record sheets provided in Appendix A. The analytical data is provided as part of the Laboratory Certificate of Analysis in Appendix C.

A summary of the particle size analysis, and corrosivity test and resistivity test results is provided in Table 2 and Table 3 respectively.

Table 2: Summary of Particle Size Analysis Testing

Borehole No.	Sample No.	Depth (mbgs)	Particle Size Distribution (%)			
			Gravel	Sand	Fines	
					Silt	Clay
BH25-02	SS1	2.4 ~ 3.1	0	82.5	4.2	3.3
BH25-03	SS1	2.4 ~ 3.0	9.3	78.2	8.4	4.1
BH25-06	SS4	2.3 ~ 2.8	32.2	52.9	10.7	4.2
BH25-08	SS9	7.6 ~ 8.2	0.6	83	13.5	2.9
BH25-09	SS6	6.1 ~ 6.2	12.7	75.7	9.6	2

Table 3: Summary of Corrosivity (Sulfate, Chloride, pH and Resistivity) Testing

Borehole No.	Sample No.	Depth (mbgs)	SO_4 Sulfate (mg/kg)	Chloride (mg/kg)	pH	Resistivity (Ohm-cm)
BH25-08	SS4	2.3 ~ 2.9	28	107	8.16	3370
BH25-09	SS5	5.3 ~ 5.4	<20	<5.0	8.05	10500

5.0 Subsurface Conditions

5.1 Site and Regional Geology

The Site is situated within the Ottawa Valley Clay Plains physiographic region of Southern Ontario (Chapman and Putnam, 1984). The physiographic landform of the site is comprised of sand plains (Chapman and Putnam, 1984).

A review of available Ontario surficial geology mapping indicated that the overburden materials of the site is generally comprised of glaciofluvial deposits consisting of river deposits and delta topset facies. Bedrock geology mapping indicates that the Site is underlain by bedrock comprised of limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group (Ontario Geological Survey, 2011).

5.2 Soil Conditions

The soil descriptions provided in this report are based on accepted standard methods of classification and identification routinely used in current geotechnical standards of practice.

The subsurface conditions encountered in each of the boreholes are presented on the Borehole Record sheets provided in Appendix A. The stratigraphic boundaries shown on the Borehole Records are inferred from observations made during drilling and represent transitions between soil types rather than exact planes of geological changes.

5.2.1 Topsoil

An 80 to 150 mm thick layer of surficial topsoil was encountered at Boreholes BH25-08 and BH25-09. It should be noted that the thickness of the topsoil explored at the borehole locations may not be representative for the site and should not be relied on to calculate the amount of topsoil at the site.

5.2.2 Pavement Structure

Pavement structure was encountered at the surface of Boreholes BH25-02, BH25-03, and BH25-06. The existing pavement structure encountered from these boreholes are summarized in Table 4.

Table 4: Existing Pavement Structure

Borehole No.	Thickness of Pavement Structure		
	Asphalt (mm)	Granular Base / Subbase (mm)[1]	Total (mm)
BH25-02	80	180	260
BH25-03	80	180	260
BH25-06	80	80	160

Notes:
[1] Thickness of granular base / subbase is to be considered approximate based on observation during daylighting.

5.2.3 Fill Materials

Fill materials consisting of sand and gravel, silty sand, gravelly sand, and sand were encountered below the pavement structure in all boreholes. Fill materials extended to depths ranging from about 1.5 to 2.8 m below existing ground surface (Elevation 123.4 to 121.7 m). Borehole BH25-06 was terminated in these deposits. For the cohesionless fill materials, a SPT 'N' value of 0 to greater than 50 blows per 300 mm penetration indicated very loose to very dense compactness condition. The in-situ moisture contents measured in the fill samples ranged from approximately 2% to 12%.

5.2.4 Sand

Sand deposits were encountered beneath the fill materials in all boreholes and extended to depths ranging from 5.0 to 8.9 m below existing ground surface (Elevation 119.9 to 116.0 m). Boreholes BH25-02, BH25-03, BH25-08, and BH25-09 were terminated in these deposits. SPT 'N' values ranging from 19 to greater than 50 blows per 300 mm penetration indicated compact to very dense compactness condition. The natural moisture contents measured in the soil samples ranged from approximately 3% to 71%.

5.3 Groundwater

Groundwater level measurements were taken from each of the installed monitoring wells during a visit on January 26, 2026. The measured groundwater levels ranged from about 5.0 to 7.7 m below ground surface. A summary of the groundwater level measurements is provided in Table 5.

Table 5: Summary of Groundwater Level Readings

Borehole No.	Screened Interval (mbgs)[1]	Groundwater Depth (mbgs)[1] / Groundwater Elevation (masl)[2]
		January 26, 2026
BH25-03	3.4 ~ 6.4	120.0 / 5.0
BH25-09	5.8 ~ 8.8	117.5 / 7.7

Notes:
[1] mbgs - meter below ground surface
[2] masl - meter above sea level

It should be noted that groundwater levels can be expected to seasonally fluctuate from higher to lower elevation depending on precipitation, runoff conditions and other salient factors.

6.0 Geotechnical Investigation and Recommendations

SLR understands that Suncor plans to complete a site re-development consisting of expanding the kiosk building, interior renovations of the kiosk, repaving to incorporate a drive thru lane for the restaurant, and installation of underground Earthbins for garbage and recycling.

The geotechnical investigation and general recommendations for the design and construction of the proposed site re-development are as follows:

- The subsurface conditions are considered suitable for the installation of the proposed Earthbins and new pavements structure.
- The subsurface conditions are considered suitable for shallow foundation support of proposed new infrastructure, which is assumed to comprise of relatively light loads.
- The site is also suitable for grade supported features such as slab-on-grade, thickened edge slabs and raft foundations. This report will cover floor slab design. Slab-on-grade design, thickened edge slab, and raft foundations recommendations can be provided at a later date should Suncor require these design elements.
- Measurement from installed monitoring wells indicated groundwater at depth (i.e., within about 5.0 to 7.7 m below existing ground surface).
    - Temporary dewatering, such as pumping from temporary sumps or other means as may be required to control inflow of water from granular subsurface soils for excavations below the groundwater level.
    - Design of subsurface structures below the groundwater table to consider hydrostatic forces or installation of permanent groundwater control (i.e., drainage) measures, and buoyancy effects for below grade structures, as may be required.

The geotechnical recommendations provided are intended for the guidance of the design engineer. Where comments are made on construction, they are provided to highlight aspects of construction that could affect the design of the project and constructability from a geotechnical perspective. Those requiring information on aspects of the site beyond the scope of this report must make their own interpretation of the information provided.

6.1 Geotechnical Parameters

Based on the results of the field investigation and experience with similar soils, estimated geotechnical soil parameters are provided in Table 6.

Table 6: Estimated Geotechnical Soil Parameters

Soil Type	New Granular Fill		Existing Fill	Non-Cohesive Native Soils – Gravelly Sand, Sand, Silty Sand (Till) / Sandy Silt (Till), Silt						Cohesive Native Soil – Clayey Silt (Till) / Silty Clay (Till)				
SPT 'N'	'A'	'B'	4-50	5-10	11-14	15-29	30-39	40–50	>50	3-9	10-14	15-29	30-50	>50
Unit weight (kN/m^3)	22	21	19	19	20	21	21.5	22	22.5	19	20.5	21	21.5	22.5
Effective angle of internal friction (^{o}), ϕ'	35	32	24	26	28	30	32	34	37	26	28	30	32	34
Effective cohesion, c' (kPa)	-	-	-	-	-	-	-	-	-	0	2	5	10	10
Undrained shear strength (kPa)	-	-	-	-	-	-	-	-	-	40	70	100	200	300
Coefficient of lateral earth pressure														
Active, K_a	0.27	0.31	0.42	0.39	0.36	0.33	0.31	0.28	0.25	0.39	0.36	0.33	0.31	0.28
At rest, K_o	0.43	0.47	0.59	0.56	0.53	0.50	0.55	0.60	0.80	0.56	0.53	0.50	0.60	1.00
Passive, K_p	3.69	3.25	2.37	2.56	2.77	3.00	3.25	3.54	4.03	2.56	2.77	3.00	3.25	3.54
Elastic modulus (MPa)	-	-	-	5	6.3	8	30	40	50	4	8	15	30	50
Poisson's ratio	-	-	-	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Modulus of subgrade reaction, k (MN/m^3) (*)	-	-	-	5/B	6.3/B	8/B	30/B	40/B	50/B	4/B	8/B	15/B	30/B	50/B
Lateral modulus of subgrade reaction, K_h (MN/m^3) (*)	-	-	-	5/B	6.3/B	8/B	30/B	40/B	50/B	4/B	8/B	15/B	30/B	50/B

Note:
* B is the width of footing or width of wall/pile in metres.

6.2 Shallow Foundations for Kiosk Expansion

The following recommendations are made for shallow foundations:

- Ensure the founding stratum is on the existing undisturbed compact to very dense sand.
- The existing fill materials along with loose native soils are considered unsuitable as the base for shallow foundations. These soils will require excavation to a depth of 1 m below the foundation level and backfilled with engineered granular fill material compacted to 100% of SPMDD (standard proctor maximum dry density) to the foundation level.
- Ensure the footings are founded below the depth of frost penetration. Once the contractor is satisfied that bearing surface has been prepared, SLR geotechnical personnel should be contacted and should inspect all footing bearing surfaces prior to pouring the footing.
- Should smaller areas of over-excavation be necessary, backfill the over-excavation with a lean concrete mixture.
- Shallow foundations should have a minimum width of 450 mm and must be adequately reinforced to distribute the applied loads and have sufficient stiffness to distribute local overstresses.
- Perimeter insulation may be required for unheated structures if footings are shallower than the frost depth. An adfreeze strength of 65 kPa between soil and concrete may be used to estimate the uplift forces on shallow foundations during freezing conditions.
- For the kiosk expansion the geotechnical unfactored bearing resistance at Ultimate Limit States (ULS) and Serviceability Limit State (SLS) for design foundations bearing on suitably compacted controlled engineered fill or native soils are provided in Table 7, placed below frost depth. Foundations designed to the specified bearing capacity at SLS are expected to settle less than 25 mm total and 19 mm differential.

Table 7: Bearing Values for Kiosk Expansion

Borehole	Anticipated Founding Material	Bearing Capacity at SLS (kPa)	Factored Geotechnical Resistance at ULS (kPa)	Anticipated Founding Depth (mbgs)[1]/ Elevation (m)
BH25-08	Sand	100	150	1.8 / 123.1
BH25-09	Sand	100	150	3.2 / 122.1
Note: [1]mbgs - meter below ground surface				

Shallow foundations should be supported on at least 150 mm of compacted, freely draining, well graded 19 mm minus crushed gravel base course, placed over competent subgrade soils. The compacted base course material should be uniformly compacted to at least 100% Standard Proctor Maximum Dry Density (SPMDD, as per ASTM D698). It is recommended that qualified geotechnical personnel review final footing design, subgrade conditions, and foundation preparation prior to placing concrete to confirm that the ground conditions are as described in this report.

The excavated footing bases can be covered with 50 mm thick lean concrete slab immediately after inspection and cleaning in order to avoid disturbance of the founding soil due to water, construction activity and weathering/drying.

In the vicinity of the existing buried utilities, all footings must be lowered to undisturbed native soils, or alternatively the services must be structurally bridged. Where it is necessary to place footings at different levels, the upper footing must be founded below an imaginary 10 horizontal to 7 vertical line drawn up from the base of the lower footing. The lower footing must be installed first to help minimize the risk of undermining the upper footing.

6.3 Floor Slab

The existing fills are considered not suitable for supporting the floor slab. The floor slab can be supported on grade provided all existing fill, and weak or disturbed soils are removed, and the base thoroughly proof rolled. Any soft spots revealed during proof rolling must be sub-excavated and backfilled. The backfill required to raise the grade can consist of inorganic soil, placed in shallow lifts (200 mm) and compacted to 98% of Standard Proctor Maximum Dry Density (SPMDD).

A moisture barrier consisting of at least 200 mm of 19 mm clear crushed stone should be installed under the floor slab.

Special care should be taken to ensure compaction around columns and adjacent to foundation walls. Unless the foundations are designed to account for the floor slab loads, the floor slabs should be structurally separated from the foundation walls and columns. Sawcut control joints should be provided at regular intervals and along column lines to minimize shrinkage cracking and to allow for differential settlement of the floor slabs.

Where the backfill against the exterior walls is to support settlement sensitive structures, such as concrete slabs, pavements or walkways, it should be uniformly compacted to at least 98% of SPMDD.

6.4 Earthbins

6.4.1 Support and Bedding

All topsoil, fill materials, and disturbed or other unsuitable material must be removed from excavation base prior to placement of earthbin bedding.

The borehole information indicates that the native soils encountered at the site are capable of providing adequate support for the earthbin using conventional granular bedding.
The recommended minimum thickness of granular bedding below the footing of the earthbin is 300 mm where the subgrade consists of competent native soils.

Where the fill or otherwise unsuitable soils are present at the proposed earthbin footing elevation, the unsuitable materials should be sub-excavated and replaced using conventional granular bedding. In this case, the recommended minimum thickness of granular bedding below the invert of the Earthbin is 300 mm. Geotechnical inspection is required to confirm suitable founding conditions.

The compacted granular base material for the earthbin should consist of OPSS 1010 Granular “A” type material. All granular materials should be placed in loose lifts of 150 mm thickness and then compacted.

The granular bedding materials should be compacted to 100% of Standard Proctor Maximum Dry Density (SPMDD) at a placement water content within ±2% of the materials optimum.

6.4.2 Bearing Resistance

If required, footings for the earthbins may be founded on the native undisturbed compact to dense sand and can use an allowable (SLS) bearing resistance of 100 kPa and a factored ULS bearing resistance of 150 kPa. Structures designed to the specified bearing resistance at SLS are expected to settle less than 25 mm total and 19 mm differential.

6.5 Frost Protection Recommendations

All footings exposed to seasonal freezing conditions must have at least 1.8 metres of soil cover for frost protection.

If soil cover is not possible, a 25 mm thick layer of polystyrene insulation is thermally equivalent to 600 mm of soil cover. It is also emphasized that underfloor drainage and/or an adequate free draining gravel base is required to minimize the risk of floor dampness. Floor dampness could lead to temporary icing and the risk of accidents.

6.6 Lateral Earth Pressure

The lateral earth pressure acting on the permanent rigid walls of the underground structures in overburden soils can be evaluated by the following formula:

$$P_h = K (\gamma h + q)$$

where P_h= Lateral earth pressure acting at depth “h” (kPa)

K = Earth pressure coefficient at rest for a horizontal ground surface condition, as shown in Table 6

γ = Unit weight of backfill, as shown in Table 6

h = Depth below finished grade of the point of interest (m)

q = Equivalent value of surcharge on the ground surface (kPa)

If there is no provision for drainage of the backfill behind the subsurface walls, the walls should be designed to resist the lateral earth pressure and the hydrostatic pressure imposed by the backfill adjacent to the wall.

Below the water table, the submerged unit weight of the soil should be used and the full hydrostatic water pressure from ground surface should be added If the ground surface is not horizontal, the uneven portion can be treated as an equivalent surcharge load.

6.7 Excavation and Backfilling

According to the results of this investigation, the excavations are generally anticipated to be carried out in the fill materials and native sand deposits. This excavation can be carried out with heavy hydraulic backhoe.

Possible large obstructions such as buried concrete pieces and existing foundations may also be encountered at the Site within the fill materials. Provisions must be made in the excavation contract for the removal of possible boulders in the till or obstructions in the fill material.

All excavations must be carried out in accordance with the most recent Occupational Health and Safety Act (OHSA). In accordance with OHSA, the fill materials and native sand would be classified as Type 3 Soils above the groundwater table and Type 4 soils below the groundwater table.

It may be necessary to flatten the excavation slopes if seepage zones or loose/soft conditions are encountered locally. Excavations should be continuously examined for any evidence of instability if left open for extended periods of time or following weather events such as rain or freeze/thaw.

It is anticipated that foundation excavations at the site will consist of temporary open cuts with side slopes not steeper than 1.5 horizontal to 1 vertical (1.5H:1V). However, depending on the construction procedures adopted by the contractor and weather conditions at the time of construction, some local flattening of the slopes might be required. Where side slopes of excavations are to be steepened, then a temporary excavation support system such as steel sheeting will be required.

Vertical cuts in any of the soil types and over-steepened slopes should be supported with shoring and bracing to safeguard the stability of the sides of the excavation.

The existing fill in the boreholes is generally not suitable for re-use as backfill. The native soils free from topsoil and organics can be used as general construction backfill. The suitability for reuse of the native soils is further discussed in Section 6.11. Loose lifts of soil, which are to be compacted, should not exceed 200 mm. Depending on the time of construction and weather, some excavated material may be too wet to compact and will require aeration prior to its use.

Under floor fill should be compacted to at least 98% of Standard Proctor Maximum Dry Density (SPMDD). The excavated soils are not considered to be free draining. Where free draining backfill is required, imported granular fill such as OPSS Granular “B” should be used. Imported granular fill, which can be compacted with handheld equipment, should be used in confined areas.

It should be noted that the excavated soils are subject to moisture content increase during wet weather which would make these materials too wet for adequate compaction. Stockpiles should be compacted at the surface or be covered with tarpaulins to minimize moisture uptake.

It is expected that any seepage above the groundwater table can be removed by pumping from sumps in the building development area. Depending upon the actual thickness and extent of the sandy fill and native sandy soils, the prevailing groundwater level at the time of construction, “active, advance” dewatering measure using well points/eductors may be required to maintain the stability of the base and side slopes of the excavations in these areas. These ‘active dewatering’ measures would have to be installed and then operated for one to two weeks in advance of excavation work progressing to these areas. A contractor specializing in dewatering should be retained to design the active dewatering systems.

It should be noted that if the construction dewatering system/sumps result in a water taking of more than 50,000 L/day, a registration should be made in the Environmental Activity and Sector Registry (EASR).

6.8 Seismic Site Classification

The 2012 Ontario Building Code (OBC 2012) came into effect on January 1, 2014, and contains updated seismic analysis and design methodology. The seismic site classification methodology outlined in the code is based on the subsurface conditions within the upper 30 m below existing grade.

The conservative site classification is based on physical borehole information obtained at depths of less than 30 m and based on general knowledge of the local geology and physiography. In this regard, SLR's drilling program included boreholes drilled to depths up to 8.9 m below the existing ground surface. Based on the borehole information and our local experience, a Site Class C may be used for the design for this site.

Should optimization of the site class be recommended by the structural engineer, a field seismic shear wave velocity test should be considered to confirm the classification.

6.9 Proof Rolling

Upon completion of initial site preparation activities (as discussed above), proof rolling of the subgrade should be conducted to verify that competent and uniform soil subgrade support conditions have been achieved. Proof rolling should not be conducted during or shortly following precipitation events, and heavy equipment shall not be allowed to travel on wet/soft subgrade soils until adequate drying has occurred. Proof rolling should be performed by two passes of a dual-wheel truck (or comparable equipment) with a minimum of 80 kN single axle load. Soils which display rutting or appreciable deflections upon proof-rolling should be over-excavated to expose more competent soil and replaced with suitable engineered fill. Alternately, the use of geosynthetics (woven geotextile, geogrid in conjunction with non-woven geotextile, or combination geotextile/geogrid products), possibly in conjunction with some over-excavation, may be an alternative. If geosynthetics are utilized, it is recommended that granular fill materials be placed directly over the geosynthetics. The geosynthetics should be placed in accordance with the manufacturer's recommendations. Construction techniques should be designed to minimize the potential for damage to the geosynthetics and underlying subgrade soils (i.e., end-dump and spread methods, use of long reach and/or low contact pressure equipment, etc.). SLR should be retained to provide guidance with respect to subgrade improvement measures.

Following efforts to stabilize the soil, proof rolling should be repeated. All proof rolling and compaction efforts should include documentation detailing the findings, including photographs where possible.

6.10 Pavement Design

The structural thickness recommendations herein were designed using the AASHTO 1993 Pavement Design Guide. The design used an overall standard deviation of 0.45, a loss of serviceability of 1.7 (initial serviceability of 4.2 and a terminal serviceability of 2.5), a drainage coefficient of 1.0 and a reliability of 85%. The structural layer coefficients (ai) and drainage coefficients (mi) used to determine the geotechnical design thickness are shown in Table 8 which are in in accordance with the Ontario Ministry of Transportation and Infrastructure.

Table 8: AASHTO 1993 Pavement Design Parameters

Material Description	Structural Layer Coefficient [ai]	Drainage Coefficient [mi]
Asphalt Concrete Pavement (ACP)	0.40	-
Base Course Gravel	0.14	0.95
Prepared Sand and Gravel Subgrade	0.10	0.95

Based on the existing pavement thickness and subsurface conditions encountered at the boreholes, the recommended pavement structure for light (i.e. passenger vehicles) and limited heavy duty (infrequent delivery, garbage, fuel truck loading) traffic loading with assumed maximum equivalent single axle load (ESAL's) as shown below, is provided in Table 9.

Table 9: Pavement Structure

Pavement Layer	Compaction Requirements	Thickness or Strength requirement for Maximum $1x10^5$ ESAL's [mm]
HL 3 - Surface Course Asphalt HL 8 Binder Course Asphalt	93% MRD (Maximum Relative Density)	40 80
OPSS Granular "A" Base (or 20mm Crusher Run Limestone)	100% SPMDD*	150
OPSS Granular "B" (or 50mm Crusher Run Limestone)	100% SPMDD	450
Total	**--**	**720**
Subgrade	--	Mr = 35 MPa

The pavement structure assumes that the construction will be completed at a drier time of year and the subgrade is stable. If the subgrade becomes wet or rutted during construction activities additional subbase may be required. The subgrade must be compacted to 98% SPMDD for at least the upper 500 mm unless accepted by SLR.

It is recommended that qualified SLR personnel conduct an inspection of excavated areas. Use a nonwoven geotextile on the surface of the subgrade if areas of concern be identified and finish to a tight, smooth surface that is free from ruts, waves, and roller marks.

The long-term performance of the pavement structure is highly dependent upon the subgrade support conditions. Stringent construction control procedures should be maintained to ensure uniform subgrade moisture and density conditions are achieved. In addition, the need for adequate drainage cannot be over-emphasized. The finished pavement surface and underlying subgrade should be free of depressions and should be sloped (preferably at a minimum grade of two percent) to provide effective surface drainage toward catch basins. Surface water should not be allowed to pond adjacent to the outside edges of pavement areas. Subdrains should be installed to intercept excess subsurface moisture and prevent subgrade softening. This is particularly important in heavy-duty pavement areas.

Additional comments on the construction of access road, internal roadways and parking areas are as follows:

1 As part of the subgrade preparation, proposed parking areas and access roadways should be stripped of topsoil, fill materials, weak native soils, and other obvious objectionable material. Fill required to raise the grades to design elevations should conform to backfill requirements outlined in previous sections of this report.
The subgrade should be properly shaped, crowned then proof-rolled in the full-time presence of a qualified engineering personnel. Soft or spongy subgrade areas should be sub-excavated and properly replaced with suitable approved backfill compacted to 98% SPMDD.

2 The locations and extent of sub-drainage required within the paved areas should be reviewed by this office in conjunction with the proposed lot grading. Assuming that satisfactory crossfalls in the order of two percent have been provided, subdrains extending from and between catch basins may be satisfactory. In the event that shallower crossfalls are considered, a more extensive system of sub-drainage may be necessary and should be reviewed by a specialized pavement engineer.

The most severe loading conditions on light-duty pavement areas and the subgrade may occur during construction. Consequently, special provisions such as restricted access lanes, half-loads during paving, etc., may be required, especially if construction is carried out during unfavourable weather.

6.11 Geotechnical Quality of Excavated Soils

Reference to the borehole logs suggests that the excavated materials with respect to their compaction characteristics can be divided into three groups:

- **Group 1** comprises the pavement granular base/subbase materials encountered near the surface, and sand soils. These materials are expected to have good compaction characteristics and could be reused as construction backfill provided that they are carefully segregated from the more silty or clayey soil strata. Some drying of the sand will likely be required. There are limited quantities of these materials available.
- **Group 2** comprise the cohesionless to low plasticity sand. The compaction of these soils will require a very tight control of their moisture content during placement and compaction. At moisture contents more than 3% below the optimum, the soil will likely be dusty and “flour” like while at moisture contents ±1% higher than optimum, the soil will be “spongy” and will “pump”.
- **Group 3** soils consist of unsuitable materials because of their high moisture or organic inclusions, including all existing fill materials. These soils should be either disposed off-site or should be used only in “soft” landscaping areas where they can be placed with nominal compaction, and where surface settlements are tolerable. If soils are disposed of off-site, a qualified person should ensure disposal is in compliance with O.Reg 406/19 (excess soil management).

As a general requirement, all backfill material should be placed in 200 to 300mm thick loose lifts and compacted to at least 96% of SPMDD, at a placement moisture content within ±2% of the optimum. Below future pavements, the backfill must be Granular “A” or “B” material, and the top 1.5m of subgrade backfill below the underside of the pavement structure should be compacted to 98% of SPMDD. Where a free-draining backfill is needed or where the backfill is needed for structural support of overlying structures, the site soils will not be suitable and OPSS Granular “A” or “B” sand and gravel will be required. Similarly, during work in the autumn, winter and spring months, re-use of the excavated soils as compacted fill may not be practical and imported OPSS Granular “B” should be used.

6.12 Preconstruction Condition Survey

It is recommended that a preconstruction survey of neighboring properties and any adjacent utilities and structures be completed prior to excavation and throughout the construction period.

Additionally, the types and condition of all adjacent structures and underground services should be reviewed by the structural and geotechnical engineer to determine potential underpinning requirements as conceptually identified in Figure 4.

Utility owners should be contacted to establish deformation limits. The deformation should be monitored throughout the construction period.

6.13 Field Review and Quality Control

It is recommended that geotechnical field reviews be carried out to assess the actual soil conditions encountered and confirm assumptions used in the design. Where conditions encountered differ significantly from those assumed for design, SLR should be provided with an opportunity to review the design assumptions and modify the design, as appropriate.
Field reviews should include review of footing excavations and quality control testing carried out to assess conformity with design.

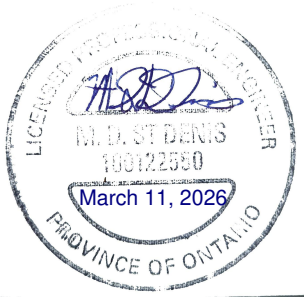
In order to provide Ontario Building Code Letters of Assurance, SLR personnel must review the work during various stages of construction which includes but is not limited to subgrade excavation and preparation, excavated slopes and temporary shoring or trenching activities, placement and compaction of fill, and implementation of any drainage measures. SLR must be notified at least 24 hours in advance when the work is ready for field review and inspection.

7.0 Closure

We trust the above information meets your current requirements. Please contact the undersigned if there are any questions.

Regards,

SLR Consulting (Canada) Ltd.



Iqbal Budwal, M.Sc., P.Eng.
Geotechnical Engineer

Matthew D. St Denis, P.Eng.
Team Lead, Geotechnical Engineering East

8.0 References

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Environment and Natural Resources. 2020. *Government of Canada.* July 22. https://climate.weather.gc.ca/climate_normals/index_e.html.

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Figures

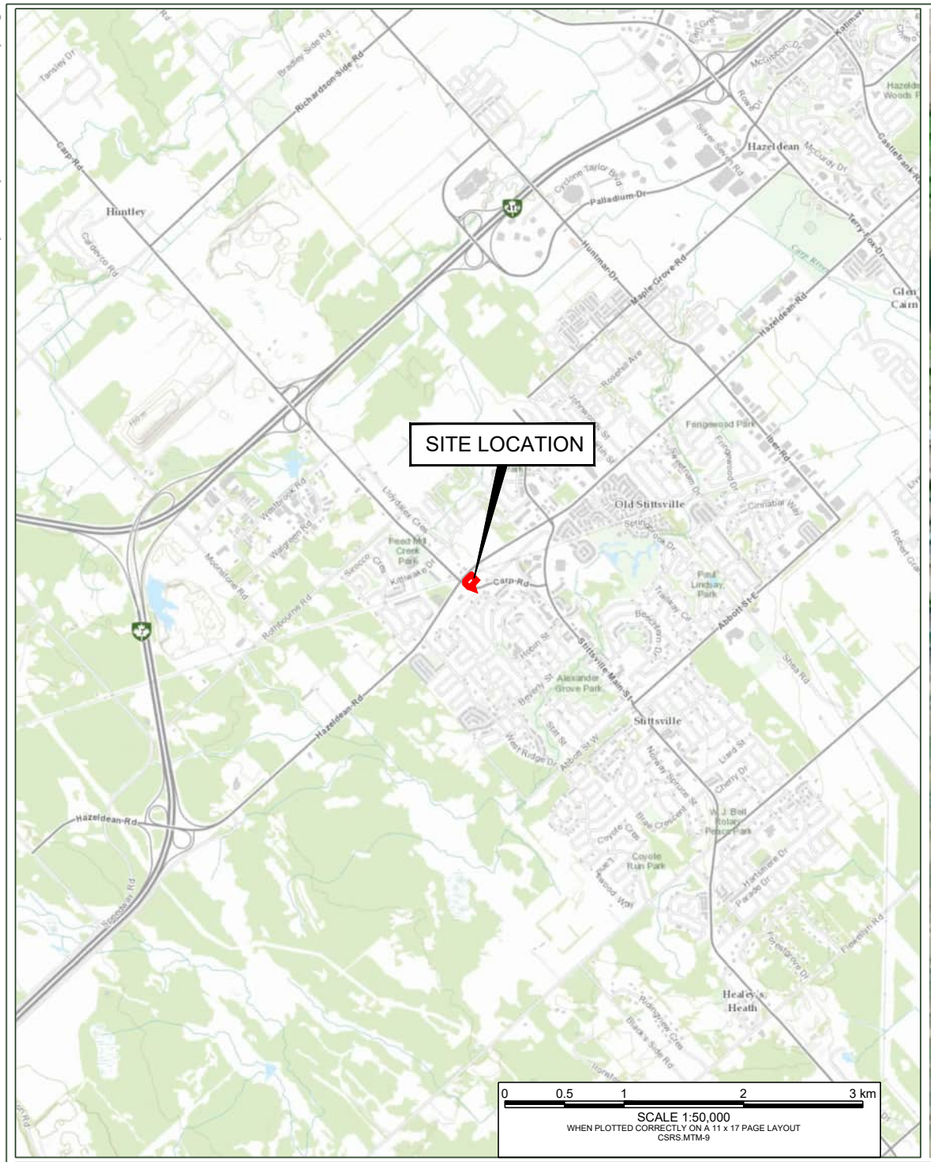
Geotechnical Investigation for Pre-Construction Support of Future Development

Active Petro-Canada Retail Fuel Outlet No. 65044 6250 Hazeldean Rd, Ottawa, Ontario

Suncor Energy Products Partnership

SLR Project No.: 216.030133.00001

March 11, 2026



NOTES:

NOT A LEGAL SURVEY. DO NOT USE FOR CONSTRUCTION.

REFERENCED FROM: K PAUL ARCHITECT INC., PROJECT No. 655044, DRAWING No. SP1, DATE 2025-09-04 AND SITE RECONNAISSANCE INFORMATION.
IMAGERY: ESRI, VANTOR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY (IMAGE DATE: MAY 8, 2022)

BASEDATA:
ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

LEGEND:

PROPERTY BOUNDARY

SITE BOUNDARY

PHASE 1 STUDY AREA

SUNCOR ENERGY PRODUCTS PARTNERSHIP
OUTLET NO. 65044
6250 HAZELDEAN ROAD
STITTSVILLE, ON

GEOTECHNICAL INVESTIGATION

SITE LOCATION AND SURROUNDING LAND USE

SLR

FIGURE NO:
1

DATE: February 11, 2026

PROJECT NO: 216.030133.00001

LEGEND:

- SITE BOUNDARY
- BOREHOLE
- MONITORING WELL

UTILITIES AND SYMBOLS
CB CATCH BASIN
T TRANSFORMER

NOTES:
NOT A LEGAL SURVEY. DO NOT USE FOR CONSTRUCTION.

REFERENCED FROM: K PAUL ARCHITECT INC., PROJECT No. 655044, DRAWING No. SP1, DATE 2025-09-04 AND SITE RECONNAISSANCE INFORMATION.
IMAGERY: ESRI, VANTOR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY (IMAGE DATE: MAY 27, 2025)

0 5 10 20 30 m

SCALE 1:500
WHEN PLOTTED CORRECTLY ON A 11 x 17 PAGE LAYOUT
CSRS.MTM-9

SUNCOR ENERGY PRODUCTS PARTNERSHIP
OUTLET NO. 65044
6250 HAZELDEAN ROAD
STITTSVILLE, ON

GEOTECHNICAL INVESTIGATION

SITE PLAN AND SAMPLING LOCATIONS

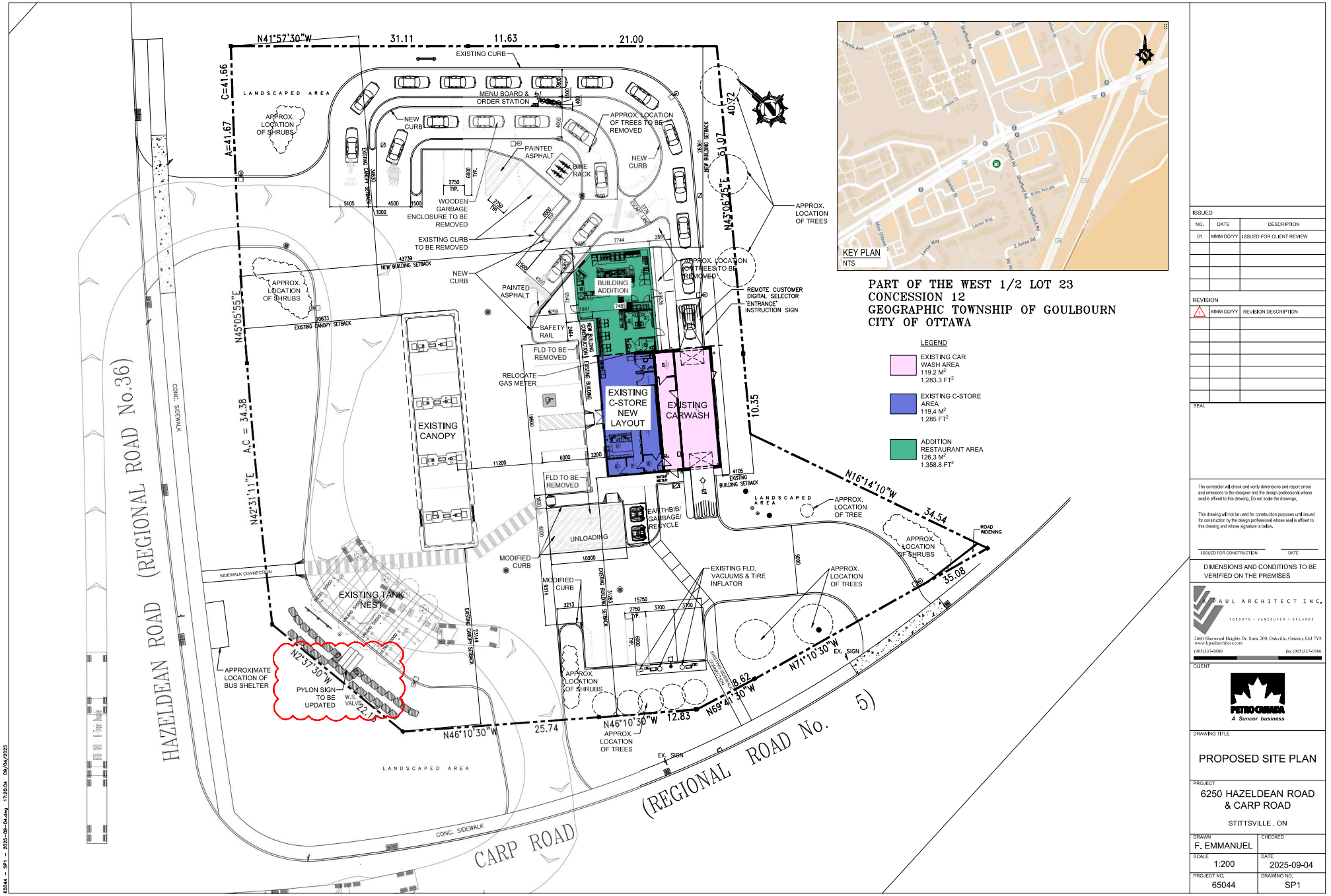
SLR

FIGURE NO:
2

DATE: February 11, 2026 PROJECT NO: 216.030133.00001

Project: 216.030133.00001

Figure No. 3



ISSUED		
NO.	DATE	DESCRIPTION
01	MMM DD/YY	ISSUED FOR CLIENT REVIEW

REVISION		
⚠	MMM DD/YY	REVISION DESCRIPTION

SEAL

The contractor will check and verify dimensions and report errors and omissions to the designer and the design professional whose seal is affixed to this drawing. Do not scale the drawings.

This drawing will not be used for construction purposes until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION DATE

DIMENSIONS AND CONDITIONS TO BE VERIFIED ON THE PREMISES

PAUL ARCHITECT INC.
TORONTO • VANCOUVER • ORLANDO
2660 Sherwood Heights Dr. Suite 200, Oakville, Ontario, L6J 7Y8
www.kpaularchitect.com
(905)337-9800 fax (905)337-9986

CLIENT

PETRO-CANADA
A Suncor business

DRAWING TITLE

PROPOSED SITE PLAN

PROJECT

6250 HAZELDEAN ROAD & CARP ROAD

STITTSVILLE , ON

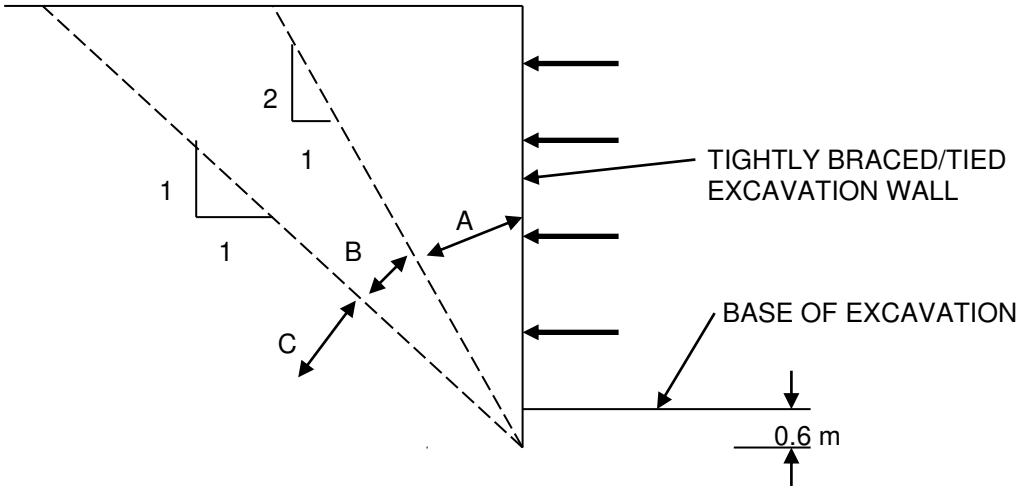
DRAWN	CHECKED
F. EMMANUEL	
SCALE	DATE
1:200	2025-09-04
PROJECT NO.	DRAWING NO.
65044	SP1

65044 - SP1 - 2025-09-04.dwg 17:26:04 09/04/2025

Project: 216.030133.00001 **Figure No. 4**

Guidelines for Underpinning in Soil and Excavation Support

Existing foundations located within Zone A normally require underpinning, especially for heavy structures. For some foundations in Zone A, it may be possible to eliminate underpinning and control foundation movement by tightly braced excavation walls, such as caisson walls.



Zone A Foundations located within this zone normally require underpinning. Horizontal and vertical pressures on the excavation wall of non underpinned foundations must be considered

Zone B Foundations located within this zone normally do not require underpinning. Horizontal and vertical pressures on the excavation wall of non underpinned foundations must be considered

Zone C Underpinning to structures is normally founded in this zone. Lateral pressure from underpinning is not normally considered

A condition survey should be conducted prior to construction and appropriate monitoring (surface and insitu) carried out during construction to monitor any movement which may occur.

All work should be carried out in accordance with the Occupational Health and Safety Act and local regulations. Good quality workmanship and construction practices are to be employed.

(Reference: Figure 20.39 from Canadian Foundation Engineering Manual, 5th Edition)

Appendix A Borehole Records

Geotechnical Investigation for Pre-Construction Support of Future Development

Active Petro-Canada Retail Fuel Outlet No. 65044 6250 Hazeldean Rd, Ottawa, Ontario

Suncor Energy Products Partnership

SLR Project No.: 216.030133.00001

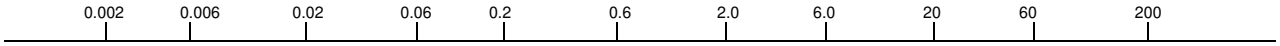
March 11, 2026

Notes On Sample Descriptions

1. All sample descriptions included in this report generally follow the Unified Soil Classification. Laboratory grain size analyses provided by PECG also follow the same system. Different classification systems may be used by others, such as the system by the International Society for Soil Mechanics and Foundation Engineering (ISSMFE). Please note that, with the exception of those samples where a grain size analysis and/or Atterberg Limits testing have been made, all samples are classified visually. Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems.

ISSMFE SOIL CLASSIFICATION

CLAY	SILT			SAND			GRAVEL			COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE		



EQUIVALENT GRAIN DIAMETER IN MILLIMETRES

CLAY (PLASTIC) TO	FINE	MEDIUM	CRS.	FINE	COARSE
SILT (NONPLASTIC)	SAND			GRAVEL	

UNIFIED SOIL CLASSIFICATION

2. Fill: Where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc., none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional preliminary geotechnical site investigation.

3. Till: The term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.

Explanation of Terms Used in the Record of Borehole

Sample Type

AS	Auger sample
BS	Block sample
CS	Chunk sample
DO	Drive open
DS	Dimension type sample
FS	Foil sample
RC	Rock core
SC	Soil core
SS	Spoon sample
ST	Slotted tube
TO	Thin-walled, open
TP	Thin-walled, piston
WS	Wash sample

Penetration Resistance

Standard Penetration Resistance (SPT), N:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in) required to drive a 50 mm (2 in) drive open sampler for a distance of 300 mm (12 in).

Dynamic Cone Penetration Resistance, N_d:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in) to drive uncased a 50 mm (2 in) diameter, 60° cone attached to "A" size drill rods for a distance of 300 mm (12 in).

Textural Classification of Soils

Classification	Particle Size
Boulders	>300 mm
Cobbles	75 mm-300 mm
Gravel (Gr)	4.75 mm-75 mm
Sand (Sa)	0.075 mm-4.75 mm
Silt (Si)	0.002 mm-0.075 mm
Clay (Cl)	<0.002 mm

Coarse Grain Soil Description (50% greater than 0.075 mm)

Terminology	Proportion
Trace	0-10%
Some	10-20%
Adjective (e.g. silty or sandy)	20-35%
And (e.g. sand and gravel)	>35%

Soil Description

a) Cohesive Soils

Consistency	Undrained Shear Strength (kPa)	SPT "N" Value
Very soft	<12	0-2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very stiff	100-200	15-30
Hard	>200	>30

b) Cohesionless Soils

Density Index (Relative Density)	SPT "N" Value
Very loose	<4
Loose	4-10
Compact	10-30
Dense	30-50
Very dense	>50

Soil Tests

w	Water content
w_p	Plastic limit
w_l	Liquid limit
C	Consolidation (oedometer) test
CID	Consolidated isotropically drained triaxial test
CIU	consolidated isotropically undrained triaxial test with porewater pressure measurement
D_R	Relative density (specific gravity, Gs)
DS	Direct shear test
ENV	Environmental/ chemical analysis
M	Sieve analysis for particle size
MH	Combined sieve and hydrometer (H) analysis
MPC	Modified proctor compaction test
SPC	Standard proctor compaction test
OC	Organic content test
V	Field vane (LV-laboratory vane test)
γ	Unit weight

SLR

LOG OF BOREHOLE BH25-02

PROJECT: Geotechnical Investigation - 6250 Hazeldean_P1,P2 & Geotec

CLIENT: Suncor

Method: Hydrovac/Direct Push Method

PROJECT LOCATION: Ottawa, ON

Diameter: 100mm

REF. NO.: 216.030133.00001

DATUM: Geodetic

Date: Jan 14, 2026

ENCL NO.: 1

BH LOCATION: See Boreholes Location Plan N 5014349.462 E 348886.339

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
125.0	Ground Surface											
124.9	**ASPHALT:** 80mm											
124.7 0.3	**GRANULAR :** 180mm											
	FILL: sand and gravel, trace silt, brown, moist.		1	GS								
			2	GS								
1			3	GS			124					
			4	GS								
2			5	GS			123					
122.5												
2.4	**SAND:** trace clay, trace silt, trace gravel, brown, moist, compact.		1	SS	19							0 83 4 3
3			2	SS			122					
4			3	SS			121					
			4	SS								
5 119.9							120					
5.0	**END OF BOREHOLE:** 1) Upon completion of drilling the borehole was open with no groundwater accumulation.											

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

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

SLR

LOG OF BOREHOLE BH25-03

PROJECT: Geotechnical Investigation - 6250 Hazeldean_P1,P2 & Geotec

CLIENT: Suncor

Method: Hydrovac/Direct Push Method

PROJECT LOCATION: Ottawa, ON

Diameter: 100mm

REF. NO.: 216.030133.00001

DATUM: Geodetic

Date: Jan 14, 2026

ENCL NO.: 2

BH LOCATION: See Boreholes Location Plan N 5014353.655 E 348865.138

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS "N" 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
125.1	Ground Surface											
125.0 / 0.1	**ASPHALT:** 80mm						125					
124.8 / 0.3	**GRANULAR :** 180mm						Concrete					
	FILL: sand and gravel, trace silt, brown, moist.		1	GS								
			2	GS								
			3	GS			124					
			4	GS			Bentonite					
			5	GS			123					
122.6 / 2.4	**SAND:** trace clay, trace silt, trace gravel, brown, moist to wet, dense to compact.		1	SS	37							9 78 8 4
			2	SS			122 Sand					
			3	SS			121					
			4	SS			Screen					
							W. L. 120.0 m Jan 26, 2026					
			5	SS								
			6	SS			119 Sand					
			7	SS			118 Bentonite					
117.4 / 7.6	**END OF BOREHOLE:** 1) 50mm diameter monitoring well was installed upon completion of drilling. 2) Water Level Readings: Date Jan 26, 2026 — W. L. Depth (mBGS) 5.03											

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ε_f=3% ○ Strain at Failure

SLR

LOG OF BOREHOLE BH25-06

PROJECT: Geotechnical Investigation - 6250 Hazeldean_P1,P2 & Geotec

CLIENT: Suncor

Method: Direct Push Method

PROJECT LOCATION: Ottawa, ON

Diameter: 100mm

REF. NO.: 216.030133.00001

DATUM: Geodetic

Date: Jan 6, 2025

ENCL NO.: 3

BH LOCATION: See Boreholes Location Plan N 5014400.183 E 348888.827

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS / 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
124.4	Ground Surface											
124.3 0.2	**ASPHALT:** 80mm **GRANULAR :** 80mm		1	SS	50/ Initial 125mm		124		○			
123.7 0.7	**FILL:** sand and gravel, trace silt, contains cobbles, brown, moist, very dense. **FILL:** gravelly sand, some silt, trace clay, brown, moist, compact to very dense.		2	SS	11				○			
			3	SS	16		123		○			
121.7 2.8	**END OF BOREHOLE:** 1) Upon completion of drilling the borehole was open with no groundwater accumulation.		4	SS	68		122		○			32 53 11 4

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

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

SLR

LOG OF BOREHOLE BH25-08

PROJECT: Geotechnical Investigation - 6250 Hazeldean_P1,P2 & Geotec

CLIENT: Suncor

Method: Direct Push Method/Hollow Stem Augers

PROJECT LOCATION: Ottawa, ON

Diameter: 100mm/200mm

REF. NO.: 216.030133.00001

DATUM: Geodetic

Date: Jan 12, 2025

ENCL NO.: 4

BH LOCATION: See Boreholes Location Plan N 5014376.943 E 348915.123

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT / NATURAL MOISTURE CONTENT / LIQUID LIMIT (w_P w w_L) WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS 0.3 m "N"							GR SA SI CL
124.9	Ground Surface											
~~124.8~~ 0.1	**TOPSOIL:** 80mm		1	SS	50/ Initial 75mm							spoon refusal on a possible boulder
	FILL: silty sand, trace gravel, contains rootlets, dark brown, moist, very dense to very loose.											
1			2	SS	0		124					
123.4												
1.5	**SAND:** trace to some silt, trace clay, trace gravel, brown, moist to wet, very dense.		3	SS	50/ 275mm		123					
2			4	SS	63							
3			5	SS	50/ Initial 100mm		122					Hollow Stem Augers start
4			6	SS	50/ Initial 100mm		121					spoon refusal on a possible boulder
5			7	SS	50/ Initial 125mm		120					spoon refusal on a possible boulder
6			8	SS	50/ 125mm		119					
7							118					
8			9	SS	61		117	○				1 83 14 3
116.0												
8.8	**END OF BOREHOLE:** 1) Upon completion of drilling the borehole was open with no groundwater accumulation.											

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ○ ε_f=3% Strain at Failure

SLR

LOG OF BOREHOLE BH25-09

PROJECT: Geotechnical Investigation - 6250 Hazeldean_P1,P2 & Geotec

CLIENT: Suncor

Method: Hydrovac/Direct Push Method

PROJECT LOCATION: Ottawa, ON

Diameter: 100mm

REF. NO.: 216.030133.00001

DATUM: Geodetic

Date: Jan 7, 2026

ENCL NO.: 5

BH LOCATION: See Boreholes Location Plan N 5014368.077 E 348917.986

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	BLOWS "N" 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
125.2	Ground Surface											
125.0	**TOPSOIL:** 150mm						Concrete					
0.2	**FILL:** sand and gravel, trace silt, contains cobbles, brown, moist.		1	GS								
			2	GS								
			3	GS			124					
			4	GS								
			5	GS			123					
			1	SS	50/ Initial 25mm							spoon bouncing
122.2							Bentonite					
3.1	**SAND:** trace silt, trace gravel, brown, wet to moist, very dense.		2	SS	50/ Initial 25mm		122					spoon bouncing
			3	SS	50/ Initial 25mm				71.3			spoon bouncing
			4	SS	50/ Initial 75mm		121					spoon bouncing
			5	SS	50/ Initial 100mm		120					spoon bouncing
			6	SS	50/ Initial 125mm		119					spoon bouncing 19 76 10 2
							Sand, Screen					
			7	SS	50/ 50mm		W. L. 117.5 m Jan 26, 2026					spoon bouncing
							117					
116.4							Bentonite					
8.9	**END OF BOREHOLE:** 1) 50mm diameter monitoring well was installed upon completion of drilling. 2) Water Level Readings: Date W. L. Depth (mBGS) Jan 26, 2026 7.72		8	SS	50/ Initial 25mm							Auger refusal and spoon bouncing

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ 8=3% Strain at Failure

Appendix B Geotechnical Laboratory Test Results

Geotechnical Investigation for Pre-Construction Support of Future Development

Active Petro-Canada Retail Fuel Outlet No. 65044 6250 Hazeldean Rd, Ottawa, Ontario

Suncor Energy Products Partnership

SLR Project No.: 216.030133.00001

March 11, 2026

PNJ ENGINEERING INC.
Pavement · Materials · Geo-Environmental · Engineering
70 Galaxy Blvd., Suite 100
Toronto, Ontario M9W 4Y6
Tel: 905 597 8383 • Fax: 905 597 0825

February 13, 2026

Mr. Iqbal Budwal
SLR Consulting (Canada) Ltd.
871 Equestrian Ct, 1, Oakville,
ON, L6L 6L7

Project : 26-1060-01

Subject: PNJ Lab 21480 to 21484 Sieve and Hydrometer & Moisture content Testing.

Dear Iqbal:

PNJ has tested the submitted Borehole Split Spoon (SS) samples for various tests requested under submission for Suncor – Hazeldean, Ottawa, Job No. 216.030133.00001.

The samples were delivered to PNJ laboratory on January 27, 2026. A total of five (5) Boreholes samples were received, to be tested for Sieve and Hydrometer & Moisture content. The test reports for each individual test are attached to this letter.

PNJ has tested the samples as per the MTO LS procedures for respective testing. We trust we have conducted this testing within our terms of reference. Should you have any questions, please contact our office.

Yours Truly,

Prabhdeep Lubana, P.Eng.,
Principal
Manager Laboratory Services
PNJ Engineering Inc.

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Moisture Content

Client: SLR Consulting
Project No.: 26-1060-01 / 216.030133.00001
Location: Hazeldean, Ottawa
Borehole ID: BH25-02
Lab No.: 21480

Item No.	Sample No.	Depth		Container No.	Weight			Moisture Content (%)
		From	To		Wet (Soil+Tare)	Dry (Soil+Tare)	Tare	
1	SO2	-	-	-	61.7	58.6	6.9	6.0
2	SO3	-	-	-	81.8	76.5	7.1	7.6
3	SO4	-	-	-	65.8	62.3	7.2	6.4
4	SO5	-	-	-	63.4	57.5	7.1	11.7
5	SS6	-	-	-	288.4	280.4	85.9	4.1

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Moisture Content

Client: SLR Consulting
Project No.: 26-1060-01 / 216.030133.00001
Location: Hazeldean, Ottawa
Borehole ID: BH25-03
Lab No.: 21481

Item No.	Sample No.	Depth		Container No.	Weight			Moisture Content (%)
		From	To		Wet (Soil+Tare)	Dry (Soil+Tare)	Tare	
1	SO1	-	-	-	79.3	76.8	13.7	4.0
2	SO2	-	-	-	85.3	81.5	13.9	5.6
3	SO3	-	-	-	79.8	74.5	14.0	8.8
4	SO4	-	-	-	75.5	72.3	13.8	5.5
5	SO5	-	-	-	70.6	67.2	13.7	6.4
6	SS6	-	-	-	468.3	457.0	135.2	3.5

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Moisture Content

Client: SLR Consulting
Project No.: 26-1060-01 / 216.030133.00001
Location: Hazeldean, Ottawa
Borehole ID: BH25-06
Lab No.: 21482

Item No.	Sample No.	Depth		Container No.	Weight			Moisture Content (%)
		From	To		Wet (Soil+Tare)	Dry (Soil+Tare)	Tare	
1	SS1	-	-	-	76.8	74.9	13.9	3.1
2	SS2	-	-	-	74.0	71.9	13.8	3.6
3	SS3	-	-	-	70.6	69.4	14.1	2.2
4	SS4	-	-	-	263.0	258.0	84.3	2.9

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Moisture Content

Client: SLR Consulting
Project No.: 26-1060-01 / 216.030133.00001
Location: Hazeldean, Ottawa
Borehole ID: BH25-08
Lab No.: 21483

Item No.	Sample No.	Depth		Container No.	Weight			Moisture Content (%)
		From	To		Wet (Soil+Tare)	Dry (Soil+Tare)	Tare	
1	SS9	-	-	-	684.2	573.4	90.9	23.0

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Moisture Content

Client: SLR Consulting
Project No.: 26-1060-01 / 216.030133.00001
Location: Hazeldean, Ottawa
Borehole ID: BH25-09
Lab No.: 21484

Item No.	Sample No.	Depth		Container No.	Weight			Moisture Content (%)
		From	To		Wet (Soil+Tare)	Dry (Soil+Tare)	Tare	
1	SS1	-	-	-	78.6	73.8	46.4	17.5
2	SS3	-	-	-	72.3	54.9	30.5	71.3
3	SS4	-	-	-	57.8	56.6	20.1	3.3
4	SS5	-	-	-	62.8	61.9	20.6	2.2
5	SS6	-	-	-	301.7	286.4	58.4	6.7
6	SS7	-	-	-	67.8	66.2	19.9	3.5
7	SO2	-	-	-	90.1	85.0	20.4	7.9
8	SO3	-	-	-	88.6	83.7	19.9	7.7
9	SO4	-	-	-	79.8	75.9	20.0	7.0
10	SO5	-	-	-	82.2	77.5	20.0	8.2
11	SO7	-	-	-	82.8	78.0	19.9	8.3

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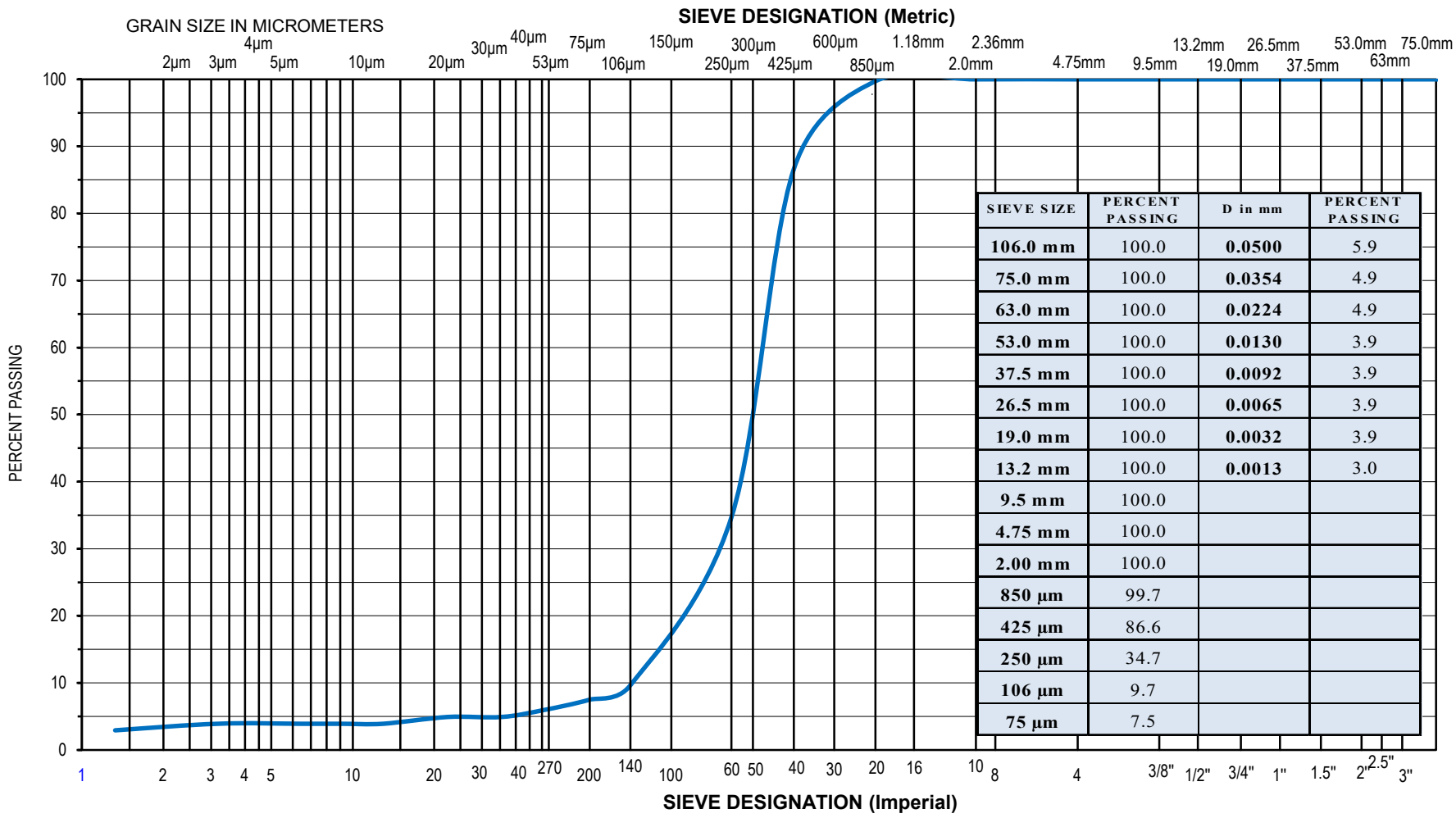
Particle Size Analysis of Soils

MTO LS-700, 702, 703/704, 705

CLAY & SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



SIEVE SIZE	PERCENT PASSING	D in mm	PERCENT PASSING
106.0 mm	100.0	0.0500	5.9
75.0 mm	100.0	0.0354	4.9
63.0 mm	100.0	0.0224	4.9
53.0 mm	100.0	0.0130	3.9
37.5 mm	100.0	0.0092	3.9
26.5 mm	100.0	0.0065	3.9
19.0 mm	100.0	0.0032	3.9
13.2 mm	100.0	0.0013	3.0
9.5 mm	100.0		
4.75 mm	100.0		
2.00 mm	100.0		
850 µm	99.7		
425 µm	86.6		
250 µm	34.7		
106 µm	9.7		
75 µm	7.5		

% Fines		% Sand			% Gravel	
Clay	Silt	Fine	Medium	Coarse	Fine	Coarse
3.3	4.2	79.1	13.4	0.0	0.0	0.0

Client:	SLR Consulting	**Lab No.:**	21480-6	**D10:**	0.10779	**D30:**	0.22299	**D60:**	0.3353	**LL:**	n/a
Project:	Suncor-Hazeldean 216.030133.00001	**Project No.:**	26-1060-01	**D20:**	0.16539	**D50:**	0.3016			**PL:**	n/a
Location:	Hazeldean, Ottawa	**Borehole:**	BH25-02	**Classification:**	n/a	**In-situ Moisture:**	4.1%			**PI:**	n/a
Date:	February 12, 2026	**Sample:**	SS6	**Sample Description:**	SAND, trace silt, trace clay						

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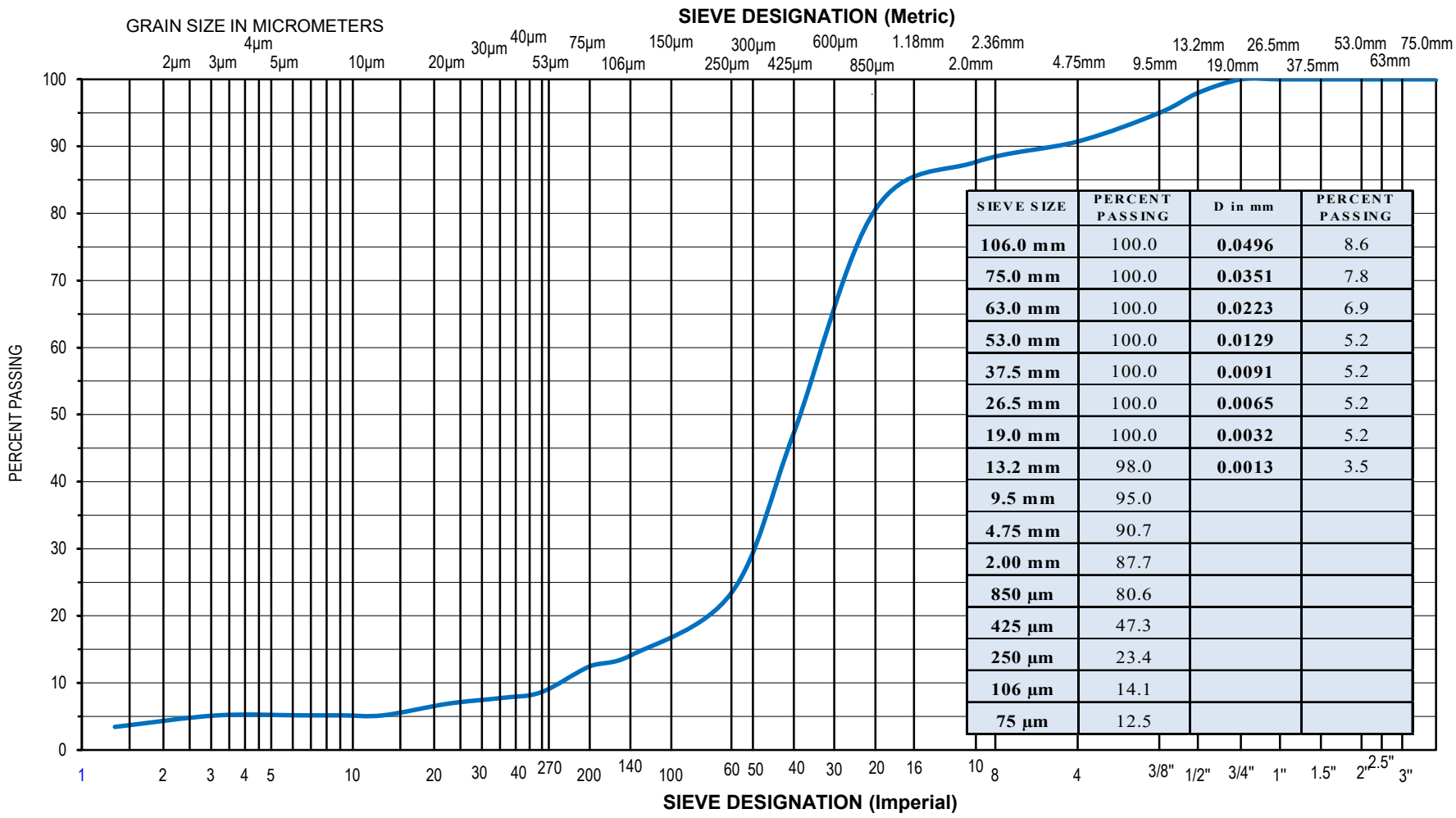
Particle Size Analysis of Soils

MTO LS-700, 702, 703/704, 705

CLAY & SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



SIEVE SIZE	PERCENT PASSING	D in mm	PERCENT PASSING
106.0 mm	100.0	0.0496	8.6
75.0 mm	100.0	0.0351	7.8
63.0 mm	100.0	0.0223	6.9
53.0 mm	100.0	0.0129	5.2
37.5 mm	100.0	0.0091	5.2
26.5 mm	100.0	0.0065	5.2
19.0 mm	100.0	0.0032	5.2
13.2 mm	98.0	0.0013	3.5
9.5 mm	95.0		
4.75 mm	90.7		
2.00 mm	87.7		
850 µm	80.6		
425 µm	47.3		
250 µm	23.4		
106 µm	14.1		
75 µm	12.5		

% Fines		% Sand			% Gravel	
Clay	Silt	Fine	Medium	Coarse	Fine	Coarse
4.1	8.4	34.8	40.4	3.0	9.3	0.0

Client:	SLR Consulting	**Lab No.:**	21481-6	**D10:**	0.05863	**D30:**	0.2982	**D60:**	0.5870	**LL:**	n/a
Project:	Suncor-Hazeldean 216.030133.00001	**Project No.:**	26-1060-01	**D20:**	0.19715	**D50:**	0.4593			**PL:**	n/a
Location:	Hazeldean, Ottawa	**Borehole:**	BH25-03	**Classification:**	n/a			**In-situ Moisture:**	3.5%	**PI:**	n/a
Date:	February 12, 2026	**Sample:**	SS6	**Sample Description:**	SAND, trace gravel, trace silt, trace clay						

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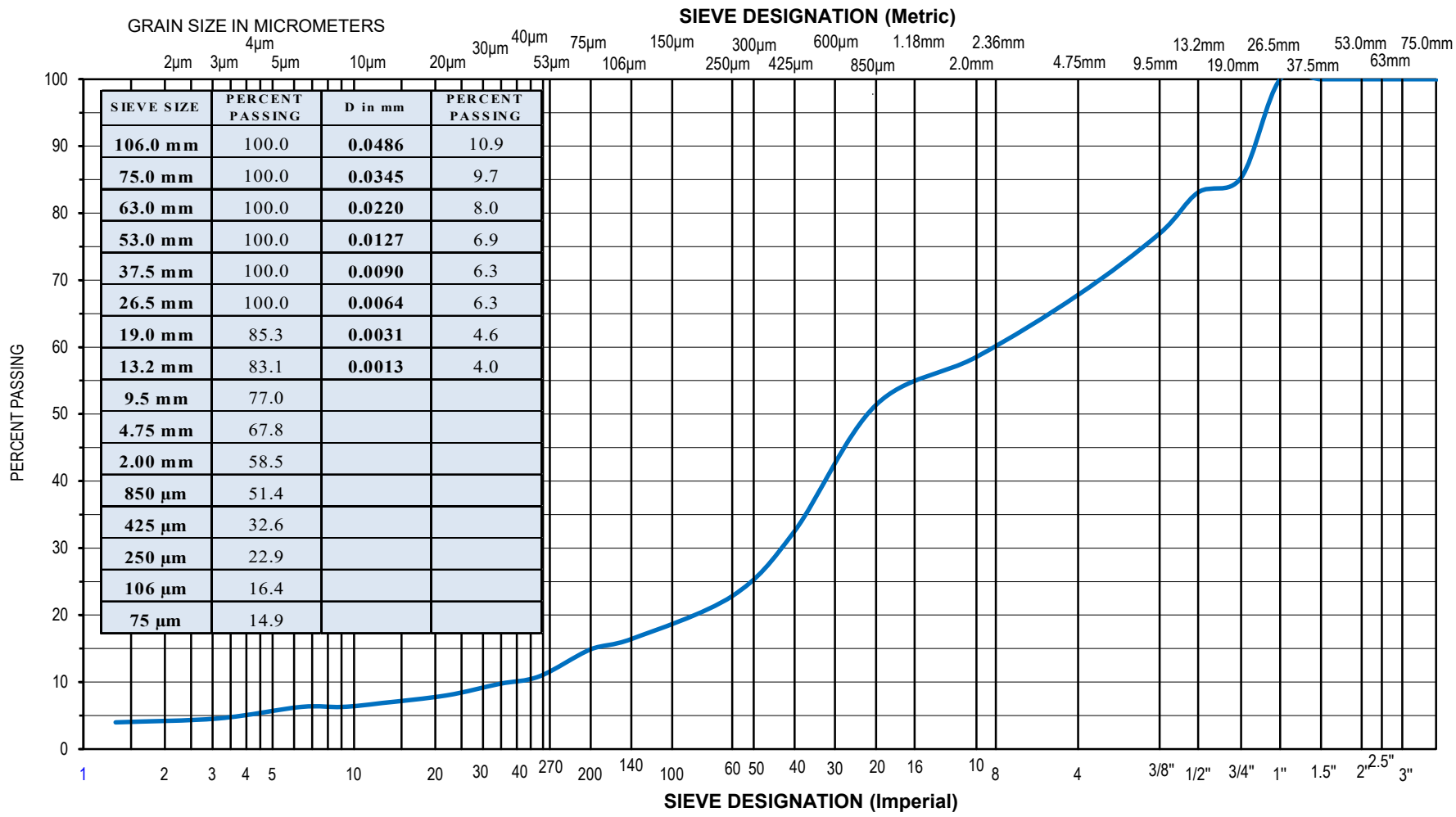
Particle Size Analysis of Soils

MTO LS-700, 702, 703/704, 705

CLAY & SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



SIEVE SIZE	PERCENT PASSING	D in mm	PERCENT PASSING
106.0 mm	100.0	0.0486	10.9
75.0 mm	100.0	0.0345	9.7
63.0 mm	100.0	0.0220	8.0
53.0 mm	100.0	0.0127	6.9
37.5 mm	100.0	0.0090	6.3
26.5 mm	100.0	0.0064	6.3
19.0 mm	85.3	0.0031	4.6
13.2 mm	83.1	0.0013	4.0
9.5 mm	77.0		
4.75 mm	67.8		
2.00 mm	58.5		
850 µm	51.4		
425 µm	32.6		
250 µm	22.9		
106 µm	16.4		
75 µm	14.9		

% Fines		% Sand			% Gravel	
Clay	Silt	Fine	Medium	Coarse	Fine	Coarse
4.2	10.7	17.6	26.0	9.3	17.5	14.7

Client:	SLR Consulting	**Lab No.:**	21482-4	**D10:**	0.03761	**D30:**	0.3789	**D60:**	2.4304	**LL:**	n/a
Project:	Suncor-Hazeldean 216.030133.00001	**Project No.:**	26-1060-01	**D20:**	0.18583	**D50:**	0.8188			**PL:**	n/a
Location:	Hazeldean, Ottawa	**Borehole:**	BH25-06	**Classification:**	n/a			**In-situ Moisture:**	2.9%	**PI:**	n/a
Date:	February 12, 2026	**Sample:**	SS4	**Sample Description:**	GRAVELLY SAND, some silt, trace clay						

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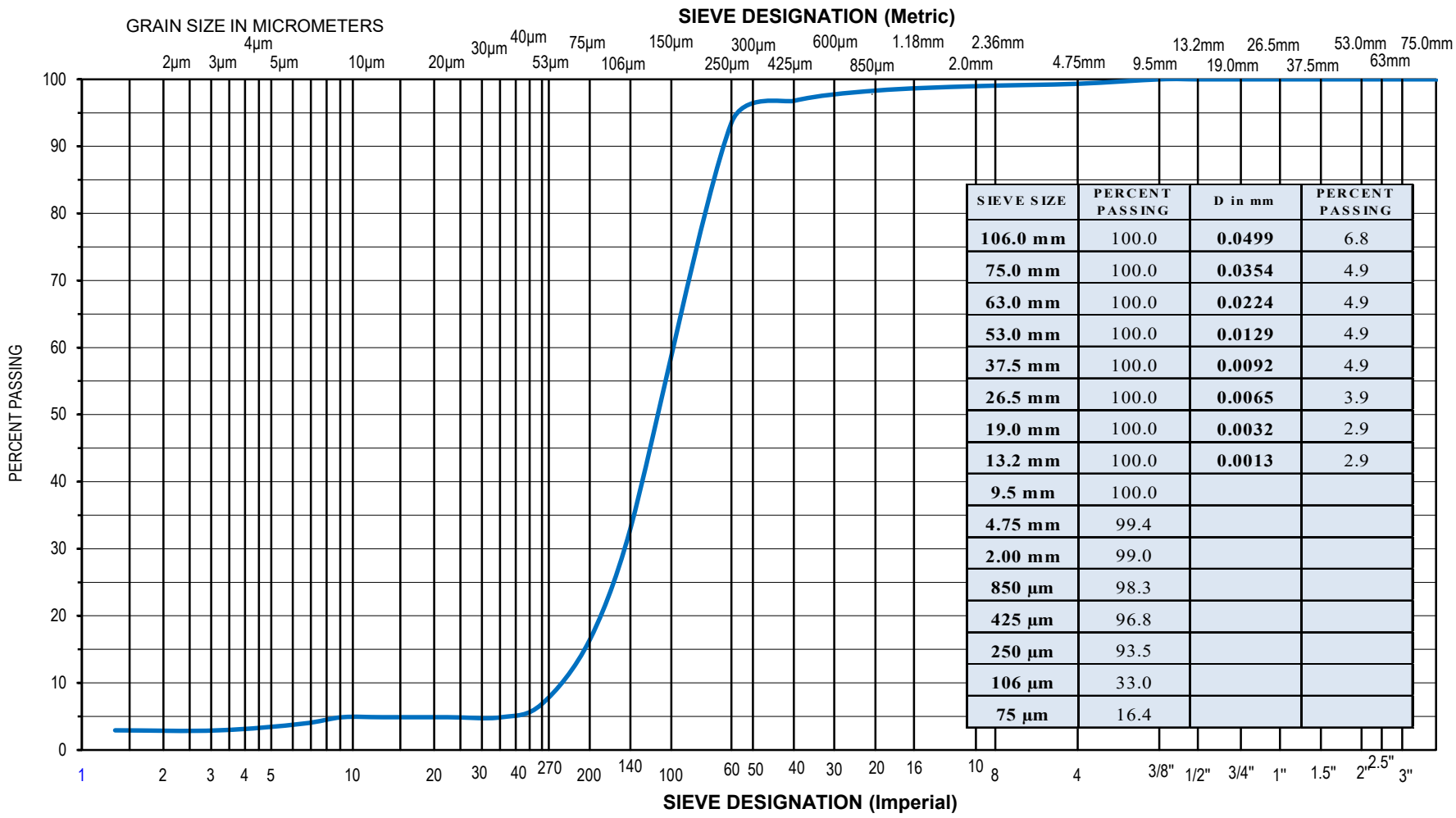
Particle Size Analysis of Soils

MTO LS-700, 702, 703/704, 705

CLAY & SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



SIEVE SIZE	PERCENT PASSING	D in mm	PERCENT PASSING
106.0 mm	100.0	0.0499	6.8
75.0 mm	100.0	0.0354	4.9
63.0 mm	100.0	0.0224	4.9
53.0 mm	100.0	0.0129	4.9
37.5 mm	100.0	0.0092	4.9
26.5 mm	100.0	0.0065	3.9
19.0 mm	100.0	0.0032	2.9
13.2 mm	100.0	0.0013	2.9
9.5 mm	100.0		
4.75 mm	99.4		
2.00 mm	99.0		
850 μm	98.3		
425 μm	96.8		
250 μm	93.5		
106 μm	33.0		
75 μm	16.4		

% Fines		% Sand			% Gravel	
Clay	Silt	Fine	Medium	Coarse	Fine	Coarse
2.9	13.5	80.4	2.2	0.4	0.6	0.0

Client:	SLR Consulting	**Lab No.:**	21483-9	**D10:**	0.05816	**D30:**	0.10035	**D60:**	0.1702	**LL:**	n/a
Project:	Suncor-Hazeldean 216.030133.00001	**Project No.:**	26-1060-01	**D20:**	0.08167	**D50:**	0.1464			**PL:**	n/a
Location:	Hazeldean, Ottawa	**Borehole:**	BH25-08	**Classification:**	n/a			**In-situ Moisture:**	23.0%	**PI:**	n/a
Date:	February 12, 2026	**Sample:**	SS9	**Sample Description:**				**SAND, some silt, trace clay, trace gravel**			

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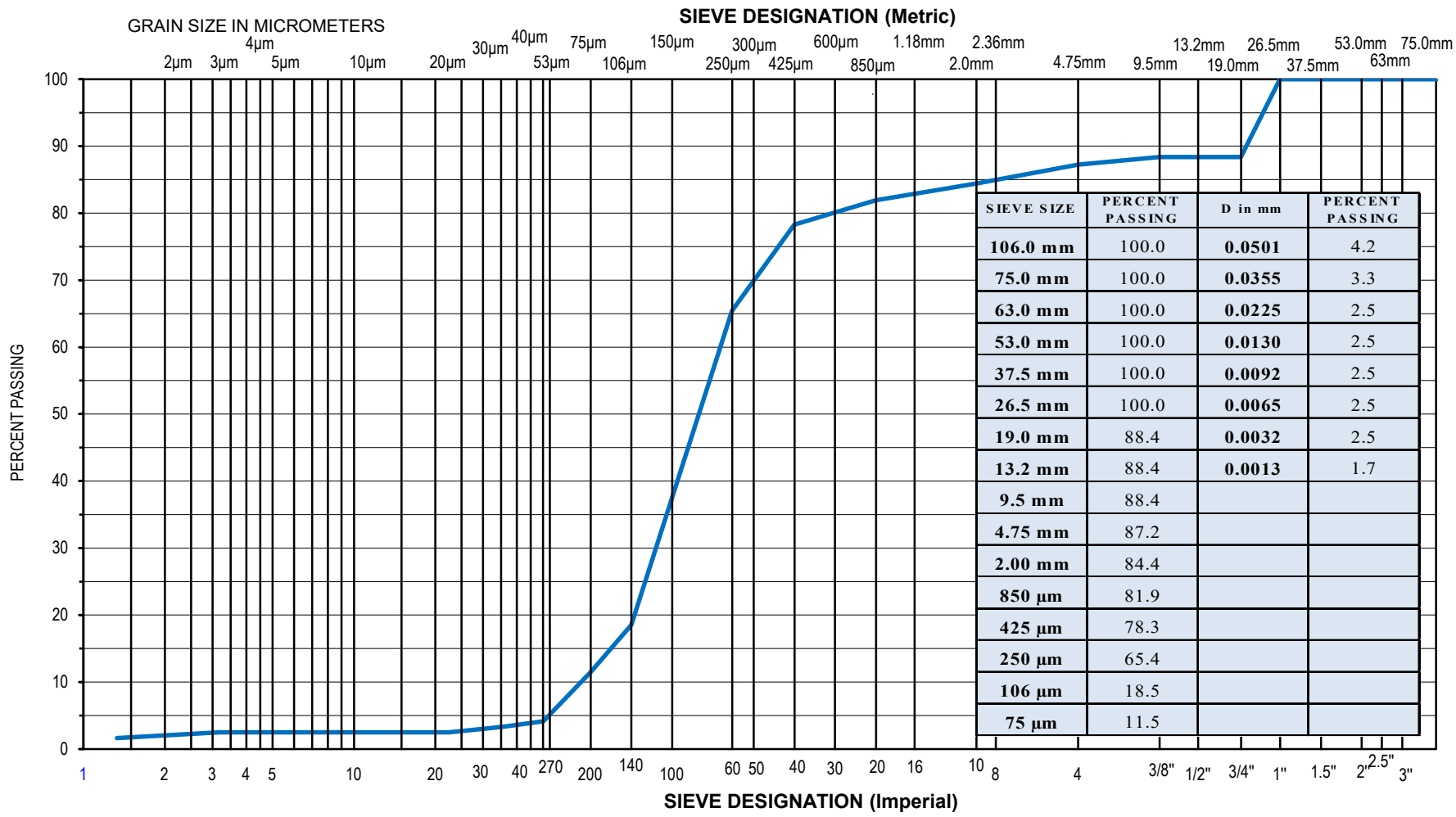
Particle Size Analysis of Soils

MTO LS-700, 702, 703/704, 705

CLAY & SILT	SAND			GRAVEL	
	Fine	Medium	Coarse	Fine	Coarse



SIEVE SIZE	PERCENT PASSING	D in mm	PERCENT PASSING
106.0 mm	100.0	0.0501	4.2
75.0 mm	100.0	0.0355	3.3
63.0 mm	100.0	0.0225	2.5
53.0 mm	100.0	0.0130	2.5
37.5 mm	100.0	0.0092	2.5
26.5 mm	100.0	0.0065	2.5
19.0 mm	88.4	0.0032	2.5
13.2 mm	88.4	0.0013	1.7
9.5 mm	88.4		
4.75 mm	87.2		
2.00 mm	84.4		
850 µm	81.9		
425 µm	78.3		
250 µm	65.4		
106 µm	18.5		
75 µm	11.5		

% Fines		% Sand			% Gravel	
Clay	Silt	Fine	Medium	Coarse	Fine	Coarse
2.0	9.6	66.8	6.1	2.8	1.1	11.6

Client:	SLR Consulting	**Lab No.:**	21484-6	**D10:**	0.06989	**D30:**	0.14127	**D60:**	0.2334	**LL:**	n/a
Project:	Suncor-Hazeldean 216.030133.00001	**Project No.:**	26-1060-01	**D20:**	0.11056	**D50:**	0.2027			**PL:**	n/a
Location:	Hazeldean, Ottawa	**Borehole:**	BH25-09	**Classification:**	n/a			**In-situ Moisture:**	6.7%	**PI:**	n/a
Date:	February 12, 2026	**Sample:**	SS6	**Sample Description:**	SAND, some gravel, trace silt, trace clay						

Appendix C Certificate of Analysis

Geotechnical Investigation for Pre-Construction Support of Future Development

Active Petro-Canada Retail Fuel Outlet No. 65044 6250 Hazeldean Rd, Ottawa, Ontario

Suncor Energy Products Partnership

SLR Project No.: 216.030133.00001

March 11, 2026

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2601817**		
Client	:	**SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Iqbal Budwal	Account Manager	: Andrew Martin
Address	:	871 Equestrian Ct Unit 1 Oakville Ontario Canada L6L 6L7	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519-573-7161	E-mail	: andrew.martin@alsglobal.com
Project	:	216.030136.00001/216.030133.00001	Telephone	: +1 519 886 6910
PO	:	----	Date Samples Received	: 28-Jan-2026 09:00
C-O-C number	:	20-1050639	Date Analysis Commenced	: 29-Jan-2026
Sampler	:	----	Issue Date	: 04-Feb-2026 18:45
Site	:	----		
Quote number	:	Ontario - Palmer/SLR 2025/2026 SOA		
No. of samples received	:	4		
No. of samples analysed	:	4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Centralized Prep, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Inorganics, Waterloo, Ontario
Josphin Masihi	Supervisor I	Centralized Prep, Waterloo, Ontario
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, Waterloo, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	*Description*
%	percent
mg/kg	milligrams per kilogram
mV	millivolts
ohm cm	ohm centimetres (resistivity)
pH units	pH units
µS/cm	microsiemens per centimetre

<: less than.
>: greater than.
Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical Results

Sub-Matrix: Soil
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: BH26-3 SS-3 ----	BH26-4 SS-4 ----	BH26-8 SS-4 ----	BH26-9 S05 ----	----
					Client sampling date / time: 27-Jan-2026 16:00	27-Jan-2026 16:00	27-Jan-2026 16:00	27-Jan-2026 16:00	----
					WT2601817-001	WT2601817-002	WT2601817-003	WT2601817-004	----
					Result	Result	Result	Result	----
Physical Tests									
Conductivity (1:2 leachate)	----	E100-L/WT	5.00	µS/cm	378	1080	297	94.8	----
Moisture	----	E144/WT	0.25	%	25.2	28.0	4.72	7.77	----
Oxidation-reduction potential [ORP]	----	E125/WT	0.10	mV	387	388	333	356	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	0.10	pH units	7.69	7.68	8.16	8.05	----
Resistivity	----	EC100R/WT	100	ohm cm	2650	930	3370	10500	----
Inorganics									
Sulfides, acid volatile	----	E396-L/WT	0.20	mg/kg	<0.26	<0.28	0.26	<0.22	----
Leachable Anions & Nutrients									
Chloride, soluble ion content	16887-00-6	E236.Cl/WT	5.0	mg/kg	123	442	107	<5.0	----
Sulfate, soluble ion content	14808-79-8	E236.SO4/WT	20	mg/kg	58	85	28	<20	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

ALS Canada Ltd.

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right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2601817**	Page	: 1 of 9
Client	: **SLR Consulting (Canada) Ltd.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Iqbal Budwal	Account Manager	: Andrew Martin
Address	: 871 Equestrian Ct Unit 1 Oakville ON Canada L6L 6L7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519-573-7161	Telephone	: +1 519 886 6910
Project	: 216.030136.00001/216.030133.00001	Date Samples Received	: 28-Jan-2026 09:00
PO	: ----	Issue Date	: 04-Feb-2026 18:45
C-O-C number	: 20-1050639		
Sampler	: ----		
Site	: ----		
Quote number	: Ontario - Palmer/SLR 2025/2026 SOA		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
LDPE bag BH26-3 SS-3	E396-L	27-Jan-2026	04-Feb-2026	0 hrs	190 hrs	× UCP	04-Feb-2026	0 hrs	190 hrs	× UCP
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
LDPE bag BH26-4 SS-4	E396-L	27-Jan-2026	04-Feb-2026	0 hrs	190 hrs	× UCP	04-Feb-2026	0 hrs	190 hrs	× UCP
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
LDPE bag BH26-8 SS-4	E396-L	27-Jan-2026	04-Feb-2026	0 hrs	190 hrs	× UCP	04-Feb-2026	0 hrs	190 hrs	× UCP
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
LDPE bag BH26-9 S05	E396-L	27-Jan-2026	04-Feb-2026	0 hrs	190 hrs	× UCP	04-Feb-2026	0 hrs	190 hrs	× UCP
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
LDPE bag BH26-3 SS-3	E236.Cl	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
LDPE bag BH26-4 SS-4	E236.Cl	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
LDPE bag BH26-8 SS-4	E236.Cl	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
LDPE bag BH26-9 S05	E236.Cl	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Sulfate by IC										
LDPE bag BH26-3 SS-3	E236.SO4	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Sulfate by IC										
LDPE bag BH26-4 SS-4	E236.SO4	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Sulfate by IC										
LDPE bag BH26-8 SS-4	E236.SO4	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Sulfate by IC										
LDPE bag BH26-9 S05	E236.SO4	27-Jan-2026	03-Feb-2026	30 days	7 days	✓	03-Feb-2026	28 days	0 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
LDPE bag BH26-3 SS-3	E100-L	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	03-Feb-2026	30 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
LDPE bag BH26-4 SS-4	E100-L	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	03-Feb-2026	30 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
LDPE bag BH26-8 SS-4	E100-L	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	03-Feb-2026	30 days	6 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
LDPE bag BH26-9 S05	E100-L	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	03-Feb-2026	30 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BH26-3 SS-3	E144	27-Jan-2026	----	----	----		29-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BH26-4 SS-4	E144	27-Jan-2026	----	----	----		29-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BH26-8 SS-4	E144	27-Jan-2026	----	----	----		29-Jan-2026	----	----	
Physical Tests : Moisture Content by Gravimetry										
LDPE bag BH26-9 S05	E144	27-Jan-2026	----	----	----		02-Feb-2026	----	----	
Physical Tests : ORP by Electrode										
LDPE bag BH26-3 SS-3	E125	27-Jan-2026	02-Feb-2026	180 days	6 days	✓	04-Feb-2026	180 days	6 days	✓
Physical Tests : ORP by Electrode										
LDPE bag BH26-4 SS-4	E125	27-Jan-2026	02-Feb-2026	180 days	6 days	✓	04-Feb-2026	180 days	6 days	✓
Physical Tests : ORP by Electrode										
LDPE bag BH26-8 SS-4	E125	27-Jan-2026	02-Feb-2026	180 days	6 days	✓	04-Feb-2026	180 days	6 days	✓
Physical Tests : ORP by Electrode										
LDPE bag BH26-9 S05	E125	27-Jan-2026	03-Feb-2026	180 days	7 days	✓	03-Feb-2026	180 days	7 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag BH26-3 SS-3	E108A	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	02-Feb-2026	30 days	6 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag BH26-4 SS-4	E108A	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	02-Feb-2026	30 days	6 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag BH26-8 SS-4	E108A	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	02-Feb-2026	30 days	6 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
LDPE bag BH26-9 S05	E108A	27-Jan-2026	02-Feb-2026	30 days	6 days	✓	02-Feb-2026	30 days	6 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	2437669	1	19	5.2	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2437730	1	14	7.1	5.0	✓
ORP by Electrode	E125	2438696	2	26	7.6	5.0	✓
Moisture Content by Gravimetry	E144	2433944	2	40	5.0	5.0	✓
Water Extractable Chloride by IC	E236.Cl	2438786	1	13	7.6	5.0	✓
Water Extractable Sulfate by IC	E236.SO4	2438787	1	13	7.6	5.0	✓
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	2440926	1	13	7.6	4.7	✓
Laboratory Control Samples (LCS)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	2437669	2	19	10.5	10.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	2437730	1	14	7.1	5.0	✓
ORP by Electrode	E125	2438696	2	26	7.6	5.0	✓
Moisture Content by Gravimetry	E144	2433944	2	40	5.0	5.0	✓
Water Extractable Chloride by IC	E236.Cl	2438786	2	13	15.3	10.0	✓
Water Extractable Sulfate by IC	E236.SO4	2438787	2	13	15.3	10.0	✓
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	2440926	1	13	7.6	4.7	✓
Method Blanks (MB)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	2437669	1	19	5.2	5.0	✓
Moisture Content by Gravimetry	E144	2433944	2	40	5.0	5.0	✓
Water Extractable Chloride by IC	E236.Cl	2438786	1	13	7.6	5.0	✓
Water Extractable Sulfate by IC	E236.SO4	2438787	1	13	7.6	5.0	✓
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	2440926	1	13	7.6	4.7	✓

Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L ALS Environmental - Waterloo	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Conductance is measured in the fluid that is observed in the upper layer.
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
ORP by Electrode	E125 ALS Environmental - Waterloo	Soil/Solid	APHA 2580 (mod)	Oxidation Redution Potential (ORP) is reported as the oxidation-reduction potential of the platinum metal-reference electrode employed in the analysis, measured in mV.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Water Extractable Chloride by IC	E236.Cl ALS Environmental - Waterloo	Soil/Solid	EPA 300.1	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection using a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Anions are measured in the fluid that is observed in the upper layer.
Water Extractable Sulfate by IC	E236.SO4 ALS Environmental - Waterloo	Soil/Solid	EPA 300.1	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection using a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Anions are measured in the fluid that is observed in the upper layer.
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L ALS Environmental - Waterloo	Soil/Solid	APHA 4500S2J	This analysis is carried out in accordance with the method described in APHA 4500 S2-J. After extraction the Acid Volatile Sulphide is determined colourimetrically.
Resistivity Calculation for Soil Using E100-L	EC100R ALS Environmental - Waterloo	Soil/Solid	APHA 2510 B	Soil Resistivity (calculated) is determined as the inverse of the conductivity of a 2:1 water:soil leachate (dry weight). This method is intended as a rapid approximation for Soil Resistivity. Where high accuracy results are required, direct measurement of Soil Resistivity by the Wenner Four-Electrode Method (ASTM G57) is recommended.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Waterloo	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
Preparation of ORP by Electrode	EP125 ALS Environmental - Waterloo	Soil/Solid	APHA 2580 (mod)	Field-moist sample is extracted in a 1:2 ratio with DI water and then analyzed by ORP meter.
Anions Leach 1:10 Soil:Water (Dry)	EP236 ALS Environmental - Waterloo	Soil/Solid	EPA 300.1	5 grams of dried soil is mixed with 50 grams of distilled water for a minimum of 30 minutes. The extract is filtered and analyzed by ion chromatography.
Distillation for Acid Volatile Sulfide in Soil	EP396-L ALS Environmental - Waterloo	Soil/Solid	APHA 4500S2J	Acid Volatile Sulfide is determined by colourimetric measurement on a sediment sample that has been treated with hydrochloric acid within a purge and trap system, where the evolved hydrogen sulfide gas is carried into a basic solution by argon gas for analysis.

QUALITY CONTROL REPORT

Work Order	: **WT2601817**		
Client	: SLR Consulting (Canada) Ltd.	Laboratory	: ALS Environmental - Waterloo
Contact	: Iqbal Budwal	Account Manager	: Andrew Martin
Address	: 871 Equestrian Ct Unit 1 Oakville ON Canada L6L 6L7	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	: 519-573-7161	Telephone	: +1 519 886 6910
Project	: 216.030136.00001/216.030133.00001	Date Samples Received	: 28-Jan-2026 09:00
PO	: ----	Date Analysis Commenced	: 29-Jan-2026
C-O-C number	: 20-1050639	Issue Date	: 04-Feb-2026 18:45
Sampler	: ----		
Site	: ----		
Quote number	: Ontario - Palmer/SLR 2025/2026 SOA		
No. of samples received	: 4		
No. of samples analysed	: 4		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- @ReferenceMaterial!
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	*Position*	*Laboratory Department*
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Waterloo Centralized Prep, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Waterloo Inorganics, Waterloo, Ontario
Josphin Masihi	Supervisor I	Waterloo Centralized Prep, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario

General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:
Anonymous=Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number=Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO=Data Quality Objective.
LOR=Limit of Reporting (detection limit).
RPD=Relative Percent Difference
# =Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test specific).

Sub-Matrix: Soil

Laboratory Duplicate (DUP) Report											
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests(QC Lot: 2433944)											
WT2601801-001	Anonymous	Moisture	----	E144	0.25	%	12.9	12.5	2.69 %	20%	---
Physical Tests(QC Lot: 2437669)											
WT2601914-001	Anonymous	Conductivity (1:2 leachate)	----	E100-L	5.00	µS/cm	0.131 mS/cm	155	16.6 %	20%	---
Physical Tests(QC Lot: 2437730)											
WT2601919-001	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	8.22	8.15	0.855 %	5%	---
Physical Tests(QC Lot: 2437842)											
HA2600307-007	Anonymous	Moisture	----	E144	0.25	%	9.64	9.84	2.07 %	20%	---
Physical Tests(QC Lot: 2438654)											
WT2601801-001	Anonymous	Oxidation-reduction potential [ORP]	----	E125	0.10	mV	332	326	1.82 %	25%	---
Physical Tests(QC Lot: 2438696)											
WT2601742-003	Anonymous	Oxidation-reduction potential [ORP]	----	E125	0.10	mV	372	375	0.803 %	25%	---
Inorganics(QC Lot: 2440926)											
TY2600665-001	Anonymous	Sulfides, acid volatile	----	E396-L	0.24	mg/kg	<0.24	<0.24	0	Diff <2x LOR	---
Leachable Anions & Nutrients(QC Lot: 2438786)											
WT2601808-004	Anonymous	Chloride, soluble ion content	16887-00-6	E236.Cl	5.0	mg/kg	42.0	41.0	2.34 %	30%	---
Leachable Anions & Nutrients(QC Lot: 2438787)											
WT2601808-004	Anonymous	Sulfate, soluble ion content	14808-79-8	E236.SO4	20	mg/kg	362	354	2.22 %	30%	---

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Soil/Solid

Analyte	*CAS Number*	*Method*	*LOR*	*Unit*	*Result*	*Qualifier*
Physical Tests(QC Lot: 2433944)						
Moisture	----	E144	0.25	%	<0.25	----
Physical Tests(QC Lot: 2437669)						
Conductivity (1:2 leachate)	----	E100-L	5	µS/cm	<5.00	----
Physical Tests(QC Lot: 2437730)						
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	----	----
Physical Tests(QC Lot: 2437842)						
Moisture	----	E144	0.25	%	<0.25	----
Inorganics(QC Lot: 2440926)						
Sulfides, acid volatile	----	E396-L	0.2	mg/kg	<0.20	----
Leachable Anions & Nutrients(QC Lot: 2438786)						
Chloride, soluble ion content	16887-00-6	E236.Cl	5	mg/kg	<5.0	----
Leachable Anions & Nutrients(QC Lot: 2438787)						
Sulfate, soluble ion content	14808-79-8	E236.SO4	20	mg/kg	<20	----

Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests(QC Lot: 2433944)									
Moisture	----	E144	0.25	%	50 %	99.5	90.0	110	----
Physical Tests(QC Lot: 2437669)									
Conductivity (1:2 leachate)	----	E100-L	5	µS/cm	1409 µS/cm	98.0	90.0	110	----
Physical Tests(QC Lot: 2437730)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	101	98.0	102	----
Physical Tests(QC Lot: 2437842)									
Moisture	----	E144	0.25	%	50 %	99.5	90.0	110	----
Inorganics(QC Lot: 2440926)									
Sulfides, acid volatile	----	E396-L	0.2	mg/kg	100 mg/kg	85.0	70.0	130	----
Leachable Anions & Nutrients(QC Lot: 2438786)									
Chloride, soluble ion content	16887-00-6	E236.Cl	5	mg/kg	1000 mg/kg	99.2	80.0	120	----
Leachable Anions & Nutrients(QC Lot: 2438787)									
Sulfate, soluble ion content	14808-79-8	E236.SO4	20	mg/kg	1000 mg/kg	100.0	80.0	120	----

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix: Soil

					Reference Material (RM) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Target Concentration	Original Result	LCS	Low	High	Qualifier
Physical Tests(QC Lot: 2437669)										
QC-MRG2-2437669001		Conductivity (1:2 leachate)	----	E100-L	714.1 µS/cm	714.1 µS/cm		70.0	130	----
Physical Tests(QC Lot: 2438654)										
QC-MRG2-2438653001		Oxidation-reduction potential [ORP]	----	E125	475 mV	475 mV		90.0	110	----
Physical Tests(QC Lot: 2438696)										
QC-MRG2-2438695001		Oxidation-reduction potential [ORP]	----	E125	475 mV	475 mV		90.0	110	----
Leachable Anions & Nutrients(QC Lot: 2438786)										
QC-MRG2-2438786001		Chloride, soluble ion content	16887-00-6	E236.Cl	495 mg/kg	495 mg/kg		70.0	130	----
Leachable Anions & Nutrients(QC Lot: 2438787)										
QC-MRG2-2438786001		Sulfate, soluble ion content	14808-79-8	E236.SO4	493 mg/kg	493 mg/kg		70.0	130	----

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 1050639

SM SOL-542

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Page

Environmental Division
Waterloo
Work Order Reference
WT2601817

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	SLR consulting Ltd.
Contact:	Iqbal Budwal
Phone:	437-360-4866
	Company address below will appear on the final report
Street:	871 Equestrian Ct
City/Province:	Oakville
Postal Code:	L6L 6L7
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: ☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☐ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: Iqbal.Budwal@slrconsulting.com

Email 2:

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: Iqbal.Budwal@slrconsulting.com

Email 2:

Turnaround Time (TAT) Requested

☐ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional charges may apply to rush requests on weekends, statutory holidays and non-routine tests.

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please see

Project Information

ALS Account # / Quote #:

Job #: 216.030136.00001 / 216.030133.0001

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#:

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only): WT2601817 MTD

ALS Contact: Sampler:

Analysis Requ

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	CONGOSIEVE	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	BH 26-3 SS-3	27-Jan-26	4:00	Soil	1	✓			
	BH 26-4 SS-4	27-Jan-26	4:00	Soil	1	✓			
	BH 25-8 SS-4	27-Jan-26	4:00	Soil	1	✓			
	BH 25-9 SS-5	27-Jan-26	4:00	Soil	1	✓			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☑ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
5.2				4.2			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
[illegible]	27-Jan-26	5:30

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
FM	28 Jan 26	9:00

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
A	28 JAN 26	11:30

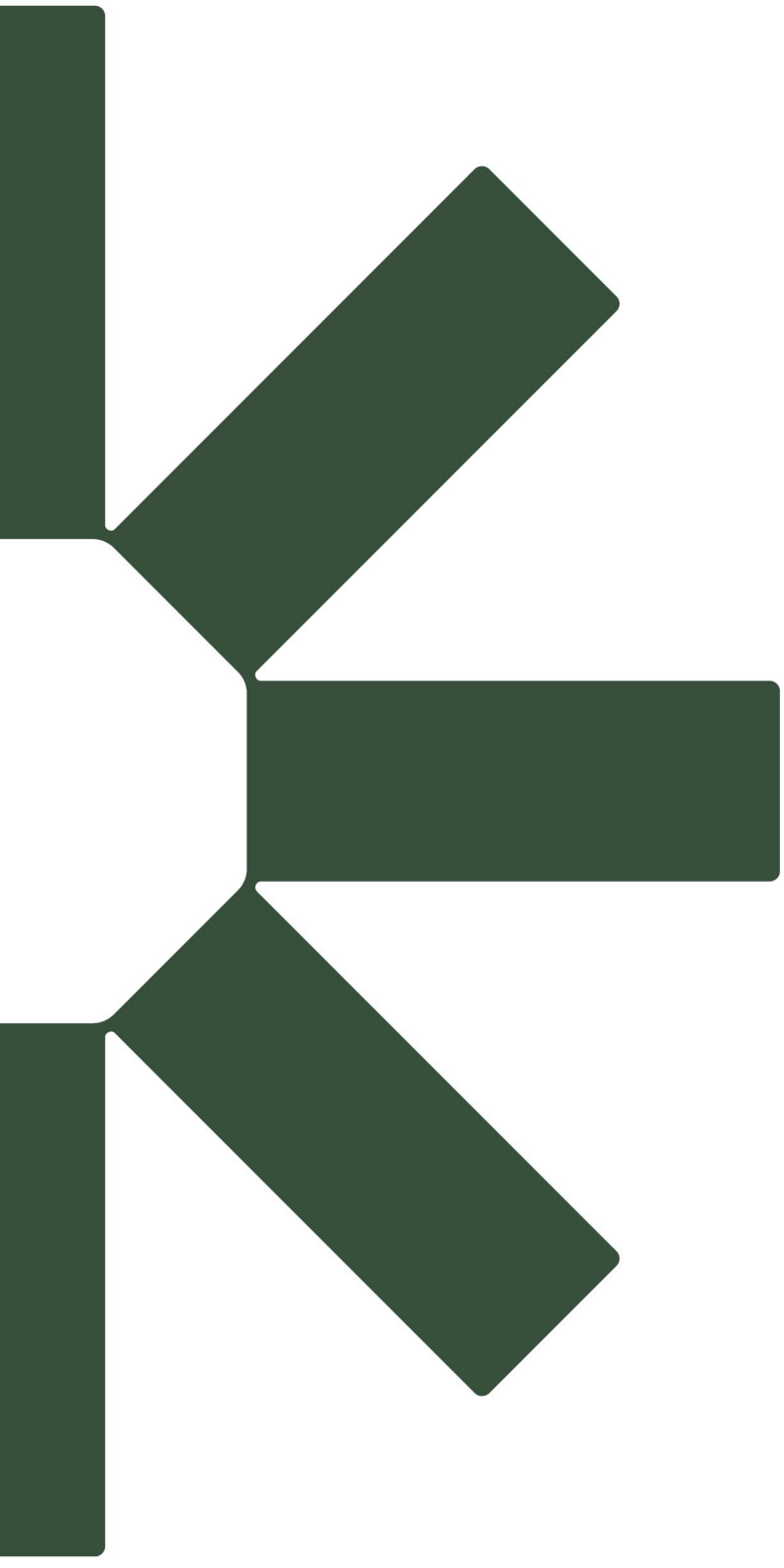
REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.



Making Sustainability Happen